

October 18, 2000

MEMORANDUM TO: Chairman Meserve  
Commissioner Dicus  
Commissioner Diaz  
Commissioner McGaffigan  
Commissioner Merrifield

FROM: Janice Dunn Lee, Director */RA/*  
Office of International Programs

SUBJECT: VISIT OF DR. ADOLPH BIRKHOFFER, MANAGING DIRECTOR,  
GESELLSCHAFT FÜR REAKTORSICHERHEIT (GRS),  
OCTOBER 24, 2000

Attached for all participants are schedule, biographic information, and background information and talking points for use during the NRC visit of Dr. Adolph Birkhofer, Managing Director, Gesellschaft für Reaktorsicherheit (GRS), October 24, 2000.

Dr. Birkhofer is in Washington as an invited participant in the expert panel "Twenty-Five Years since the Reactor Safety Study - the Legacy and the Lessons" of the WRSRM. While here, he requested meetings with the Commissioners.

By copy of this memorandum, SECY, OGC, EDO, and OPA are being advised of the final arrangements.

Attachments: As stated

cc: SECY  
OGC  
EDO  
OPA  
RES

CONTACT: Howard Faulkner, OIP  
415-2762

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DATE	10/18 /00	10/18 /00	10/18 /00

**OFFICIAL RECORD COPY**

**NRC VISIT OF  
DR. ADOLPH BIRKHOFFER, MANAGING DIRECTOR  
GESELLSCHAFT FÜR REAKTORSICHERHEIT (GRS)  
OCTOBER 24, 2000**

**Schedule**

09:00 am	Meeting with Chairman Meserve, O17-D-1
09:30 am	Meeting with Commissioner Diaz, O18-H-1
10:00 am	Meeting with Commissioner McGaffigan, O18-H-1
10:30 am	Meeting with Commissioner Dicus, O18-H-1
11:00 am	Meeting with Commissioner Merrifield, O18-H-1

**DISCUSSION TOPICS**

During his meetings with the Commissioners, Dr. Birkhofer plans to brief them on his impressions of the safety situation in the FSU, future approach for NEA, and the key activities of INSAG (IAEA). He would like to be informed of the philosophy and technical bases for extending reactor licenses in the US.

## **BACKGROUND INFORMATION**

### **REGULAR INTERACTION WITH NRC**

Dr. Birkhofer is the Managing Director of the Company for Reactor Safety (GRS) which is located in Garching. Previously, he was the chief nuclear safety advisor to the German federal regulator and served as the Chairman of the German Reactor Safety Commission (similar to ACRS). In these positions, he interacted with NRC Commissioners and staff on many regulatory and research matters over the past twenty years. However, with the formation of the Socialist-Green government in 1998 (see discussion below), the pro-nuclear Birkhofer fell out of favor with the new government appointees and he no longer serves in these positions. More recently, he has been deeply involved in German and international assistance efforts to the FSU. Dr. Birkhofer chairs the Safety Review Group of the European Bank for Reconstruction and Development (EBRD). This group is vital in determining safety projects in the FSU to be funded by the EBRD. Dr. Birkhofer has been active in OECD/NEA activities for many years as well as other international bodies. He was the Chairman of the "Wisemen's" group that reviewed and made recommendations on the long term directions for the NEA.

### **TALKING POINT**

The Commissioners may wish to:

- Welcome Dr. Birkhofer and acknowledge his long history of interacting with NRC.

### **CURRENT SITUATION IN GERMANY**

Since the election of a coalition Socialist-Green government in the fall of 1998, NRC has had infrequent contact with our regulatory counterparts at BMU. Juergen Trittin, Minister of BMU, is a member of the Green Party and an ardent nuclear opponent. Mr. Trittin appointed Wolfgang Renneberg, a Socialist, to be head of the nuclear safety and radiation protection department of the Ministry. After a noticeable German absence from a few International Nuclear Regulators Association (INRA) meetings, Mr. Renneberg participated in one recent meeting.

