APR 4 1980

MEMORANDUM FOR: Samuel J. Chilk, Secretary

FROM: Joseph D. Lafleur, Jr.
Assistant Director for International Cooperation, OIP

SUBJECT: COMMISSION VISIT OF MR. REINHARD UEBERHORST, FRG
(TUESDAY, APRIL 8, 1980)

Attached for all participants is a background information paper for use during the Tuesday, April 8, visit of Mr. Reinhard Ueberhorst, Chairman of the Bundestag's Enquete-Commission on "Future Nuclear Energy Politics," and Dr. D. Faude from the Karlsruhe Nuclear Research Center. The visitors, scheduled to arrive at 10:15 a.m. for their first meeting, are interested in discussing waste disposal, reactor licensing in the U.S. and Germany, and the U.S. assessment of INFCE results.

Please distribute this paper to all H-Street participants. By copy of this memorandum, EDO, OPE, OGC, NRR, NMSS, and ELD are also being advised of the final arrangements.

/s/ H-J Faulkner for

Joseph D. Lafleur, Jr.
Assistant Director for
International Cooperation
Office of International Programs

Enclosure:
Background Information

cc w/enclosure:
W. J. Dircks, EDO
E. J. Hanrahan, OPE
L. Bickwit, OGC
H. R. Denton, NRR
J. G. Davis, NMSS
H. K. Shapar, ELD
J. R. Shea, IP

bcc: JDL
JDevine
DMC
RSS
SHO
AMG
RBrady, SEC
GGower, IE

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OFFICE	IP	IP	IP			
SURNAME	AMGore:ecb	DMChenier	JDLafleur			
DATE	4/4/80	4/4/80	4/3/80			

NRC FORM 318 (9-76) NRCM 0240

You may want to draw on the following during your discussions with Mr. Ueberhorst:

1. On February 29, the Federal Government and the State Minister Presidents worked out new general instructions on nuclear reprocessing, waste disposal and nuclear power plant licensing. Modification of the general instructions had become necessary to bring federal regulations into accord with the agreement concerning nuclear waste disposal reached by the Federal Government and the State Minister Presidents in September 1979. (Details on the February 29 meeting are included in this paper.)

2. During the past week, the media has reported that West Germany, in a return to its original position, is no longer seeking a full-scope safeguards agreement with Argentina before permitting Kraftwerk Union (KWU) to export components for the Atucha-2 unit. KWU was awarded the contract after intense competition with Atomic Energy of Canada, Ltd. (AECL), which lost in the bidding partly because of the Canadian government's insistence on full-scope safeguards.

3. The German Company for Reprocessing of Spent Nuclear Fuel Elements (DWK) has applied for a license to erect a planned intermediate storage facility located at Ahaus in North Rhine-Westphalia. This facility would be able to store all spent fuel elements from FRG reactors that would be produced until 1983. If necessary, a second intermediate storage facility would be built in Bavaria.

4. TMI sent shock waves throughout Germany, but government and reactor officials have repeatedly emphasized that TMI could not happen in Germany because German reactors are designed differently. In spite of this, German safety experts are still taking precautionary measures and are carefully reexamining the safety concepts in all plants. Actually, TMI is playing a relatively small role in the nuclear debate in Germany. The waste problem is still the dominant issue.

5. A group of top German executives and utility members has issued a warning that West Germany will lose its nuclear know-how if the de facto reactor moratorium is not ended soon. They emphasize that the German nuclear industry is on the verge of dismissing its skilled manpower, thereby losing the nuclear expertise vital for its survival.

6. Last May, in response to the TMI accident, Federal Research Minister Volker Hauff, on behalf of the FRG, submitted a number of suggestions to the IAEA designed to initiate an objective study on the safety of nuclear power plants. Hauff recommended that all countries interested in nuclear energy participate in the study with the results being made available to all those involved as well as to the public at large. Hauff's suggestions, as well as those from other member countries, were warmly received by the Director-General who agreed to assume personally the responsibility to find the resources to expand the Agency safety program. The U.S. also received a letter and responded.

7. West Germany has released its own version of the Rasmussen Reactor Safety Study. The report, commissioned by Hauff's ministry, confirms the basic findings of the Rasmussen report. Hauff was quoted as saying that the report "gives me no cause to change my attitude" in support of nuclear energy. The report concludes that 50 percent of reactor accidents causing long-term radiation deaths in Germany would also bring fatalities beyond Germany's borders, while Germans would similarly be affected by major reactor accidents in neighboring European countries.

