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INDC International Nuclear Data Committee

Summary Report of Consultants' Meeting

IAEA International Database on Irradiated Nuclear Graphite Properties

11th Meeting of the Technical Steering Committee

IAEA Headquarters, Vienna, Austria
25–26 March 2009

Prepared by

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May 2009

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11th Meeting of the Technical Steering Committee

Prepared by

D. Humbert and A.J. Wickham

Abstract

The 11th Meeting of the Technical Steering Committee for the International Database on Irradiated Nuclear Graphite Properties was held on 25–26 March 2009 at the IAEA Headquarters, Vienna, Austria. All discussions, recommendations and actions of this Consultants' Meeting are recorded in this report. The purposes of the meeting were to review the matters and actions identified in the previous meeting, undertake a review of the current status of the database, and make recommendations for action over the next year. This report contains the status of the identified actions as well as a summary of the recommendations on enhancements to the database.

May 2009

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11th Meeting of the Technical Steering Committee for the International Database on Irradiated Nuclear Graphite Properties

25–26 March 2009, IAEA Headquarters, Vienna, Austria

Present

Mr A.J. Wickham, United Kingdom *(Chairman)*
Mr D. Humbert, IAEA *(Scientific Secretary)*

Other Members:

Mr G. Haag (Germany)
Mr A. Smaizys (Lithuania)
Mr J.A. Vreeling (The Netherlands)
Mr R. Bratton (USA) (representing Mr T.D. Burchell)
Mr R.E.H. Clark (IAEA)

Observers:

Mr P. Homerin, Graftech International Inc (France)
Mr F. Gerstgrasser, SGL Carbon Ltd (Germany)
Mr T. Hoshi, Toyo Tanso Ltd, Japan (Germany office)
Mr M. Mitchell, PBMR Co. (Pty) Ltd (South Africa)
Mr J. Reed, British Energy Ltd (United Kingdom)
Mr J. Hyde, National Nuclear Laboratory (United Kingdom)
Mr B. Tyobeka, IAEA *(part-time)*

Apologies for Absence:

Mr T. Shibata, JAEA (Japan)
Mr S.H. Chi (Republic of Korea)
Mr S. Yu (Peoples Republic of China)

Welcome and Opening Remarks

The meeting was welcomed to the IAEA by Mr Clark on behalf of the Nuclear Data Section. He spoke about the obvious progress which had been made on the project and of its value to the nuclear graphite community. He noted the successful approach towards the conclusion of Phase 1 of the activity, and the developing programme for a proposed Phase 2 which would form the major part of the meeting's work. He also announced the impending departure of both himself and Mr Humbert from the IAEA.

The Chairman then welcomed delegates and observers, inviting the latter to take a full role in the meeting. He commented that the Database would again increase in size for the final issue of Phase 1, which was due in the summer of 2009. He noted that it was very satisfactory that the project Phase 1 had been completed on time despite the constraints of limited funding and the numerous difficulties with the processing of voluntary contributions by the Agency. Such difficulties, along with delayed payments, had seen a large shortfall in the expected income stream during 2008, and this was to be regretted. Now was a time for change, demonstrating the value of the assembled data for reactor designers and future reactor operators.

Next, he advised that the People's Republic of China had asked to join the Database project and that a formal application was in process. Prof. Yu of Tsinghua University Beijing (HTR-10 and HTR-PM projects) had unfortunately been prevented from attending through the temporary loss of his passport in a previous visa application. The Chairman also noted that the Republic of South Africa had intended to seek full membership, and invited Mr Mitchell to comment. Mr Mitchell said that there were potential issues within South Africa regarding perceived conflicts with the aims of the Gen IV International Forum regarding databases, and this would need to be clarified during the meeting before the formal position of South Africa could be decided.

Finally the Chairman thanked IAEA representatives, together with Mr K. Sheikh, for the efficient arrangements for the meeting.

Minutes and Actions

The Chairman moved the adoption of the Agenda for the meeting and this was carried *nem con*.

The Minutes of the previous Technical Committee Meeting (March 2008, IAEA Vienna), published as INDC-(NDS)-0531, were accepted without amendment. Actions had been completed and would be addressed at appropriate points in the meeting Agenda.

