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JPRS Report

Nuclear Developments

FRG: Nukem/Transnuklear Developments

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[Selected media coverage 18 Dec 87 - 2 Feb 88]

FINLAND

INDIA

U.S. 'Blind Eye' to Pakistan Nuclear Theft

BK170405 Delhi Domestic Service in English 0240 GMT 17 Jan 88

[Text] A West German news magazine says nuclear know-how from Bonn was smuggled to Pakistan through a Belgian company. The magazine, DER SPIEGEL, says that Nukem, the company at the center of the scandal, had supplied Islamabad with heavy water needed for a bomb. The magazine said this had facilitated Pakistani research into the atomic bomb. Officials of Nukem admitted that uranium hexachloride was exported to Pakistan.

A spokesman of the International Atomic Energy Agency confirmed reports that West Germany had asked the agency for information on how Nukem company was able to export weapons-grade nuclear material to Pakistan and Libya. Reports also say that Nukem works in close cooperation with the Belgian (Malnuclear) research center, which is engaged in training 36 Pakistani nuclear scientists against the wishes of Belgium.

India is awaiting the details of the probe ordered by the West German Government into the reports of weapons-grade nuclear material being shipped illegally to Pakistan by the company. Official sources in New Delhi said that the 480 million [dollar] U.S. military assistance to Pakistan will further embolden Islamabad to go ahead with its nuclear program and blatantly indulge in theft of nuclear material from Western countries. The sources noted that the U.S. Administration had chosen to turn a blind eye to thefts of nuclear material by Pakistani nationals—Nasir Ahmad and Parvez—from the United States in violation of American laws.

LIBYA

JANA Editor on Alleged Nuclear Export

LD181725 Tripoli Domestic Service in Arabic 1330 GMT 18 Jan 88

[Text] JANA's political editor has commented on the informational brouhaha being raised in the Western world regarding the so-called infiltration of nuclear waste and nuclear products from West Germany. He said: The Western mass media are still nourishing the allegation that a West German firm exported nuclear products to certain Islamic countries, despite a denial by the firm concerned, despite the assurance of the International Atomic Energy Agency that such a thing could not possibly happen, and despite categorical denial by the West German minister of the environment.

The campaign originally started from unfounded allegations which were probably intended to cover schemes set for other reasons. Any observer following this issue can make the following remarks:

It is the Zionist intelligence circles who are behind this campaign in an effort to conceal the nuclear armament of the Zionists, backed by the Western states, and for other purposes, such as imposing an informational blackout on the uprising of the Arabs in occupied Palestine, and to justify any new Zionist aggression against the Arab countries.

It is due to the submission of the centers of political and information decision in the Western countries to direct Zionist domination. This is the only explanation for the spontaneous response to the Zionists' orders and to the authority which the Zionists enjoy, which goes as far as encroaching on the sovereignty of those countries and the independence of their decisions.

It is also due to the West's disregard of its interests with the Arabs, its looking down upon them, and its disregard of an Arab response.

The political editor asserted: While we condemn the campaigns of distortion and deliberate public exposure, we deny all these lies, and restate that it is the Zionist enemy who is breaching, unpunished, all the international laws, resolutions, and treaties related to the nonproliferation of nuclear arms.

The editor wondered at the end of his commentary: Did it not occur to the racist circles who are spreading these lies to consider a simple hypothesis: Either remove the nuclear arms from the Zionists and punish those who enabled them to have them, or it is inevitable that the Arabs will have their own deterrent nuclear weapons for self-defense.

PAKISTAN

'Official' Source Rejects Bonn Uranium Report

BK171149 Hong Kong AFP in English 1140 GMT 17 Jan 88

[Text] Islamabad, Jan 17 (AFP)—Pakistan Sunday strongly rejected a report in Bonn that nuclear waste from West Germany had been diverted to Pakistan.