Background

Mr. Reinhard Ueberhorst is a member of the German Bundestag and Chairman of the Bundestag's Enquete-Commission on "Future Nuclear Energy Politics." This commission was established in early 1979 in connection with the Bundestag's deferral of a final decision on the future of the German Breeder Program. Half of the 15 member commission are representatives of the Bundestag; half come from outside. During his visit to Washington, Mr. Ueberhorst, who will be accompanied by Dr. Faude from the Karlsruhe Nuclear Research Center, intends to meet with members of Congress, representatives from the National Security Council, the State Department, the Department of Energy, and the National Resources Defense Council. The main issues he would like to address are the following:

- U.S. assessment of INFCE results
- Long-term energy policy, including an assessment of the future role of nuclear energy as well as alternative energy sources
- Relationship between waste disposal and licensing of new power plants.

Intermediate FRG Plans for Spent Fuel

The German Company for Reprocessing of Spent Nuclear Fuel Elements (DWK) has applied for a license to erect a planned intermediate storage facility located at Ahaus in North Rhine-Westphalia. This facility, with a capacity of 1,500 tons, would be able to store all spent fuel elements from FRG reactors that would be produced until 1983. Federal authorities expect this facility to be ready by 1984. but the licensing process is subject to delays. The eventual cost of the facility is expected to be $170 million.

If necessary, a second intermediate storage facility would be built in Bavaria. This facility, however, would only be necessary if the plans for the Gorleben reprocessing center were seriously delayed.

Another short-term plan under consideration is the installation of compact storage racks at reactor sites which would increase the on-site storage capacity of a reactor to a load of 8 operator years. Additional foreign reprocessing will continue to be sought in the meantime. (All such FRG contracts provide for the return of the solidified nuclear waste only after the FRG has achieved a final disposal capability.)

WORKING AREAS OF THE ENQUETE-COMMISSION "FUTURE NUCLEAR ENERGY POLITICS" OF THE PARLIAMENT OF THE FEDERAL REPUBLIC OF GERMANY (F.R.G.)

The working areas are defined by a series of complex questions, whose answers should provide recommendations to the Parliament of the F.R.G.

1. With regard to national, European, and worldwide developments in energy supply and demand, is the use of nuclear energy in the Federal Republic of Germany a necessity or a potentiality that need not be exploited?

2. What are the expected effects on society of the various forms of energy supply - including both the long-term security of worldwide energy supplies and comparative assessment of the advantages and risks of the various energy sources? How can the Parliament of the F.R.G. avoid potentially disadvantageous developments?

3. What criteria and quantitative standards are considered important for the acceptance of nuclear or other forms of energy, and how can these find Parliamentary expression?

4. What decisions should the Parliament of the F.R.G. make on fast breeder technology, particularly on the possible starting up of SNR 300?

5. What decisions should the Parliament of the F.R.G. make for the optimal concepts of management of waste from German nuclear power plants?

6. What decisions should the Parliament of the F.R.G. make on alternative nuclear fuel cycles, with particular reference to the INFCE results?

7. What contribution can the F.R.G. make through its civil nuclear policy to diminution of the dangers of proliferation?

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ACTION EUR-12

INFO OCT-01 ADS-00 ACDA-12 CIAE-00 INR-10 IO-15 L-03
NSAE-00 NSC-05 EB-06 NRC-02 OES-09 DODE-00 H-02
DOE-17 SS-15 SP-02 CEQ-01 PM-05 SAS-02 /121 W
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INFO USDOE WASHDC
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AMCONSUL FRANKFURT
AMCONSUL DUSSELDORF
AMCONSUL HAMBURG
AMCONSUL MUNICH
AMCONSUL BREMEN
AMCONSUL STUTTGART