Presentation on the Status of the Project

The Chairman made a short presentation on the status of the project, highlighting the issues facing the committee as he now saw them. The success of Phase 1 was now evident, and the quality of the Database and its associated QA procedures had met with general approval from its users. The previous Technical Committee Meeting had confirmed that there was significant interest in utilisation of the data for assisting work programmes and interests in various participating Member States. He suggested however that it was necessary to demonstrate clearly the value of continuing this project as 'Phase 2' by adopting a more rigorous approach to managing the programme. This should include the definition of milestones, timescales and costs, and identification of funding sources, of which the potential users and user groups were the obvious first call. He thanked the present sponsors for their financial contributions, indicating that he would be delighted if such voluntary contributions could continue to support the core work of maintaining the Database. However, *utilisation* of the data required suitably qualified and experienced persons, on professional salaries, to undertake the required work, and this could in no way be met by voluntary contributions. He therefore charged the Members of the committee to join him in seeking appropriate additional funding sources to support specific areas of the proposed programme.

The implication of this was that a participating Member State indicating support for specific parts of the work programme should expect to play some role in its funding, or in the provision of manpower.

In this respect, it was noted that the absent Japanese and Korean Members had both sent messages to the Chairman indicating that a major new issue for them was that their Member States were both signatories to the GenIV International Forum agreements regarding the management of future data, and it was perceived by their local managements that the IAEA Database activity was potentially duplicating work. This showed an urgent need to draw a clear distinction between future data arising from programmes in support of HTR/NGNR developments and the harvesting, management and utilising of 'historic' data – a theme that returned constantly during the discussion in the meeting.

The Chairman also commented that Membership of the project could change significantly once the new working arrangements for Phase 2 were in place, although he had no desire to see any present participating Member State withdraw.

Review of Progress on Phase 1 Project Plan

Mr Haag introduced the work completed in support of the 'final' Phase 1 Database issue which would be forthcoming in the summer. This consisted of a large quantity of 'Dragon' project data harvested from documents originally produced in Petten, a review of the remaining Version 1.3 'problem' files, an extended body of additional German data for which support had been provided by South Africa, an additional body of scanned documents and a new review of the Japanese data. In this last regard, sufficient problems had remained unresolved that the Japanese data had been omitted *en bloc* from the 2008 CD issue. Some problems of definition still remained. Mr Shibata was working on these issues, although he had indicated a timescale of 'a few months' which could mean that the resolution would again miss the scheduled 'final Phase 1' DVD issue.

Action 1: Messrs Haag and Wickham to facilitate the issue of the final Phase 1 DVD – target: **end July 2009**).

QA Issues

The Chairman then sought ratification of the QA Data Strings for data inputted to the 2008 issue. Ideally, Members would have had time to work through the proposals and the matter would be dealt with swiftly. An action to this effect had been placed on Members by implication (it had not explicitly been cited in the previous Minutes) and Members had been reminded of this obligation by e-mail. Unfortunately, it quickly became clear that Members had not had time to fulfil this requirement. The exercise was eventually completed later in the meeting, with only one minor amendment being noted.

The Chairman expressed his disappointment that Members had not fulfilled this essential QA role more efficiently, and asked for more immediate responses to the draft QA data strings which he and Mr Haag would be proposing for new data appearing in 2009.

Action 2: All Members to review Data Strings added in the 2009 DVD release and to provide their response (agreement or otherwise appropriate comments) to the Chairman *ahead of the November 2009 CM Meeting* (this date arose in the following discussions).

There was also a discussion reflecting diverse opinions about the Data Strings. After receiving a number of conflicting opinions, it was resolved to maintain the 'status quo', ensuring that the date of the CM at which the strings were confirmed appeared in an adjacent column and that the Table providing the 'key' to the data strings remained issues with the Database. In this regard it was noted that, in Issue 2 of the QA document (INDC-NDS-0500), the Table formatting had again been corrupted after the file was submitted for printing. Printed copies of the document are therefore subject to potential errors of interpretation in some categories. The *electronic* version of this document, as issued with the CD or future DVDs, is definitive and is the one to be employed.

Discussion of Phase 2 Programme

All Members of the CM had been asked to prepare a position on their interests for Phase 2 work, together with investigate manpower and funding issues. The Chairman additionally invited all observers to contribute a view.