"The allegation was part of a calculated campaign to malign Pakistan (and) to cast aspersions on its nuclear programme which was totally for peaceful purposes," the ASSOCIATED PRESS OF PAKISTAN (APP) quoted an official source as saying.

The report in Bonn earlier this week said that the case of two barrels of nuclear waste containing uranium which had gone missing or were otherwise unaccounted for while being shipped to Belgium for processing had been the subject of an inquiry by the authorities in West Germany and Belgium.

The barrels were allegedly secretly shipped to Libya and Pakistan by a West German firm called Nukem.

The official source quoted by APP, who was not identified, refuted the allegations. The source said the West German and Belgian authorities had denied the Bonn report and said there was "no proof" of any such shipment to Pakistan.

Both Interpol and the International Atomic Energy Agency (IAEA) had found "no evidence to support the charge," the source said.

"It was interesting to note (that) some irresponsible elements in the Western press automatically start imputing motives that any such thing found missing anywhere finds its way to Pakistan or Libya", the source said.

Allegation Called 'Absolutely Baseless'
BK171542 Islamabad Domestic Service in Urdu 1500 GMT 17 Jan 88

[Text] An official source has described as absolutely baseless the allegation that some nuclear material has been sent to Pakistan from the FRG. The source said that the FRG and Belgium had already refuted this allegation and that the International Atomic Energy Commission, which is investigating the case, has not obtained any proof supporting the allegation that fission material has been supplied to Pakistan and Libya.

Diversion to Pakistan Viewed

LD231142 Moscow Domestic Service in Russian 1830 GMT 21 Jan 88

[Text] According to reports by foreign press agencies, a Pakistani Government official has called groundless reports about the secret acquisition by his country from the FRG or Belgium of materials necessary for producing nuclear weapons. Here is our commentary, with Aleksandr Malikov at the microphone.

[Malikov] It would of course be naive to expect Islamabad to directly reveal its own nuclear ambitions. But regardless of how persistently the Pakistani capital denies plans to create nuclear weapons, there is a lot of evidence of this.

Quite recently, the members of the European Parliament demanded the cessation of exchanges of nuclear specialists between Belgium and Pakistan. This demand was made after reports by members, who stated that over a period of many years, Pakistan had been receiving extensive secret documents from the nuclear power research center in the Belgian town of Mol. These documents allowed Islamabad to make progress toward creating nuclear weapons.

The fact of the secret export of these secret documents from Belgium fully accords with reports on the theft from there of material for making a bomb. This is all the more so since it is well known that over the past 15 years Pakistan (?has been trying to acquire all the main components for its production from Western Europe and the United States).

Thus, Pakistani nuclear ambitions give more than enough cause for alarm. But the anxious glances of the world's public are now turned not just toward Pakistan but also toward the United States. The point is that a week ago, U.S. President Ronald Reagan decided to lift the restriction, introduced earlier, on military and economic assistance to Islamabad, worth $4.02 billion over the next 6 years. As a matter of fact, as the INDIAN EXPRESS noted, he bypassed the ban on mass military assistance to Pakistan. In other words, the United States has rejected using its effective lever, with which it could arrest Pakistan's nuclear ambitions. Indeed, they have only spurred them even higher. They have been spurred for the sake of their own, and mercenary, interests, which the Reagan administration links with Pakistan's position on the Afghan question—that is, (?to follow) the specific U.S. conceptions on this topic.

It is clear that mankind, which at long last has glimpsed the prospect of nuclear-free future, can not at all be satisfied with a similar mercenary interpretation of the principles of nonproliferation of nuclear weapons. One cannot come to terms with, let us say, the prospect that the Pakistani nuclear program, which is gaining dangerous speed with secret U.S. indulgence, will lead to the appearance in Pakistan at the end of the next decade of at least 15 explosive devices with capacities comparable to the bomb dropped on Hiroshima.

