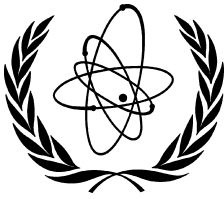


INTERNATIONAL THERMONUCLEAR EXPERIMENTAL REACTOR



ITER EDA NEWSLETTER



VOL. 9, No. 12

DECEMBER 2000

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, AUSTRIA

ISSN 1024-5642

EIGHTH ITER TECHNICAL MEETING ON SAFETY AND ENVIRONMENT

by Drs. C. Gordon and J. Raeder, ITER Joint Central Team

Introduction

As noted in earlier Newsletters, the work for ITER has always included extensive safety and environmental assessments to ensure the attractiveness of ITER in particular and of fusion in general. In addition, the design aims at a facility that can be sited in any of the sponsoring Parties' countries with a minimum of site-specific adaptations. The current design is being assessed with regard to safety and environmental impact. This assessment will be documented in the Generic Site Safety Report (GSSR), which provides technical information on the implementation of the safety approach utilizing a generic site intended to support siting by any Party.

From November 27 to 30, 2000 the Eighth Technical Meeting on Safety and Environment was held by the ITER Joint Central Team (JCT) at the Garching Joint Work Site, which also hosts the ITER Safety, Environment and Health Group (SEHG). At this meeting, safety experts from the Home Teams (HT) worked together with the SEHG members towards the following main objectives:

- review of Generic Site Safety Report (GSSR) results and drafts;
- review of the Plant Design Description (PDD) summary of safety;
- update on the status of R&D tasks contributing to GSSR.

Issues presented and discussed

The GSSR volume editors presented the objectives, main results, changes and remaining issues for each volume in the GSSR:

Volume I	Safety Approach
Volume II	Safety Design
Volume III	Radiological and Energy Source Terms
Volume IV	Normal Operation
Volume V	Radioactive Materials, Decommissioning and Waste
Volume VI	Occupational Safety
Volume VII	Analysis of Reference Events
Volume VIII	Ultimate Safety Margins
Volume IX	External Hazards
Volume X	Sequence Analysis
Volume XI	Safety Models and Codes.

Safety experts from each of the Home Teams then provided the results of their technical review of the draft GSSR volumes and participated in a discussion of possible improvements. Reviews included comments on the changes needed to support regulatory applications in potential host countries as well as detailed comments on the analyses documented in the GSSR. Specific points raised include need of:

- more information on the basis of the source terms and justification of assumptions made in the analyses;
- more information on uncertainties in source terms and assessments;
- clarification of effluent sources and waste characterization;
- more detail in the justification of the safety-related aspects of the design.

The JCT gave a short overview of the R&D tasks that have been undertaken during the EDA. At the beginning most of the tasks were related to determination of the source term: dust production, co-deposited tritium, volatile activated products, beryllium-steam reactions with hydrogen production. Later, the focus was shifted towards experiments to validate codes and models used for the safety analysis: experiments addressing ingress of coolant and loss of vacuum in the vacuum vessel, ingress of water onto cryogenic surfaces, activated corrosion products under ITER conditions, and magnet arc characteristics. Each Home Team then presented a summary of the current status of R&D underway to support the ITER safety assessment.

Summary and conclusions

This technical review:

- confirmed that the basic content of the GSSR is useful as the technical basis for Home Team needs;
- provided many useful suggestions, and the quality of GSSR will be improved as a result;
- emphasized the need for close scrutiny to ensure that the text actually communicates its intent;
- noted the need to be more transparent where there are assumptions made and include the rationale used in the assessments;
- stressed the need for text that ideally supports preparation for regulatory approval, or permits flexible interpretation to support host country approaches.

All participants agreed that the meeting provided a useful forum for discussions on ITER safety and for developing a mutual understanding of the assessments and regulatory issues. The overall approach and provision of safety-related information in the GSSR appears to cover the expected key elements for potential host countries' regulatory discussions. It is understood that the ultimate submissions must be prepared by experts from the host country and that the GSSR will support potential host country's regulatory discussions.

The next ITER Technical Meeting on Safety & Environment, planned to be held around mid-May 2001, is intended to include (1) finalizing the GSSR, (2) a review of the safety-related R&D during the entire EDA, (3) computer code validation, data analyses, benchmarking, etc., and (4) the identification of additional analyses and modelling, or R&D to help reduce uncertainties.