Mr Gerstgrasser, from SGL Carbon, indicated that voluntary contributions from his Company would continue. He was happy with the Database content, but obviously needed to best suit the interests of his Company in regard to product support and customer interests. He would like to see the Database widened to include information on carbon-containing composites, as well as continuing the 'trawl' for

additional historic graphite irradiation data. He agreed that general working in the project should move towards task-based financing.

For Graftech Inc, Mr Homerin also affirmed his company's willingness to continue financial support at the present level. He also supported the continuation of the historic Database, and was interested in the inclusion of data on matrix material.

Mr Smaizys again indicated that the interest of Lithuania lay with decommissioning data only. Such data would include information on isotopic contents, but should include any information pertinent to the dismantling and waste management of graphite from RBMK reactors. The Chairman said that he had been in discussions with the Division of Nuclear Fuel and Radioactive Waste, where a Database (or at least an archive) of information on isotopic in graphite was being contemplated. He suggested that the involvement of France was necessary to make such a project viable. He was in the process of introducing Mr Smaizys to the relevant Agency staff.

For the PBMR (Pty) Ltd, Mr Mitchell confirmed that great value was seen in the project and that they wished to continue to support it. He indicated that whilst recently-launched irradiation tests enabled South Africa to fulfil the conditions of the Working Arrangement for joining (in that data could be promised), the issue of a potential conflict with GIF (in its role as a 'data trading' organisation with clear IPR restrictions) was high on the agenda. Any perceived duplication of effort could affect participation, even as a sponsor. He therefore urged the meeting to bear these points in mind in the formulation of a strategic statement for Phase 2. A clear 'separation' from the GIF graphite-data activity had to be demonstrated. Having explained these problems, he highlighted support of the proposed irradiation-creep CRP, ongoing maintenance of the existing Database, the archiving of general documents on graphite irradiation as a knowledge base, and the inclusion of matrix-material data, as priorities. Hopefully, some manpower resources might be available in the future.

Mr Vreeling, for The Netherlands, prioritised the issues in the order creep data, additional historic data and maintenance, resolution of dosimetric questions, and the inclusion of matrix material and (lowest priority) composites, as interests. He had obtained agreement for a small amount of manpower effort to be applied to the project from The Netherlands in addition to attendance at meetings.

Mr Bratton (USA) confirmed the concerns about duplication of GIF activities within the USDoE. On the assumption that this serious issue could be overcome, he prioritised irradiation creep, and the acquisition of matrix-material and composites data as concerns, with ORNL already engaged on the latter two. In support of Mr Smaizys' interests, he reminded the meeting of the USDoE 'information bridge' through which information gleaned from the decommissioning of Peach Bottom and Fort St. Vrain could be accessed.

Mr Bratton also indicated involvement in ongoing work on ^{14}C issues in graphite, and isotope leachability in storage.

Summarising the US position, in broad terms the activity has to be seen as of importance to NGNP and not duplicating effort or costs associated with GIF.

At this point, Mr Tyobeka, IAEA Department of Nuclear Energy (NE), had joined the meeting and was invited to make some observations concerning the future of the Database. He spoke about meetings which had occurred between NE (Department of Nuclear Energy) and NA (Department of Nuclear Sciences and Applications), the present host for the Database, concerning the Database's future role in supporting work in his Division such as the planned Graphite Irradiation-Creep CRP. He indicated that some limited Agency funding might be available. If the opportunity were to be taken actually to transfer the Database to NE (a position not opposed by NA), then it was possible that match funding up to a maximum of 50% of the agreed running costs of some aspects of the programme could be found, subject to the targets being financially realistic. He invited the meeting to consider the

implications of such a move in their deliberations about the future, a remark which was supported by Mr Clark and Mr Humbert.

Mr Haag (Germany) was exceedingly keen to see the Database continue and to move forward, but the formal position of his country in regard to nuclear power meant that he was not in any position for offer a formal Member State view. On a personal basis he was already involved in activity in support of the creep issue, supported by British Energy.