FRG, Belgium Nuclear Material Transfer 'Illegal'

OW232326 Moscow Radio Peace and Progress in Mandarin to Asia-PacificRegion1300 GMT 23 Jan 88

[Text] Because of the illegal transfer of nuclear materials and technology from Belgium and the FRG to Pakistan, which is eager to have nuclear weapons, a tumult broke out a few days ago.

According to newspapers, a Belgian nuclear products company and a transnational FRG nuclear products company secretly sold enriched uranium to Pakistan. Some political activists think that only if their governments failed to exercise strict control could these two companies have done so. According to Belgian newspapers, the Belgian Foreign Ministry issued a permit for the export of the nuclear product. For this reason, the Foreign Ministry should bear the same responsibility as the Belgian nuclear products company. This is indeed the evidence of the crime.

The supply of nuclear fuel to Pakistan by Belgium and West Germany violates the international treaty on nuclear non-proliferation. Will fines be imposed on the companies that did business with Pakistan? Will they be banned or restricted from doing business again? Will [word indistinct] be punished? It is very possible that all efforts will be made to quietly put an end to the tumult . Pakistan previously made repeated attempts to buy components of nuclear weapons. The attempts failed, but those involved in the deals suffered only slight setbacks. For instance, in the summer of 1984, Nazir Vaid, a Pakistani who attempted to smuggle [words indistinct—probably referring to krytons] of atomic bombs out of the United States, was arrested in Houston. Later, his case was closed without being officially settled. Vaid was soon returned to Pakistan after the U.S. Congress howled a while to express its displeasure with Islamabad. In July 1987, Parvez, a Canadian citizen born in Pakistan, was arrested in Philadelphia. He attempted bribery in order to smuggle out of the United States 25 tons of special steel for building nuclear fuel plants. His case also ended without being officially settled. It did not hurt U.S.-Canadian relations. Pakistan's attempt to secretly acquire from the United States the technology and information for making atomic bombs did not affect Pakistani-U.S. relations, either. It is even worse that this not only violates the principles of the international pact on nuclear nonproliferation but also violates the laws of the United States.

It is known to all that the laws of the United States forbid the United States to provide aid to any nation that develops nuclear weapons. Why does the United States adopt a liberal attitude toward Islamabad by repeatedly trying to evade the provisions of the world's treaty on the

non-proliferation of nuclear weapons? People still remember that when Japan's Toshiba Company sold several machine tools to the Soviet Union for the modernization of Soviet submarines, Washington dealt Toshiba a head-on blow. Toshiba was accused of and punished for committing the crime of violating Cocom restrictions and evading its responsibilities. Actually, the Toshiba Company has been squeezed out of the socialist countries' market. The Soviet Union, China, and other countries that signed contracts with Toshiba have suffered losses. Yet when a nuclear products company in Belgium and another transnational nuclear products company in the FRG are involved in the case of selling nuclear fuel to Pakistan, Washington acts as if nothing has happened. Could it be possible that Washington disbelieves that Pakistan can produce nuclear weapons? Not really. In answering a question raised by a reporter of the British newspaper THE OBSERVER, A.Q. Khan, Islamabad's nuclear weapons expert, said: Actually Pakistan already has nuclear bombs. The United States realizes this. It looks like the U.S. rightists are turning a blind eye to Pakistan's live nuclear bombs for their own strategic interests. Washington's action is aimed at continuously utilizing Pakistan as a base for the Afghan counterrevolutionaries and as a means to apply pressure to India, which seeks to adopt an independent diplomatic policy toward the United States. Right now, the general public in various countries in the Asia-Pacific region, where antinuclear sentiments are rising each passing day, are disturbed by the U.S.-Pakistani military agreement. Their feelings are understandable. At a time when mankind may enter a new nuclear-free era after the signing of the Soviet-U.S. agreement on intermediate-range nuclear forces, the general public in the Asia-Pacific region has regarded the action taken by the United States and Pakistan as a challenge to the general public, who advocates the cause of peace. They believe that those who try to satisfy Islamabad's nuclear ambitions today have set a new obstacle on the road leading to a nuclear free world.