UNCLAS SECTION 01 OF 02 BONN 04348

DEPT. PLS. PASS NRC

E.O. 12065: N/A
TAGS: ENRG, GW
SUBJECT: A) NEW DECISIONS ON FRG NUCLEAR REPROCESSING
- AND WASTE DISPOSAL

REF: A) 79 BONN 18752, B) 79 BONN 18598, C) 79 BONN 18238

1. (UNCLASSIFIED - ENTIRE TEXT).
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2. ON FEBRUARY 29, THE FEDERAL GOVERNMENT AND THE STATE MINISTER PRESIDENTS WORKED OUT NEW GENERAL INSTRUCTIONS ON NUCLEAR REPROCESSING AND WASTE DISPOSAL AND NUCLEAR POWER PLANT LICENSING. A MODIFICATION OF THE GENERAL INSTRUCTIONS WAS NECESSARY TO ADJUST FEDERAL REGULATIONS TO THE AGREEMENT OF THE FEDERAL GOVERNMENT AND THE STATE MINISTER PRESIDENTS OF SEPTEMBER 1979 CONCERNING NUCLEAR WASTE DISPOSAL (SEE REFTELS).

3. IN PRINCIPLE, THE CONCEPT OF A COMPLETE NUCLEAR FUEL CYCLE IN THE FRG REMAINS UNCHANGED. ACCORDING TO THE NEW INSTRUCTIONS, A SYSTEM OF FACILITIES FOR NUCLEAR WASTE STORAGE AND FINAL DISPOSAL IS INTENDED TO BE INSTALLED AT SEVERAL LOCATIONS RATHER THAN AT ONE SITE AS WAS PREVIOUSLY PLANNED. THESE FACILITIES NEED NOT INCLUDE REPROCESSING FACILITIES BUT THE OPTION OF REPROCESSING WILL BE KEPT OPEN. IF REPROCESSING OR ANY OTHER TECHNICAL SOLUTION FOR THE DISPOSAL OF SPENT FUEL RODS IS ADOPTED, SEVERAL DECENTRALIZED SMALLER FACILITIES ARE INTENDED TO BE INSTALLED, REPLACING THE FORMER PROJECT OF ONE LARGE REPROCESSING FACILITY IN GORLEBEN. THE SALT DOME OF GORLEBEN IS STILL UNDER CONSIDERATION AS THE FINAL REPOSITORY FOR HIGH LEVEL RADIOACTIVE WASTES.
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4. THE REGULATIONS COVERING THE CONSTRUCTION LICENSING PROCEDURE WILL BECOME MORE LIMITING CONCERNING SECURE WASTE DISPOSAL IN A STEP BY STEP FASHION. THE REQUIREMENTS FOR SECURE WASTE DISPOSAL HAVE BEEN SPLIT INTO THREE CATEGORIES:

A) NUCLEAR POWER PLANTS OPERATING OR UNDER CONSTRUCTION:

FOR THESE POWER PLANTS THE OPERATORS HAVE TO PROVE TIMELY PROVISION FOR SECURE WASTE DISPOSAL, I.E., THAT CONTRACTS EXIST WITH PARTNERS WHICH TAKE OVER THE SPENT FUEL RODS FOR FINAL DISPOSAL OR FOR REPROCESSING ABROAD. AT THE LATEST BEFORE THE FIRST PARTIAL CONSTRUCTION LICENSE, THE FUTURE OPERATOR HAS TO PROVE THAT FOR A PERIOD OF SIX YEARS, BEGINNING WITH THE START OF OPERATION OF THE POWER PLANT, SECURE STORAGE OF SPENT FUEL RODS CAN BE GUARANTEED.
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B) NUCLEAR POWER PLANTS UNDER CONSTRUCTION UP TO THE END OF 1984:

TILL JANUARY 1, 1985, THE LICENSING REGULATIONS WILL BECOME MORE LIMITING BY REQUIREMENTS WHICH NECESSITATE A STEP BY STEP REALIZATION OF THE INTEGRATED WASTE DISPOSAL CONCEPT. THESE STEPS INCLUDE THE CONSTRUCTION OF TEMPORARY REPOSITORIES, PROGRESS IN CONSTRUCTION OF A FINAL REPOSITORY, AND THE PRE-SELECTION OF A LOCATION FOR A RE-PROCESSING FACILITY OR A FACILITY FOR DIRECT DISPOSAL WITHOUT REPROCESSING.