Mr Wickham then presented the views of the UK. Whilst the diverse Database users in the UK included design companies with interests in HTR issues, it was clear that support for the AGRs was the prime motivator for Database involvement, and again it was the creep issue which dominated. However, the UK regulator was also keen to see the establishment of a knowledge base and, to that end, had invited Mr Hyde to join the meeting to demonstrate a working system as applied for reactor pressure-vessel steel, as developed by the National Nuclear Laboratory. Mr Hyde provided an excellent presentation which included a demonstration of the system.

Mr Wickham then identified a British Energy 'Wiki'-style knowledge base developed for Gilsocarbon graphites, for which Mr Reed was able to add additional information. Mr Wickham said that a level of funding to support this activity on an international basis was available from the UK, but exact details would need to be discussed. The meeting was in favour of such a development.

Mr Wickham offered the views of China, on behalf of the absent representative. These sought to prioritise work on irradiation creep.

Mr Reed was then invited to give a view on how the proposed irradiation-creep task should be described, from the point of view of an end user. He identified clearly the desirable outcome – a report which summarised, assessed and graded current creep data – however, a majority agreed that this was a description of the deliverable from the creep CRP rather than explicitly from the Database, although it could be 'packaged' within the proposed Database Phase 2 as 'knowledge management'.

Mr Haag suggested that an overall aim of 'knowledge management' could be the key to reconciling the different views in the participating Member States.

A lengthy and detailed discussion followed, in which the meeting sought to find appropriate words for a description of the objectives and specific targets of the Phase 2 Database work, which would clearly define a role for the Database in which clear separation from the ambitions of the GIF was evident. This appears in ***Appendix A***.

On the basis of this discussion, all delegates agreed that the proposal appeared to meet the requirements of all Member States present, and hopefully would also enable the absent Member States to continue their involvement with the project. The Chairman agreed to circulate the draft notes and statement as quickly as possible, especially to those Member States who were not present.

The meeting then re-considered the merits and demerits of switching the project to IAEA Nuclear Energy. A decision was reached that this should be done, subject to the agreement of all IAEA parties involved.

Next, the first steps towards meeting the Objectives and Specific Targets were debated. Mr Reed suggested from his viewpoint as a manager within a reactor-operating company that the framework should be debated and focussed within six months, and should be ratified by a further meeting on that timescale. It was therefore decided to align the next CM with the intended first Research Coordination Meeting of the Graphite Irradiation-Creep CRP (subject to its final approval), and to use consecutive dates in the first half of November 2009 for the two meetings.

This next CM should make a final review of, and then approve, a Work Plan which will be discussed electronically in the interim based upon a draft version to be drawn up by the Chairman, having taken advice at the CM. This plan would then be offered to IAEA for endorsement. Members should also use the available time to seek offers of manpower from within Member States' organisations and additional funding outwith that already available, there being a possibility of some additional funding from with IAEA NE budgets provided that the work was clearly seen to be assisting CRPs and other IAEA NE aims. The November 2009 CM should also review the Working Arrangement, and the Chairman undertook a further action to draft a first amendment. Additional Member states with nuclear-graphite interests (essentially France and China) would be invited to consider participation in future Database activities. The involvement of other Members States which participate in the TWGGCR was suggested: these are Switzerland, Indonesia and Turkey: it was decided that this question should be debated at a later meeting, as compliance with the existing Working Arrangement would not be possible in these cases.

In Summary, the CM defined Phase 1's output as a *Database*, and that of Phase 2 would be a *Knowledge Base associated with a maintained and possibly further-developed Database*.

Actions arising out of this debate were as follows:

Action 3: Mr Wickham to issue the draft Objectives and Specific Targets, and to draw up a provisional timetable with deliverables, milestones and funding options based upon the discussions in the meeting. For the benefit of Member States which were absent from the meeting, this will be accompanied by an explanation of the deliberate separation from GIF interests – target completion: **end April 2009**.

Action 4: All Members (plus any willing observers and present sponsors) to discuss the Phase 2 plan within their own Member States / Organisations, with the objective of rationalising the programme, identifying manpower resources where possible, and sources of additional funding. This information to be reported to the Chairman. Members should interact over this, with the object of making all options known – target completion: **end September 2009**.

Action 5: Mr Wickham to draft a first revision of the Working Arrangement for Members to review – target completion **end May 2009**.

