

4. AGENDA OF THE MEETING

International Atomic Energy Agency  
Specialists' Meeting on

**GRAPHITE COMPONENT STRUCTURAL DESIGN**

TOKAI, JAPAN

8 - 11 September 1986

**AGENDA**

Monday 8, September (Morning)

9:00 Registration  
9:20 Opening Remarks

T. Asaoka (JAERI)  
J. Kupitz (IAEA)

**SESSION I  
DESIGN CRITERIA**

Chairmen : R. E. Vollman  
B. T. Kelly  
T. Arai

9:30-10:00 "The Integrity of CAGR Moderator Bricks" (I-1)  
B. T. Kelly (NPDL, U.K.)  
10:00-10:20 "The Assessment of the Integrity of AGR Core  
During an Earthquake" (I-2)  
C. R. Smith (NNC, U.K.)

**BREAK**

10:40-11:10 "Mechanical Design Philosophy for the Graphite  
Components of the Core Structure of an HTGR" (I-3)  
E. Bodmann (HRB, FRG)  
11:10-11:40 "HTGR Fuel Element Structural Design Consider-  
ation" (I-4)  
R. E. Vollman (GAT, USA)  
11:40-12:10 "Structural Design of Reactor Core and Support  
Graphite Components for the Experimental VHTR" (I-5)  
T. Arai (JAERI, JAPAN)

**LUNCH**

**Monday (Afternoon)**

13:30-14:00 "The Statistical Characterization of Tensile  
Strengths for a Nuclear-type Graphite" (I-6)  
W. P. Eatherly (ORNL, USA)  
14:00-14:30 "Statistical Considerations of Graphite  
Strength for Assessing Design Allowable  
Stresses" (I-7)  
M. Ishihara (JAERI, JAPAN)  
14:30-15:00 "Fracture Criterion of Reactor Graphite under  
Multiaxial Stresses" (I-8)  
S. Sato (Ibaraki Univ. JAPAN)

**BREAK**

**SESSION II  
STRESS AND STRAIN ANALYSIS**

Chairmen : M. W. Owen  
S. Sato  
D. J. Norfolk

15:20-15:50 "Structural Assessment of Prismatic Block for  
Pin-in-Block Fuel Element" (II-1)  
N. Takikawa (KHI, JAPAN)  
15:50-16:20 "Experimental and Theoretical Evaluation of  
Core Alignment Structures against a Seismic  
Load" (II-2)  
A. Ide (Fuji, JAPAN)  
16:20-16:50 "Structural Strength of Core Graphite Bars"  
(II-3)  
K. Kikuchi (JAERI, JAPAN)  
16:50-17:20 "The Experimental Qualification of a Mathe-  
matical Model Used to Assess the AGR  
Core Seismic Response" (II-4)  
D. C. Shaw (NNC, U.K.)  
presented by M. W. Owen  
(NNC, U.K.)

Tuesday, 9 September (Morning)

9:00- 9:30 "Seismic Response Analysis of Prismatic Block  
Cores of the Experimental VHTR" (II-5)  
T. Iyoku (JAERI, JAPAN)

**SESSION III  
MATERIAL PROPERTIES**

Chairmen : W. Katscher  
W. P. Eatherly  
E. Bodmann  
G. Haag  
A. Ide

9:30-10:00 "Development and Testing of Nuclear Graphites for the German Pebble-Bed high Temperature Reactor" (III-1)

G. Haag (KFA, FRG)

10:00-10:30 "High Temperature Young's Modulus of IG-110 Graphite" (III-2)

T. Konishi (JAERI, JAPAN)

BREAK

10:50-11:20 "Effects of High Temperature Neutron Irradiation on the Physical, Chemical and Mechanical Properties of Fine-grained Isotropic Graphite" (III-3)

H. Matsuo (JAERI, JAPAN)

11:20-11:50 "Degradations of Thermal Shock Resistance and the Fracture Toughness of Reactor Graphite Subjected to Neutron Irradiation" (III-4)

S. Sato (Ibaraki Univ. JAPAN)

11:50-12:20 "Application of ISRM Testing Methods to Fracture Toughness testing of Graphite" (III-5)

T. Hashida (Tohoku Univ. JAPAN)

LUNCH

Tuesday (Afternoon)

13:40-14:10 "Notch Sensitivity of Graphite Materials for VHTR" (III-6)

H. Kawakami (Fuji, JAPAN)

14:10-14:40 "Nondestructive Testings of HTGR Graphites" (III-7)

T. Maruyama (TIT, JAPAN)

14:40-15:10 "Achieving Optimum Graphite Performance in AGR Core and Fuel" (III-8)

D. J. Norfolk (CEGB, U.K.)

BREAK

15:30-16:00 "Graphite Corrosion Under Severe HTR Accident Conditions" (III-9)

W. Katscher (KFA, FRG)

16:00-16:30 "Estimation of Graphite Materials Corrosion with Water-vapor in Coolant of the VHTR and Oxidation Effect on the Materials Properties" (III-10)

M. Eto (JAERI JAPAN)

16:30-17:00 "A Graphite Corrosion Rate Equation under High Concentration Water-vapor in Helium and an Estimation of the VHTR Support Post Corrosion and Strength" (III-11)

S. Nomura (JAERI, JAPAN)

17:00-17:30 "Radiation Effect on the Graphite of HTGR" (III-12)

O. K. Chugunov (KIAE, USSR)

Wednesday, 10 September (Morning)

9:00- 9:30 "Matrix Graphite for HTGR Spherical Fuel Elements Some Their Properties" (III-13)

A. S. Cherinikov (KIAE, USSR)

9:30-10:00 "Irradiation Dimensional Stability of Graphite Containing Green Coke Filler" (III-14)

Yu. S. Virgili'ev (SRIG, USSR)

10:00-10:30 "Elastic-Plastic Fracture Toughness of HTGR Graphites" (III-15)

T. Oku (JAERI, JAPAN)

BREAK

10:50-11:20 "Fatigue Behavior of Fine-grained Isotropic Graphite for HTGRs" (III-16)

S. Ishiyama (JAERI, JAPAN)

11:20-11:50 "Acoustic Emission from Polycrystalline Graphites" (III-17)

I. Ioka (JAERI, JAPAN)

**SESSION IV & V**

**GRAPHITE COMPONENT TESTS/INSPECTION AND SURVEILLANCE OF GRAPHITE COMPONENTS**

Chairmen: T. Oku

11:50-12:20 "Experience Obtained from Construction and Preliminary Test of In-core Structure Test Section (T-2)" (IV/V-1)

K. Kunitomi (JAERI, JAPAN)

12:20-12:50 "Results of the Visual In-Pile Inspection of the Inner Graphite Reflector of the AVR" (IV/V-2)

G. Haag (KFA, FRG)

LUNCH

Wednesday (Afternoon)

Technical Tour

Thursday, 11 September (Morning)

9:00- Summary Session

Chairmen: B. T. Kelly  
T. Arai

Closing remarks

K. Sanokawa(JAERI)  
J. Kupitz (IAEA)

12:00 Adjourn

name : speaker's name only