During his short tenure, Mr. Trittin has proposed a number of controversial anti-nuclear initiatives, such as terminating existing utility commitments to reprocess spent fuel, mandating a nuclear power plant phase-out, and dismissing the RSK membership. Also, the prohibition against spent fuel movement continues as a critical issue because a few plants do not have space in the spent fuel pool nor licensed on-site dry storage.

Internationally, the safety situation in the Former Soviet Union (FSU) remains an important concern of BMU. The government prefers that new electrical generation in the FSU be non-nuclear.

## **TALKING POINT**

The Commissioners may wish to:

- Inquire as to the impact of the new government on the activities and budget of GRS, especially the collaboration with France on the development of the European Pressurized Reactor (EPR).

## **POWER REACTOR PHASE-OUT**

In June, the coalition German government and the electric utility industry agreed on a phase-out of all nineteen nuclear power reactors in Germany. About 1/3 of Germany's electricity is generated by these plants. The agreed, average lifetime for each reactor is 32 operational years although individual plants may run more or less than the average. The utilities will be able to spread the remaining energy output as they choose, meaning that there is not an absolute deadline. This tradeability indicates that the newer and larger units may operate beyond 32 years. The last plant should end operation in the 2020s. Additionally, German utilities agreed to end spent fuel reprocessing by July 1, 2005.

In return, the government will not interfere with routine operation of the plants, transportation of spent fuel and waste, and the management of nuclear waste.

This phase-out is viewed as a major setback to the use of nuclear energy in western Europe. It follows a similar move in Italy, and plans to eliminate nuclear power in Sweden.

## **TALKING POINT**

The Commissioners may wish to:

- Acknowledge the recent power reactor phase-out accord agreed to by the German government and industry. Inquire as to the current implementation status. Are all involved German states following the federal government's position?

## **ASSISTANCE TO EASTERN COUNTRIES**

The bulk of German assistance toward improving the safety of Soviet-designed reactors operating in the countries of Central and Eastern Europe (CEE) and of the former Soviet Union (FSU) is in the multilateral arena. Germany is a contributor to the EBRD-administered Nuclear Safety Account and Chernobyl Shelter Fund. Germany supported the recently completed IAEA Extrabudgetary Program on the safety of VVER and RBMK nuclear power plants, primarily through the provision of cost-free experts. Germany also participates in the G-7 Nuclear Safety Working Group and the G-24 Nuclear Safety Assistance Coordination mechanism.

The current German government is strongly anti-nuclear. This has placed Germany in a difficult position in its dealings with the G-7 and Ukraine on Chernobyl closure issues. The

Ukrainian government has announced that it will close the last operating reactor at Chernobyl (Unit 3) by

-3-

December 15, 2000. The Ukrainians are continuing to press for G-7 support and international financing to complete two VVER-1000 reactors (one at Rivne and one at Khmel'nitsky, referred to as R4/K2) as part of a quid pro quo for Chernobyl closure. The previous German government supported completion of these two new VVER-1000s. However, the current government is caught between Ukrainian and other G-7 support and its domestic nuclear phase-out agenda. On one hand, Germany does not want to upset efforts to gain Chernobyl closure. On the other hand, opinions within Germany are reportedly so strong that anything less than cancellation of R4/K2 will be viewed as German support for its completion.

Germany, as a member of the European Union (EU), participates in the European Commission (EC)-administered PHARE and TACIS Programs. These two programs are the principal vehicles by which the member states of the EU provide nuclear safety-related assistance to the CEE and FSU countries.

## **TALKING POINTS**

The Commissioners may wish to:

- Commend Germany for its strong role in aggressively addressing the safety problem in the FSU and CEE and its substantial program of bilateral and multilateral assistance.
- Inquire as to the German government's position regarding financial support for R4/K2 completion.
- Inquire as to Dr. Birkhofer's impressions of the accomplishments of the West's assistance efforts to the FSU and CEE?