FRG Nuclear Waste Disposal Scandal 'Growing'

LD251745 Moscow Television Service in Russian 1530 GMT 25 Jan 88

[From the "Vremya" newscast; V. Kondratyev video report]

[Text] A scandal over illegal machinations concerning radioactive waste is growing in the FRG. Still fresh in everyone's memory here are the assurances given following the Chernobyl accident that everything connected with the safety of West German nuclear reactors has no equal in the world. Now, following incredible revelations, the question of the further normal functioning of the nuclear power system in the country has been put point-blank, as they say. The FRG does not have its own permanent storage facilities for dangerous radioactive waste, but so much such waste has built up at the 21 atomic power stations that it would fill 675 freight cars. Part of this is being kept temporarily at the power stations themselves; this mainly includes spent nuclear fuel rods. But many other objects, parts, and equipment at atomic power stations give off radiation.

There are firms that more or less (?wash down) this radioactive waste, clean it up, compress it, heat-treat it, encase it in glass or plastics, and seal it in drums. The drums are then returned to the originator of the waste for further temporary storage. Such a procedure is very costly.

Now, it turns out that the West German Transnuklear Company, which transports nuclear wastes, together with a Belgian firm that makes them safe, are involved in a fraud. Everything seems to be done as it should, but in fact nobody makes the waste safe. In violation of the rules, the West Germans secretly add to objects with average or little radiation a quantity of plutonium with a total radioactivity sufficient to give a fatal dose to millions of people. For their part, the Belgians add similar wastes from their reactors to the drums. This cargo is then delivered back to the FRG by truck. About 2,000 such drums have already been discovered in the country, and it is not known how many of them there are.

For the firms, this was a way of making money. In addition, a system for bribing people who might expose the fraud was set up. This involved many millions of marks. It will probably take some time to dig up the whole truth. State and parliamentary bodies are investigating. One thing is clear at the moment: Among the many well-known scandals in the FRG that have put people's health at risk for the sake of the monopolies' quest for profits, the current one is striking for its exceptional lack of principle and its immorality.

AUSTRIA

IAEA Rejects Dereliction of Duty Accusation

AU101048 Vienna Television Service in German 1830 GMT 18 Jan 88

[Herbert Hamersky report on nuclear scandal in the FRG, including IAEA news conference in Vienna on 18 January—videotaped; statements by John Jennekens, IAEA Safeguard Department head, in English with superimposed German translation, in quotation marks]

[Excerpts] If the reports in DER SPIEGEL are correct, what has become known in the FRG and Belgium about the nuclear scandal might be only the tip of the iceberg—of a highly explosive iceberg, because the business with nuclear materials is out of control, the article says.

DER SPIEGEL states that whatever illegal business has been done, has been possible only because the Vienna-based IAEA is not able to check on everything in a really thorough way, as is its job.

Today in Vienna's International Center, John Jennekens the head of the IAEA's Safeguard Department that is responsible for checks on nuclear installations, defended the organization: "We are entirely confident that our reports were correct and that no significant amounts of nuclear materials have been delivered. This is a misinterpretation by DER SPIEGEL, because the material delivered is not sufficient to build a bomb and all material has been properly accounted for."

DER SPIEGEL also notes that the IAEA does not have enough people to check on everything.

"This organization, like all international organizations, has financial problems. To date, we have been very successful. This need not remain so because our work load is increasing."

Uncertainty and fear are justified, because the IAEA can check only on those countries that are members.

"Every statement that has been made about nuclear material here refers only to material that is under our control."

BELGIUM

Firm Denies Sending Nuclear Material to Pakistan

LD171748 Brussels Domestic Service in French 1700 GMT 17 Jan 88

[Excerpts] A whiff of scandal: A Belgian company, Belgonucleaire, has been accused by the West German DER SPIEGEL of having taken part with two German companies in the clandestine transfer of fissionable material to Pakistan. Belgonucleaire denies this. Pakistan also denies this.