List of Participants

EU:

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T. Honda
M. Iseli
K. Moshonas (VHTP)
J. Raeder
L. N. Topilski

Dr. JUERGEN WEIL, IAEA EDITOR, HAS RETIRED by C. Basaldella, ITER Office Vienna



Dr. Juergen Weil, the walking encyclopaedia and inexhaustible source of information on “fusion history” and editor of the ITER EDA Newsletter, has retired.

He studied Theoretical Physics (Doktor der Physik) and Oriental Languages at the University of Vienna. Immediately thereafter, he joined the University of Innsbruck on an assignment with Professor Cap, a well-known plasma physicist, and worked on a project translating texts from Eastern languages.

Dr. Weil joined the IAEA in 1968 and worked until his retirement as a staff member of the Publishing Section (apart from one little “attempt to escape” many years ago, when he applied for the post of Head of the Physics Section).

In an informal chat, I asked him: “Looking back on your ‘personal input’ at the IAEA, what are you proud of?”

JW: There is little to be proud of, but you do feel a kind of satisfaction if in times of linguistic degeneration and barbarism you sometimes manage, if not to halt the trend, at least to hold it up a little, if only in documents. This is why I am personally deeply sorry that the IAEA Fusion Energy Conference, for example, no longer produces edited books, but only unedited CD-ROMs. However, to a certain extent, I was at times able to turn history back a bit, to put a spoke in the wheel, so to speak.

Q: What would you consider an editor’s greatest mistake?

JW: To put a comma in the wrong place and change the sense of a text. But the advantage of being an editor is that this position is comparable to that of a major in the army. He is too high in rank to have to lie in the trench and too low to be held responsible for the defeat. Many years ago, a famous opera critic, who could neither sing nor play an instrument, said that he was not able to lay an egg, but he would know if it stank. This quotation always reminds me of the task of an editor as well.

Q: Do you happen to remember in how many Plasma Physics Conferences you participated?

JW: Yes. Thanks to my experience with Prof. Cap, I was with the Nuclear Fusion journal from the very beginning of my career. My first Plasma Physics Conference was in 1961 - I was still a student - and at my third one, 1968 in Novosibirsk, I already participated as an editor. Since then I have specialized in mathematical-physical English texts and worked at all the Plasma Conferences until 1996 in Montreal.

Q: How many books have you written so far?

JW: Nine. My last one, “Wanderungen”, contains stories about people I have met in my life. One story is dedicated to Margaret and Henry Seligman. Henry Seligman*) was certainly a guiding person in my life, and I have been trying to adopt his code of conduct and philosophy of life. If it had not been for Henry, who was the “fusion advocate” within the IAEA, the Agency would probably be out of Plasma Physics today. It was him, who constantly underlined fusion’s importance, also for the role of the IAEA. In 1992 he still attended the Agency’s Plasma Conference in Wuerzburg - at his own expense.

Right now I am working on my tenth book. It already consists of 270 handwritten pages and will be something like a "modified criminal novel".

Q: Now, being at the beginning of a new chapter in life, leaving - more or less, we do hope less - the IAEA behind, what are you happy to get rid of?

JW: I am absolutely not happy to get rid of somebody or something, because I liked all my colleagues and my work. What I am happy about is the new freedom of time, nothing else.

Dear Juergen, the ITER Office Vienna would like to thank you for your precious help over the years with editing the ITER Newsletter, the manuscripts of which have - language-wise - not always been in magnificent condition and which - IAEA budget-wise - you were not even obliged to edit. Many thanks and enjoy your freedom!

*) Prof. Henry Seligman served for more than ten years as the IAEA's first Deputy Director General for Research and Isotopes. When he died in 1993, at the age of 84, he was still special advisor to the Director General. Dr. Michael Roberts, DOE Washington, wrote an obituary of Dr. Henry Seligman, published in the ITER EDA Newsletter in March 1993 (Vol. 2, No. 3).

Items to be considered for inclusion in the ITER Newsletter should be submitted to B. Kuvshinnikov, ITER Office, IAEA, Wagramer .Strasse 5, P.O. Box 100, A-1400 Vienna, Austria, or Facsimile: +43 1 2633832, or e-mail: c.basaldella@iaea.org (phone +43 1 260026392).

Printed by the IAEA in Austria
February 2001

01-00320