C) NUCLEAR POWER PLANTS WITH OPERATION LICENSES ISSUED AFTER JANUARY 1, 1986:

THESE RESTRICTIVE LICENSING REGULATIONS, MENTIONED UNDER POINT 2, BECOME OBLIGATORY FOR ALL POWER PLANTS WITH OPERATION LICENSES ISSUED AFTER JANUARY 1, 1986. FOR THE FIRST PARTIAL CONSTRUCTION LICENSE, THESE REQUIREMENTS BECOME VALID ON JANUARY 1, 1985.
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5. UP TO THIS DATE, CONSTRUCTION LICENSES CAN BE ISSUED UNDER THE FOLLOWING PRE-REQUISITES:

ACTION EUR-12

INFO OCT-01 ADS-00 ACDA-12 CIAE-00 INR-10 IO-15 L-03
NSAE-00 NSC-05 EB-08 NRC-02 OES-09 DODE-00 H-02
DOE-17 SS-15 SP-02 CEO-01 PM-05 SAS-02 /121 W
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FM AMEMBASSY BONN
TO SECSTATE WASHDC 6255
INFO USDOE WASHDC
USMISSION USBERLIN
AMCONSUL FRANKFURT
AMCONSUL DUSSELDORF
AMCONSUL HAMBURG
AMCONSUL MUNICH
AMCONSUL BREMEN
AMCONSUL STUTTGART

UNCLAS SECTION 02 OF 02 BONN 04348

A) ONE OR MORE LOCATIONS FOR TEMPORARY AWAY FROM REACTOR REPOSITORIES HAVE TO BE SELECTED FOR STORAGE OF SPENT FUEL RODS WHICH CANNOT BE STORED AT REACTOR SITES.

B) THE REACTOR SAFETY COMMISSION (REAKTORSICHERHEITSKOMMISSON) - RSK - AND THE RADIATION PROTECTION COMMISSION (STRAHLENSCHUTZKOMMISSION) - SSK - HAVE TO DETERMINE THAT AT THOSE PLANNED TEMPORARY REPOSITORIES A SECURE STORAGE OF SPENT FUEL RODS CAN BE GUARANTEED FOR AT LEAST 20 YEARS.

C) THE ZONING PROCEDURE FOR A FINAL REPOSITORY AS WELL AS THE INVESTIGATION OF THE SUITABILITY OF THE SALT DOME OF GORLEBEN HAVE TO SHOW PROGRESS.

D) THE RSK AND SSK WILL CONTINUE TO EMPHASIZE IN PRINCIPLE THE POSSIBILITY OF A SAFE REALIZATION OF A NUCLEAR REPROCESSING AND WASTE DISPOSAL CONCEPT.
WOESSNER

German-Argentine Reactor Deal

In a return to its original position, West Germany is no longer seeking a full-scope safeguards agreement with Argentina before permitting Kraftwerk Union (KWU) to export components for the Atucha -2 unit. KWU was selected to supply the reactor after intense competition with Atomic Energy of Canada, Ltd.

When the contract was awarded last October, it was generally understood that Germany would require a safeguards agreement using IAEA standards on Atucha-2 only. According to the media, the long delay before granting the export license suggested that the Germans wanted more stringent safeguards, covering the whole Argentine nuclear program. This is no longer the case.

Pressure to apply full-scope safeguards came not only from the U.S. but also from Canada. (AECL lost the Atucha-2 contract partly because the Canadian government insisted on full-scope safeguards.)

The President of Argentina was quoted by media sources as stating that "the agreement is being submitted to both governments for final approval" and that "export licenses for components of the reactor will be issued by West Germany within a month."

TMI Shock in West Germany

Three Mile Island caused an intense shock in Germany but this has worn off relatively quickly as government authorities and utility and reactor industry officials have uniformly and repeatedly emphasized that TMI could not happen in Germany because German reactors, particularly reactor safety systems, are designed differently. Actually, TMI plays no significant role now, since the German nuclear debate is being dominated by the waste problem.

German nuclear safety experts say German reactors differ from TMI-2 and other U.S. reactors because they have greater redundancy and less interconnection in safety systems. KWU claims that the difference between U.S. and German safety regulations adds $100 million to the cost of a German nuclear power station. But despite these differences between TMI and German reactors, German nuclear licensing authorities, to be on the safe side, are carefully reexamining the safety concepts in all plants--those in operation and under construction--particularly the 1,300 MW Muelheim-Kaerlich project which has a TMI-type reactor.