FEDERAL REPUBLIC OF GERMANY

Transnuklear To Be Investigated for Shipping Violations

51002417a Frankfurt/Main FRANKFURTER ALLGEMEINE in German 18 Dec 87 p 1

[Article: "Toepfer Rescinds Transnuklear Shipping Permit"]

[Text] Bonn, 17 Dec—Environment Minister Toepfer ordered a thorough investigation of the treatment of radioactive wastes by the Hanau firm of Transnuklear today. Toepfer, the cabinet member responsible for reactor safety, cited as the reason for his order that there were indications that Transnuklear was guilty of violations of nuclear safety regulations. Officials of the firm are accused of not having repatriated waste residues from used fuel rods processed at Mol, Belgium but having exchanged them for other atomic wastes instead. Some 350 falsely labeled barrels were said to have reentered the FRG. Violations of this sort could not be treated as mere indiscretions, Toepfer said. In fact, the firm's irregular business practices which had come to light earlier were unacceptable in themselves. Toepfer called on the appropriate licensing authorities to look into the question of Transnuklear's overall reliability. From now until the end of the investigation, Transnuklear is not to be issued any further permits to ship nuclear wastes and will no longer be allowed to make use of existing permits. For the time being, no further radioactive wastes are to be shipped to the Mol processing plant. The SPD fraction termed the Transnuklear situation a scandal. Schaefer (Offenburg), the senior SPD member of the Bundestag environmental committee, asked that the committee meet in special session on 21 or 22 December.

The Hanau State Prosecutor's office began its own investigation today into the falsely labeled barrels containing nuclear wastes. The director of the State Prosecutor's office, Farwick, had no comment as yet regarding possible criminal charges. The investigation will seek to determine whether there has been a violation of Section 238 of the Criminal Code which could be applied to improper handling of nuclear fuels. According to Farwick, the investigation into the activities of former members of Transnuklear's managerial staff had not touched on questions of safety and at the present stage of the investigation it was impossible to determine whether questions of nuclear safety were indeed involved. The probe of three Transnuklear officials and two others employed by Nukem, the parent organization, has concentrated on charges of fraud, Farwick added.

Two of the accused were taken into protective custody last week. One of them, a 57-year-old office manager at Transnuklear, committed suicide in his prison cell.

09478

Plutonium, Cobalt Found in Contaminated Shipments

51002417b Frankfurt/Main FRANKFURTER ALLGEMEINE in German 19 Dec 87 p 1

[Article: "All Reactors Being Checked"]

[Text] Bonn, 18 Dec—All nuclear reactors are currently being checked by the responsible Laender authorities. The object is to determine how many barrels containing radioactive wastes have been shipped to the various facilities from Belgium and whether they in fact contained plutonium or cobalt. According to the environmental ministry in Bonn, both plutonium and cobalt have thus far been found at the waste facility of the Unterweser nuclear reactor. Environment Minister Toepfer called the contamination of radioactive waste through the presence of plutonium and cobalt a serious occurence the background of which needs to be cleared up completely. The licensing authorities and the nuclear power industry must conduct an investigation as soon as possible to determine the extent of the shipments of nuclear waste materials to the FRG from Belgium by Transnuklear, the company based in Hanau. According to Belgian sources, the Mol processing plant shipped 350 barrels between 1981 and 1984. The State Prosecutor's office has thus far found 361 barrels.

The environment ministry is unable to say what the impact of Toepfer's decision to revoke all Transnuklear licenses for the shipment of nuclear wastes will be on the disposal program of the German reactor industry. There are only a few firms in addition to Transnuklear which have limited authority to transport nuclear waste materials. As a precautionary measure, the environment ministry has asked the electric power industry to submit plans for the disposal of used fuel rods and for waste residues after processing.

