



International Atomic Energy Agency

INTERNATIONAL WORKING GROUP ON GAS COOLED REACTORS

SEISMIC BEHAVIOUR OF GAS COOLED REACTOR COMPONENTS

PROCEEDINGS OF A SPECIALISTS MEETING
ORGANIZED BY THE
INTERNATIONAL ATOMIC ENERGY AGENCY
AND HELD IN GIF-SUR-YVETTE, FRANCE
14-16 NOVEMBER 1989

INTERNATIONAL ATOMIC ENERGY AGENCY, VIENNA, 1990

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OF GAS COOLED REACTOR COMPONENTS**

(IWGGCR/22)

CORRIGENDUM

The second sentence of the Foreword should read as follows:

“The meeting was hosted by the Commissariat à l'énergie atomique (CEA).”

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FOREWORD

On invitation of the French Government the Specialists' Meeting on the Seismic Behaviour of Gas-Cooled Reactor Components was held at Gif-sur-Yvette, 14-16 November 1989. The meeting was hosted by the Central Electricity Authority (CEA). The open and friendly atmosphere and excellent organisation composed the successful frame of this event.

There were 27 participants from France, the Federal Republic of Germany, Israel, Japan, Spain, Switzerland, the United Kingdom, the Soviet Union, the United States, the CEC and IAEA took the opportunity to present and discuss a total of 16 papers reflecting the state of the art of gained experiences in the field of their seismic qualification approach, seismic analysis methods and of the capabilities of various facilities used to qualify components and verify analytical methods. The meeting was rounded off by a concluding session followed by a visit to and description of TAMARIS, the new multi-purpose seismic vibration laboratory at the Centre d'Etudes Nucléaires de Saclay.

This was the second Specialists' Meeting on the general subject of gas-cooled reactor seismic design. The first was held in San Diego, USA, on 30 August - 1 September 1982. Since the first meeting, the sophistication and expanded capabilities of both the seismic analytical methods and the test facilities are apparent. The two main methods for seismic analysis, the impedance method and the finite element method, have been computer-programmed in several countries with the capability of each of the codes dependent on the computer capability. The correlations between calculation and tests are dependent on input assumptions such as boundary conditions, soil parameters and various interactions between the soil, the buildings and the contained equipment. The ability to adjust these parameters and match experimental results with calculations was displayed in several of the papers. The expanded capability of some of the new test facilities was graphically displayed by the description of the SAMSON vibration test facility at Jülich, FRG, capable of dynamically testing specimens weighing up to 25 tonnes, and the TAMARIS facility at the CEA laboratories in Gif-sur-Yvette where the largest table is capable of testing specimens weighing up to 100 tonnes.

During the discussion and conclusion session, it was generally agreed that the meeting had provided an excellent forum for the exchange of information and that another such specialists' meeting in a few years would be very worthwhile. It was also recommended that the science of seismic analysis had now reached such a state of sophistication that it would be worthwhile for the Agency to try to establish through consultants' meetings, a simplified approach that countries might use in a standardized manner to qualify designs for seismic capability.

The following proceedings are subdivided into 4 sessions containing all presented papers.

EDITORIAL NOTE

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