Action 5: IAEA to facilitate the transfer of the Project to the Division of Nuclear Energy expediently – target completion: **end October 2009**.

Action 6: IAEA (Mr Tyobeka) to make a review of the Phase 2 plan from the IAEA perspective, and to determine if any additional funding from IAEA sources is available to support the work – target completion: **end September 2009**.

Action 7: All Members and Sponsors to *note* that a further CM will be held in the first half of November 2009, exact dates to be agreed later.

Miscellaneous Items

As the discussion regarding Phase 2 had been wide ranging, the majority of other issues on the Agenda had been covered during discussion. There was little to report on the website, and no specific report from ASME or GIF on activities relevant to the Database not already covered elsewhere.

Mr Wickham provided copies of his report to the TWGGCR which had taken place in February 2009.

INGSM Meetings

Mr Vreeling reported on the successful INGSM-9 meeting at Egmond-aan-Zee, The Netherlands, which had taken place in September 2008, attended by 84 delegates. Although greatly enjoyed, it was thought that the technical programme had been a little rushed and that, in the future, more discussion time was essential. The Chairman remarked that several people had commented that the meeting topics were straying more and more towards codes and standards, and away from the intriguing scientific issues which had given rise to INGSM. Mr Vreeling pointed out that INGSM-9 had accommodated all submitted papers, and Mr Mitchell also suggested that, if more technical papers were submitted, then the balance would change. The problem, if there was a problem, was in the hands of the attendees and presenters.

Mr Bratton briefly described the status of INGSM-10 to be held at West Yellowstone, USA, in association with the Idaho National Laboratory, 28th – 30th September 2009. Arrangements were well in hand for this meeting, and a dedicated web page is available at http://secure.inl.gov/INGSM2009 : *note that this is a 'secure' site and therefore does not appear in a 'Google' search*.

Mr Wickham introduced a proposal for the 2010 meeting, INGSM-11. This would be held close to the UK south-coast town of Eastbourne, with easy access from Gatwick and other London airports by fast train. Some sponsorship was already in place as a result of unused monies from generous donations from NRG and eight UK companies to a recently-held nuclear-graphite meeting in the UK. The UK HSE (nuclear regulator) would support the management of the meeting. This proposal was accepted.

It was suggested that the proposed Knowledge Base should include the proceedings (presentations from CD-ROMs) of previous and future INGSM meetings. This was agreed.

Dates of Next Meeting

The next meeting (rationalisation and initiation of Phase 2 programme) will take place in November 2009 at IAEA Vienna (exact dates to be agreed).

Vote of Thanks to Outgoing IAEA Officers

Before closing the meeting, the Chairman thanked everyone for their part in deciding the future of the project, and proposed a vote of thanks to the Nuclear Data Section staff who would shortly be leaving the Agency: Mr R.E.H. Clark and Mr D.P. Humbert. Mr Wickham commented on the high level of support given by these gentlemen during the recent years, a sentiment echoed by all present, and wished them both well for the future.

Actions from 11th Meeting

Action 1: **Mr Haag** and **Mr Wickham** to facilitate the issue of the final Phase 1 DVD – target **end July 2009**.

Action 2: **All Members** to review Data Strings added in the 2009 DVD release and to provide their response (agreement or otherwise appropriate comments) to the Chairman **ahead of the November 2009 CM Meeting**.

Action 3: **Mr Wickham** to issue the draft Objectives and Specific Targets, and to draw up a provisional timetable with deliverables, milestones and funding options based upon the discussions in the meeting. For the benefit of Member States which were absent from the meeting, this will be accompanied by an explanation of the deliberate separation from GIF interests – target completion: **end April 2009**.

Action 4: **All Members** (plus any willing observers and present sponsors) to discuss the Phase 2 plan within their own Member States / Organisations, with the objective of rationalising the programme, identifying manpower resources where possible, and sources of additional funding. This information to be reported to the Chairman. Members should interact over this, with the object of making all options known – target completion: **end September 2009**.

Action 5: **Mr Wickham** to draft a first revision of the Working Arrangement for Members to review – target completion **end May 2009**.

Action 6: **IAEA** to facilitate the transfer of the Project to the Division of Nuclear Energy expediently – target completion: **end October 2009**.