The SPD called on the government to provide a full accounting of the Transnuklear bribe scandal and the illegal shipments of nuclear waste materials—as its environmental spokesman Schaefer (Offenburg) has put it. The SPD also called for stricter penalties for criminal acts against the environment. SPD Bundestag deputy Bachmaier said that the government's response to a query by his party regarding crimes against the environment showed that the government is not acting decisively enough. It is imperative, he added, to put more teeth into the penal code; to increase fines drastically; to establish an enviromental police force; to name state prosecutors concentrating on environmental issues and to set up environmental criminal courts. Furthermore, financial gains accruing to individuals or business firms from crimes against the enviroment should be confiscated and people should be required by law to report anyone committing a serious crime against the environment, Bachmaier said.

09478

Environmental Affairs Committee Informed on Transnuklear Affair

51002417C Frankfurt/Main FRANKFURTER ALLGEMEINE in German 21 Dec 87 p 3

[DPA: "Environmental Committee Gets Transnuklear Background"]

[Text] Hamburg, 20 Dec—In response to a request by the SPD, the Bundestag environmental affairs committee will hear a report by Enviromental Affairs Minister Toepfer (CDU) on the present state of the Transnuklear probe on December 21. In Toepfer's view, the scandal surrounding the illegal return of nuclear waste containers from Belgium to the FRG serves to discredit the peaceful use of nuclear energy. Toepfer told the HAMBURGER MORGENPOST newspaper that an incident such as the Transnuklear scandal causes anxiety and concern among the population. By this weekend, the affair has spread even further. More and more barrels containing falsely labeled nuclear wastes from Belgium have been discovered in the FRG. In Lower Saxony alone, 570 such containers from the Belgian nuclear energy center at Mol are stored at nuclear reactor sites. 294 barrels which probably contain plutonium have been stored without authorization at the Wuergassen nuclear reactor in North Rhine-Westphalia. Transnuklear, a Hanau shipping firm, is suspected of being responsible for the unauthorized storage. According to information gathered by Belgian investigators, the firm paid bribes to employees at the Mol facility in order to get them to store highly radioactive West German nuclear wastes there without proper authorization. In return, low-grade radioactive wastes were to be shipped to West German reactors. These wastes are now believed to contain plutonium.

09478

Scandal To Damage Confidence in Nuclear Energy

51002418a Frankfurt/Main FRANKFURTER ALLGEMEINE in German 23 Dec 87 p 3

[Article by Klaus Broichhausen: "Nuclear Waste Affair Shakes Confidence in Nuclear Energy—Bribes, Manipulations in International Waste Traffic—The Transnuklear Affair Revisited"]

[Text] Bonn, 22 Dec—What the antinuclear activists tried but failed to do at the Gorleben, Brokdorf and Wackersdorf facilities was accomplished instead by nuclear experts from Hanau this year, i.e., they succeeded in shaking public confidence in the peaceful uses of atomic energy. Several employees of Transnuklear, a transportation and storage company, were involved in improper transactions with deadly nuclear wastes. The firm's management, which has since been replaced, paid bribes to at least 30 contacts in the German energy industry and at the CEN research center in Mol, Belgium. One of the many as yet unresolved questions is

whether even more serious crimes were committed. Transnuklear representatives are suspected of having paid for illegal manipulations without taking the risks to both human beings and the environment into account. At any rate, there are indications that the Mol facility handled nuclear wastes in an offhand or even criminal manner after receiving payments from Hanau.

By now, so many facts have emerged regarding the activities at Hanau and at Mol that it would not surprise anyone if even more information came to light. The investigation of the affair must therefore be conducted with a great deal of distrust and a thorough probe will continue into the new year. This will then lead to consequences for the handling of fissionable materials and the supervision of radioactive materials. At this point, the investigation has progressed far enough for us to draw up an interim status report.