German Rasmussen-Type Study

West Germany's version of the Rasmussen reactor safety study concludes that 50% of reactor accidents causing long-term radiation deaths in Germany would also bring fatalities beyond Germany's borders, while Germans would similarly be affected by major reactor accidents in neighboring European countries. Research Minister Volker Hauff said the finding underlines the need for an international effort to standardize reactor safety requirements, prevent accidents and devise ways to limit their after-effects.

The German report, commissioned by Hauff's ministry in 1976 and compiled by Adolf Birkhofer, manager of Germany's Munich-based Society for Reactor Safety, confirms the basic findings of the Rasmussen report. Hauff has stated that the report "gives me no cause to change my attitude " in support of nuclear energy. The Birkhofer report uses methods similar to the Rasmussen study, though assumptions are adapted to different safety aspects of the 25 German PWR's as well as to a German population density 10 times that of the U.S.

Minister Hauff has said the completed report is being followed by a second phase of reactor risk investigation focusing on pinpointed reactor weaknesses, adding that he seeks to involve a broad spectrum of nuclear experts including some opposed to nuclear power.

De Facto Reactor Moratorium

A group of top German executives of utilities and reactor equipment suppliers recently issued a warning stating that West Germany will lose its nuclear know-how if the de facto reactor moratorium is not ended soon. They emphasized that the German nuclear industry was on the verge of having to dismiss its skilled manpower, thereby losing the nuclear expertise vital for its survival and appealed to the politicians to make clear decisions on nuclear power now, before it is too late.

GHH subsidiary GHH Sterkrode, Germany's only supplier of reactor pressure vessels and steam generators for nuclear power stations, has not had a domestic order since 1975 and no export order since 1977. Kraftwerk Union President Klaus Barthelt said that his company was already experiencing a drain of qualified employees because it had stopped replacing staffers lost by natural attrition.

Vereinigte Elektrizitaetswerke President Klaus Knizia warned that if Germany reaches its goal of holding oil imports at the present level, the country would have a 15-20% energy gap in 1985, if nuclear power stations are shut down. Without any new stations, by the year 2000, Germany would have to import 150-200 million tons of coal annually. Knizia believes that Germany will have to build two to three 1,300 MW nuclear power stations annually in the coming years.

De Facto Reactor Moratorium continued

On the theory that the host of reactor stations to be built abroad will enforce construction of nuclear waste disposal facilities, Knizia feels that Germany will eventually be able to solve the waste problem of its domestic reactor stations with the help of foreign waste capacity, although without participation of German experts and German nuclear safety know-how. With reference to the current political squabbles about Germany's waste policy, Knizia said that the minimum required at the present time was construction of enough away-from-reactor temporary waste storage capacity until public opinion makes it possible to build a German nuclear waste management center.

Biblis

This past March, the Hesse state government finally awarded the badly-needed permits for the two Biblis units to make full use of the compact racks in the spent fuel storage pool. On March 10, Biblis B was brought up from 50 percent power to full load to fill the gap left by Biblis A, which was shut down March 1 for refueling and inspection. Both units had been running at reduced capacity since last summer to avert refuelings.

The compact storage racks increase Biblis' spent fuel storage capacity from one and two-thirds core to three full cores. This is actually more than Biblis will need since it will begin shipments to France in 1981.

Kraftwerk Union (KWU) Labor Cutback

Blaming the slippage of domestic reactor projects, Kraftwerk Union is planning to put about 100 highly-skilled workers in its generator plant on short working hours starting in December. Despite an order backlog of over $10 billion, the company's capacity utilization is down to 55% and KWU's production facilities already house much completed equipment, including a 6,000 MW turbine capacity for projects which are far behind schedule.

KWU has not received a domestic order since 1975 and half of the 10 German reactor projects ordered four or more years ago are still blocked by court injunctions or licensing delays. Even the export orders for KWU are beginning to run thin. In spite of this, prevailing speculation is that the antinuclear cause will not get the upper hand at the December SPD convention, and, following the 1980 elections, licensing prospects for German nuclear power plants will improve.

Gundremmingen

The Gundremmingen 250 Mw-BWR will be decommissioned. The fate of the plant had been uncertain since it was put out of operation by a load-rejection incident three years ago. The joint owners of Gundremmingen have determined that repairs and back-fitting would cost over DM 250 million. At the same time, licensing authorities cannot guarantee an operating permit upon completion of the two year revamping job.