## **INTERNATIONAL NUCLEAR SAFETY ADVISORY GROUP (INSAG)**

### Background

The International Nuclear Safety Advisory Group (INSAG) is an independent body which advises the IAEA Director General (DG) in the field of nuclear, radiation and radioactive waste safety. INSAG recommendations are provided to the Director General but are addressed by the Deputy Director General for Nuclear Safety. INSAG is charged with recommending the underlying principles upon which appropriate safety standards and measures can be based; providing a forum for the exchange of information on generic safety issues of international significance; identifying important current safety issues and to draw conclusions on the basis of results of safety activities worldwide (and other information such as research and development results); and giving advice on safety issues on which additional efforts may be required.

The DG appoints INSAG members for a three year period; the key selection criterion is having high professional competence in the field of nuclear safety. Members often come from

regulatory organizations, research and academic institutions and the nuclear industry. Countries currently represented on INSAG include: Russia, Canada, Switzerland, Germany, France, Argentina, United Kingdom, Czech Republic and South Africa. Representatives from

-4-

the OECD/NEA and WANO are also members. The U.S. representative for the most recent term, which began in November 1999, is Ashok Thadani. INSAG is currently chaired by Alec Baer of Switzerland. Dr. Birkhofer is an INSAG member.

### Current Issues

INSAG has been vocal about a series of issues and its Chair has written to the Director General on various occasions to voice INSAG concerns. Most recently, Chairman Baer has written to express INSAG's concern about the safety of research reactors and urging support for a protocol to the Convention on Nuclear Safety or similar legal instrument "without delay" to cover them. The Chairman also wrote to the DG about the safety and security of radiation sources. Issues of concern flagged for further examination include management of change, independence of the regulatory authority, decommissioning, and criticality. Other issues of interest relate to the future viability of nuclear technology, including waste management, maintenance of knowledge, and attracting young people to the field.

### **TALKING POINT**

The Commissioners may wish to:

- Ask Dr. Birkhofer to share his views on the key activities of INSAG.

### **TEMELIN-1 INITIAL CRITICALITY**

Temelin-1, a VVER-1000 (PWR) located in the Czech Republic, went critical on October 11. The utility CEZ is planning to gradually increase reactor power to 30% during the first two months of operation, then to 100% over the next three months. CEZ expects to begin selling power from Temelin-1 on a commercial basis this December. Construction of Temelin-2 is expected to be completed in 1½ years.

Temelin-1 is one of the first reactors to be completed since the breakup of the Soviet Union that has incorporated safety upgrades into the original Soviet design. For example, the original Soviet-designed analog instrumentation and control system was replaced with a U.S.-designed digital instrumentation and control system and it will utilize Westinghouse rather than Russian fuel.

Because of its close proximity, the German government had GRS make an assessment of the safety of Temelin. Dr. Birkhofer will report on their findings.

The startup of Temelin-1 has been controversial. The Austrian government voiced strenuous objections to startup (Temelin is approximately 30 miles from the Czech/Austrian border). The Austrian Foreign Minister told the Foreign Ministers of the other European Union member states that the reactor posed a danger to Central Europe. In addition, protestors blocked transit points

between Austria and the Czech Republic in the weeks leading up to initial criticality. Two days before Unit 1 achieved initial criticality all 15 border crossings between the two countries were closed for approximately 13 hours.

-5-

## **TALKING POINTS**

The Commissioners may wish to:

- Note that NRC has an assistance program with the Czech regulator and that we have found the organization to be quite capable.
- Inquire as to the findings of the GRS safety assessment.

## **NUCLEAR ENERGY AGENCY ACTIVITIES**

Dr. Birkhofer has been a longstanding advisor to the NEA. Recently in the October 2000 NEA Steering Committee meeting, the issue of Poland membership was addressed. There was no consensus to allow Poland to join the NEA in part based on the recommendations of the 1998 Birkhofer report which found that new membership should be offered to very few countries, those with demonstrated capacity to contribute substantially to maintaining and strengthening the NEA as an international center of competence.

## **TALKING POINT**

The Commissioners may wish to:

- Seek Dr. Birkhofer's views on NEA expansion in light of European Union accession issues.