Action 7: **IAEA (Mr Tyobeka)** to make a review of the Phase 2 plan from the IAEA perspective, and to determine if any additional funding from IAEA sources is available to support the work – target completion: **end September 2009**.

Action 8: **All Members and Sponsors** to note that a further CM will be held in the first half of November 2009, exact dates to be agreed later.

Appendix A

Phase 2 Mission Statement

OBJECTIVE

It is necessary to have a comprehensive knowledge of graphite behaviour in order to assess the integrity of components in graphite-moderated reactor design throughout the entire life cycle. The principal issue is the irradiation response of the material, and the existing IAEA TSC[1] has presently compiled an extensive collection of historical data in this respect. The TSC is an appropriate international forum to evaluate the body of accumulated knowledge for the collective benefit of current and future users.

The TSC now proposes to generate and to maintain a Nuclear-Graphite Knowledge Base, building upon the IAEA International Database on Irradiated Nuclear Graphite Properties. The value of the present comprehensive Database, which will be maintained and updated, will thereby be greatly enhanced.

For the Knowledge Base:

- to capture, organise and structure key knowledge from the Graphite Database and graphite specialists,
- to develop a single source of comprehensive information on the 'state-of-the-art' of nuclear graphite for the benefit of present and successor generations by adding readily accessible 'intelligence' and background information to the basic data provided in the Database ,
- to evaluate the relevant body of knowledge to support technical programmes (*e.g.* graphite irradiation creep CRP) utilising the best-available data and methods.

For the Database:

- to maintain and to improve the quality of the present input,
- to incorporate additional historical data as it becomes available.

This programme will concentrate on data already available, complementing any associated international programmes (*e.g.* Generation IV International Forum, EU FP7 CARBOWASTE etc.).

SPECIFIC OBJECTIVES

1. Develop a structure for the Knowledge Base by defining the logistics best suited to assisting the needs of present and future users.

2. Identify and prioritise technical areas for inclusion in the Knowledge Base.

3. Provide commentaries upon technical areas relevant to ongoing and developing programmes, including specialist evaluation of historical data against current user requirements. The initial technical area for development will be graphite irradiation creep.

4. Clarify elements of terminology within the Database, and review specific issues relating to fluence units: add additional as available.

5. Include information on HTR Fuel matrix material and upon carbon-based composites in the Database.

[1] Technical Steering Committee of the IAEA International Database on Irradiated Nuclear Graphite Properties

Appendix B

IAEA Consultants' Meeting: 11th Meeting of the Technical Steering Committee for the International Database on Irradiated Nuclear Graphite Properties

25–26 March 2009, Building-F, Floor-08 and Room-11 (F08-11), IAEA Headquarters, Vienna, Austria

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Appendix C

IAEA Consultants' Meeting: 11th Meeting of the Technical Steering Committee for the International Database on Irradiated Nuclear Graphite Properties

25–26 March 2009, Building-F, Floor-08 and Room-11 (F08-11), IAEA Headquarters, Vienna, Austria

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AGENDA

Wednesday March 25th 2009

09h00 Welcome *(IAEA, Chairman)*

Welcome to Sponsors' Representatives and Guests

Adoption of the Agenda

Apologies for Absence

Minutes of the Previous Meeting *(March 2008)*: INDC(NDS)-0531

Matters Arising *(which are not covered elsewhere in the Agenda)*

Applications by Additional Member States to join the Project

09h30 Presentation on the Status of the Project *(Chairman): this presentation is intended to set out the important decisions which have to be taken at this meeting in order to secure the future of a second phase of the project, if the meeting so determines: in the Chair's view the following list is a minimum*

- *Demonstration of the Success of Phase 1;*
- *Demonstrate value/necessity of further work;*
- *Define nature of further work, with technical justification and identification of users/user groups;*
- *Identify desired timescale;*
- *Identify costs;*
- *Identify funding sources, of which the users/user groups are an obvious first call;*
- *Identify manpower resources*

[A clear perspective on the final three bullet points in this list is seen by the Chairman as a minimum requirement to prepare a case for a Phase-2 programme]