Gundremmingen is the third German nuclear power plant to be decommissioned.

FRG-Brazil Agreement for Brazilian Nuclear Fuel Cycle

In 1975, Brazil and the Federal Republic of Germany signed an Agreement for Cooperation in the Field of Peaceful Uses of Nuclear Energy involving eight power reactors in a financial package worth approximately $10 billion. The Agreement calls for the FRG to supply Brazil with a complete nuclear fuel cycle, including reprocessing and uranium enrichment technology. The FRG, Brazil, and the IAEA executed a safeguards agreement in 1976 that did not include Brazil's acceptance of IAEA safeguards over its entire nuclear fuel cycle. This factor, coupled with Brazil's status as a nonsignatory to the NPT, made the overall Brazil-FRG Agreement an international controversy.

Enrichment services contracts for the first two Kraftwerk Union (KWU) reactors earmarked for Brazil were awarded to Urenco, in the form of a 10-year agreement to provide Brazil with 2000 tons of enriched uranium, beginning in 1981. (Urenco manages the 1970 agreement for cooperation on centrifuge development and exploitation which was signed by the Governments of the UK, FRG, and the Netherlands.) Plans were made to conduct the enrichment services at the Urenco enrichment facility located at Almelo in the Netherlands.

Before approving an expansion at Almelo, primarily necessary to accommodate the Urenco-Brazil enrichment contract, the Dutch Parliament attempted to secure IAEA control over the storage of plutonium derived from Brazil's power reactors prior to 1981, by setting this as a condition to eventual delivery of the Almelo-enriched fuel to Brazil.

These events strained relations among the three Urenco members, with FRG Chancellor Helmut Schmidt implying that West Germany would "go it alone," if necessary, in supplying fuel to the KWU reactors purchased by Brazil. Simultaneously, the FRG accelerated construction plans for its enrichment plant at Gronau, which was interpreted in many places as back-up to their apparent willingness to "go it alone." (Gronau was selected as the site for an FRG centrifuge/enrichment facility which could produce 1000 tons of separative work per year.)

Following continued efforts to implement the Dutch Parliament's conditions, the Dutch Cabinet abandoned them on the grounds that the Netherlands had signed the original 1976 Urenco contract for delivery of enriched uranium to Brazil without specifying that additional safeguards measures would be necessary. The Dutch Cabinet further contended that the nonproliferation cause will be best served if the Netherlands remained a working Urenco partner. The Dutch Parliament agreed with this view on June 30, 1978, after a lengthy debate. It appears that the strongest safeguards formula that will be accepted by the FRG and Brazil is that either an IAEA plutonium storage scheme or an ad hoc plutonium storage regime (agreed upon among the Urenco partners and Brazil) will be established at the time of the first fuel deliveries, and that reprocessing plans will go ahead in the meantime.

BRAZIL POT BOILS AS GERMAN HOLD ON NUCLEAR TECHNOLOGY IS REVEALED

A report that the Germans control the transfer of technology and decision-making in the Brazil-West Germany fuel-cycle nuclear accord has threatened to become a Brazilian political issue.

The Sao Paulo police vainly tried to prevent the newspaper Gazeta Mercantil from distributing the report of the supposedly secret terms for the formation of Nuclen-Nuclebras Engenharia S.A., technological and engineering joint venture created by the Brazilian government's nuclear power agency Nuclebras and West Germany's Kraftwerk Union. Brazilian authorities said terms of the agreement were secret and involved national security, but the police arrived too late to stop the newspaper trucks.

Gazeta Mercantil reported that the Germans hold effective control of Nuclen through key technological and commercial directors, although KWU holds only 25% of the stock and Nuclebras has 75% (NW, 31 May, 5). The joint venture was formed to carry out the transfer of fuel-cycle technology to the Brazilians as well as the construction of a controversial fuel reprocessing plant, a uranium enrichment plant and eight nuclear power plants. An important Nuclen function is to order equipment from KWU and Brazilian manufacturers.

The newspaper Jornal do Brasil expressed a Brazilian reaction by commenting that since KWU holds control of Nuclen nothing indicates that the transfer of technology may be carried out. The Brazilian technicians are learning to make a finished product without knowing the reasons for doing things, it said. The promise of a transfer of fuel-cycle technology was one of the chief reasons for Brazil to make its deal with the Germans.