What did Transnuklear ship to Mol to be "conditioned," i.e., to be made more suitable for storage in the FRG? Until the special session of the environmental committee on 21 December, neither the atomic agency, nor the Hanau State Prosecutor's office had received any information regarding illegal shipments of highly radioactive waste to Mol. The contract between Hanau and Mol calls for processing low-grade and medium-grade radioactive materials only. This raises the question of whether Transnuklear bribed some employee at Mol to accept highly radioactive wastes as well. The investigation in Belgium is still going on.

Since 1963, Transnuklear has delivered 6,000 cubic meters of nuclear wastes to Mol. Of this amount, 4,900 cubic meters have actually been processed. 500 additional cubic meters are still to be processed. The remaining 600 cubic meters cannot be processed at Mol. According to the Belgian energy ministry, the wastes do not contain any plutonium. The suspicion that Transnuklear may have shipped wastes to Mol which did not belong there is based on still another case of bribery. Smet-Jet, a Belgian firm which operates at Mol and whose employees do maintenance work there, received DM 24 million in the course of 8 years although the services provided by the firm did not exceed DM 8 million. The Transnuklear manager who knew of and condoned this padded account was fired in mid-December.

What was shipped back from Mol? Under the agreements between Transnuklear and the CEN research center, the Belgian facility was not required to return the same waste materials originating in German nuclear reactors but only wastes of a comparable nature and a comparable level of radioactivity. It has now come to light, however, that hundreds of barrels contain wastes different from those listed in the accompanying documentation. Until 1986, the wastes were merely "checked" on the basis of the accompanying waybills. Only last year controls involving spot analysis of contents were instituted.

When the falsely labeled containers arrived at German storage dumps, the measurements taken did not indicate levels of radiation dangerous to the environment. A thorough analysis of the contents can only be undertaken at the Karlsruhe and Juelich nuclear research facilities. A control analysis of the very first barrel showed that the falsely labeled waste materials contained traces of plutonium and sizable amounts of Cobalt 60. Nevertheless, the nuclear authorities say that the barrels do not pose any danger; that there is no detectable increase in radioactivity. In citing this finding, the CDU/CSU environmental expert Laufs noted that the containers were not conducive to arousing nuclear fears, but that both the SPD and the Greens were doing just that.

Menawhile, the Belgian authorities have said that they are prepared to allow the erroneously labeled containers to be returned to Mol. Once this has been done, ways should be found of how to avoid such manipulations and odysseys in the future. Deputies of the European Parliament are calling for the issuance of EC guidelines regulating the shipment and storage of radioactive wastes which should be more effective than those currently applied by Euratom. The new regulations would force all member nations to adhere to common guidelines. The parliamentarians also feel it is imperative to tighten the rules for labeling dangerous waste materials.

The FRG should learn from this transnational scandal that nuclear reactor wastes ought not to be shipped to foreign countries but should be processed and disposed of in their entirety without danger inside its own borders. Nuclear waste disposal facilities of our own must be created—whether or not we continue to operate nuclear reactors—because there already are large quantities of nuclear waste which need to be disposed of. Many of those who now deplore the fact that the disposal program is not working have done their bit to delay it.

09478

DER SPIEGEL Reports on Illegal Activities of Transnuklear

51004219A Hamburg DER SPIEGEL in German No 53, 28 Dec 87 pp 18-23

[Text] Bribed nuclear energy executives and corrupt inspectors are responsible for the biggest scandal in the history of the German nuclear power industry. Their illegal transactionings with fraudulently documented nuclear waste demonstrate that even deadly plutonium every milligram of which is said to be tightly controlled can be withheld from international control. The loss of confidence in the safety of nuclear technology can "scarcely be estimated," officials at [Klaus] Toepfer's ministry for environmental affairs in Bonn are saying.