10h30 Coffee Break

11h00 Review of Project Plan to the Completion of Phase 1

- Presentation on Progress of Data Input during the past year [Module 4] including QA Issues (*Mr. Haag*)
- Application of Agreed QA Procedures to Data Inputted to 2008 Database Issue *(all)*

- Mechanism for incorporation of QA Gradings into final Phase-1 data inputs *before issue*
- Review of Data Security *(standing item)*
- Issue of Next Database Edition ('final'?) (Excel file format, DVD) *(planned issue date July 2009)*
    - Agree content
    - Extent of available hyper-linking of source reports

12h30 *Lunch Break*

13h30 Extended Discussion on the Potential for Extending the Project (Phase 2)

- Review of Phase 2 Summary Document Issued September 2008
- Presentations from Member States' Representatives, to cover:
    - Member State's Perspective on Phase 2;
    - Identified Major Interests;
    - Identification of Organisations with Technical or Commercial Interests;
    - Proposals for Provision of Funding and Manpower to Achieve the Desired Objectives:
        - People's Republic of China
        - Germany
        - Rep. of Korea
        - Japan
        - Lithuania
        - Rep. of South Africa
        - The Netherlands
        - The United Kingdom ***(see footnote[2])***
        - The United States of America
        - Contributions Invited from Other Observers

[Coffee Break ad lib]

- Discussion and Preliminary Rationalisation of Phase 2 Programme

17h00 *End of First Day*

19h15 *Social Event: Outside Dinner*

[2] To include: UK Sponsor's Proposal for Establishment of Nuclear Graphite Knowledge Base *(Mr. Wickham): Report on a briefing by the UK National Nuclear Laboratory, which builds upon the proposal of Mr. Haag at the previous meeting for a Nuclear Graphite Library*

Thursday March 26th 2009

0900h Decision on The Case for Phase 2

The committee must now choose between:

***(i)** finalisation of the Project in July 2009; or*

***(ii)** the identification of a new, technically justified and affordable programme to continue the project Phase 2*

In the case of the former*, the meeting will move to discuss:*

- The Requirements of the IAEA NDS for Closure of the Project;
- Final Database Editing;
- Arrangements for Maintenance of the Database within NDS.

In the case of the latter*, the meeting will move to discuss:*

- The Requirements of the IAEA NDS for Supporting Phase 2;
- Priority Projects – *inc.* Funding, Data, Resourcing, Timescales;
- Secondary Projects;
- Need for Secondary or Sub-Databases for Identified Types of Data;
- Basic Schedule;
- Basic Work to Extend/Maintain the Phase 1 Product;
- Potential Additional Partners (Member States, Organisations) and how to address them;
- Composition of the Technical Steering Committee for Phase 2;
- Role of Sponsors (if any);
- Need for Revision of the Working Arrangement

[Coffee break ad lib]

Update on Database Website *(Mr. Humbert)*

Change of Representatives in the IAEA Nuclear Data Section from 2009 and consequences for Management of the Project

Nature of Recommendation to be made to the IAEA Division of Nuclear Sciences and Applications (Nuclear Data Section) regarding the future of this Project

12:30 *Lunch Break*

13h30 *Continuation of Morning Agenda, as necessary*

Version 3 Project (Relational Search Functionality Development): Proposals for Development *(this is currently regarded as a peripheral issue by the Committee, but observers or IAEA may like to contribute)*

ASTM Graphite Standards Progress and Its Implications for the IAEA Graphite Database Project – update on the year *(Mr. Burchell)*

Impact upon IAEA Graphite Database of International Collaboration on Nuclear Graphite Research (*e.g.* Materials and Components Project Management Board of Generation IV International Forum, etc.) – update since March 2008 *(contributions from all Members invited)*

Report on the Project given to the TWGGCR by the Chairman on February 10th 2009

International Nuclear Graphite Specialists Meetings:

Management, Organisation and Programme Ambitions for Future INGSMs

INGSM-9 Report (Egmond Aan Zee, The Netherlands *(Mr. Vreeling)*

INGSM-10 (Idaho Falls, USA, September 2009: *Mr. Burchell*)

INGSM-11 (2010) – to consider any proposals

15:00 *Coffee Break*

Any Other Business *(prior notification to the Chairman would be appreciated)*

Dates for Next Committee Meeting

~16h00 *(Close of Meeting)*

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