Aurelio Chaves, Brazilian Vice-President and chairman of the National Energy Commission, declared that the accord should be thrown into Congress for debate. President Joao Figueiredo, cabinet ministers and military chiefs decided that the accord should be discussed by a private meeting of the congressional committee that has been investigating Brazil's nuclear program.

Revelation of the supposedly secret terms came after visiting German Economics Minister Otto Lambsdorff showed signs of impatience over the delays in getting the reactor construction program under way. Lambsdorff was quoted by the Brazilian press as hinting that Germany might withhold transfer of technology until at least some reactors were completed and operating. He reportedly said that the transfer of technology and operation of the plants were indivisible and that transfer of technology without any nuclear plants operating did not make economic sense.

Work on Angra-2, the first unit to be started under the German accord, has been suspended while foundation piles are strengthened. The reinforcement was ordered by CNEN (Comision Nacional Energia Nuclear). Meanwhile, Furnas Centrais Eletricas, the state power company which is building the first two units and which will operate them, ordered Nuclen to renegotiate orders for equipment placed with Brazilian manufacturers and postpone deliveries for 16 months. At the same time, engineers are looking for another site for Angra-3, the second unit to be built under the accord. Originally it was to be built near Angra-2, but many underground boulders prevented driving foundation piles. Work originally was scheduled to start on Angra-3 in 1977. Brazilian Foreign Minister Antonio Saraiva Guerreiro repeated assurances that Brazil would complete the accord with West Germany, although with delays. The accord was signed in 1975, and runs to 1990.

Licinio Seabra, president of Furnas Centrais Eletricas, estimates that delays and the need to reinforce the foundation piles will increase the cost of Angra-2 by $55-million. Total investment in the 1,300-Mw plant is budgeted at $2.3-billion, with completion in 1983.

Furnas reported that cold hydrostatic tests were completed successfully in the primary circuit of Angra-1, which is being built by Westinghouse. Fueling is scheduled for February or March, with commercial operation to start in 1981, some 3½ years behind schedule. Nucleonics August 30, 1979.

FRG Participation in INFCE

The Commission may recall its meetings with Undersecretary Hans Haunschild of the FRG Ministry for Research and Technology on December 2, 1977. This past March, Commissioners Gilinsky and Bradford met with Eduard Pestel, Minister for Science and Technology. On July 6, the Commission met with a group of FRG Parliamentarians (Messrs. Riedl, Walther and Gaertner) and discussed radiation protection, reactor licensing and spent fuel.

Cooperative Exchange Agreements and Arrangements Between NRC and the FRG

Cooperative Arrangement for Exchange of Reactor Safety Research, signed March 7, 1974. The Arrangement provides for an exchange of information on nuclear reactor safety research and development. It recognizes the interest of both countries in cooperating to increase the available reactor safety data. Exchanged information will primarily pertain to safety of light-water reactors.

Agreement on Research Participation and Technical Exchange in the USNRC LOFT Research Program. The Agreement on LOFT (Loss of Fluid Test) implements the April 4, 1974, Bilateral Agreement for Technical Exchange in Reactor Safety. Under the Agreement, the FRG will assign up to three technical experts to the NRC's LOFT Program and will participate in the periodic review of the status and future planning of the LOFT program. In return, the FRG will pay $1 million a year for four years and will provide to the NRC all results obtained from their analysis of information and experimentation.

Arrangement on Cooperation in the Field of Nuclear Facilities, signed October 1, 1975. This broad regulatory information exchange arrangement provides for information exchange in the field of nuclear facilities safety and the development of standards.

CHECKLIST

Tuesday, April 8, 1980

Time	Event	Place
10:15 a.m.-11:00 a.m.	Discussions with Commissioners Gilinsky and and Bradford	Commissioner Gilinsky's Office
11:00 a.m.-11:30 a.m.	Discussions with Chairman Ahearne	Chairman Ahearne's Office

Guests:

Mr. Reinhard Ueberhorst, Chairman of the German Bundestag's Enquete-Commission
Dr. D. Faude, Karlsruhe Nuclear Research Center

NRC Staff Participants:

James R. Shea, IP

IP Contact:

S. Maxine Johnson, IP
49-27788