In Washington, the CDU minister's talks with American officials were friendly without exception. William F. Martin, the U.S. deputy energy secretary, applauded West German efforts to deal with nuclear waste. And Lee

Thomas, the head of the Environmental Protection Agency, who even knew some of the details of the German program, was full of praise for the Konrad ore mine in Lower Saxony which is currently being prepared as a terminal storage site for low-level and medium activity waste.

Toepfer, who has himself often been critical of the progress made by the German waste disposal program, was elated by these U.S. words of praise. "They are not even as far along as we are," he said at the German Embassy that evening and extended an invitation to the Americans to come over and learn.

Once back in Bonn, Toepfer discovered during Christmas week that he, too, had a lot to learn about how to deal with radioactive waste. During his absence in the United States his ministry had slowly found out where the German nuclear industry's waste disposal program really stands. Toepfer reacted to the disclosures by calling the situation an "indescribable mess." "This is the absolute limit of what can be tolerated," he added.

Just in time to coincide with Toepfer's return to Germany, the management of Transnuklear (TN), the firm which handles 80 percent of the transports of radioactive materials in the FRG, blandly acknowledged there had been "irregularities in the disposal of radioactive waste from German nuclear power plants." Reactor operators had sent their radioactive waste to Belgium for treatment but in return had received "Belgian waste materials and not their own" for interim storage. In all, TN admitted, some 350 containers were involved.

The sparse communique almost immediately set an avalanche of investigations in motion. On Toepfer's orders, experts of the Land criminal police offices began inspecting all radioactive material storage sites; state prosecutors checked transport manifests and officials of the ministry for environmental affairs went flying off to Belgium.

By last week, the number of containers had increased from the original 350 to 1,089 and Transnuklear was forced to admit that the final figure might "well turn out to be 1,200 or 1,400." Bit by bit, the ministry and the state prosecutor's office in Hanau unearthed more and more pieces of the puzzle which soon added up to the biggest scandal in the history of the German nuclear power industry.

This, then, is what the "irregularities" in handling "low-level and medium activity waste" amounted to:

Hundreds of shipments from Germany to the Belgian nuclear research center at Mol which were more highly radioactive than the manifests showed. This waste remains untreated in Belgium.

Hundreds of shipments from Belgium back to the FRG which supposedly contained treated German waste but in fact contained Belgian waste.

Bribes totaling more than DM 21 million paid out by Transnuklear to virtually all persons involved in these illegal border-crossing shipments of nuclear waste.

An as yet undetermined quantity of radioactive plutonium and cobalt, allegedly from the Belgian reactor BR-3, which is now being stored as German radioactive waste mixed with Belgian waste.

A shipment of plutonium-contaminated material from a German reactor which Transnuklear is said to have mixed in with low-level waste and to have secretly transported to Belgium.

The emergency which is not supposed to happen according to the international nuclear power industry is thus upon us. The international wheeler-dealers even succeeded in eluding the controls over plutonium—the stuff the bomb is made of. This environmental scandal without parallel has made a mockery of the entire nuclear waste disposal program—at least for now.

The very firms which had vowed to exercise the utmost care in seeing to it in conjunction with the government that the biosphere be free of nuclear waste for more than 20,000 years engaged in crooked deals with these dangerous materials like scrap merchants in the years following World War II. According to environmental ministry officials, the loss of confidence can "scarcely be estimated."

Joschka Fischer, of the Greens, Hesse's former minister for environmental affairs, immediately called for formation of an investigative committee. The "criminal dimension of collusion," he said, was distinctly "reminiscent of the Barschel affair in Kiel."

After Toepfer had informed the Bundestag enviromental affairs committee on 21 December about the "irregularities," SPD deputy Harald Schaefer spoke of "mafia practices" at Transnuklear. CDU deputy Paul Laufs called for "more controls." FDP deputy Gerhart Baum, a former interior minister, focused on the situation at Transnuklear exclusively, calling for renewed "loyalty tests for all personnel."

Toepfer had already ordered that the TN employees undergo the loyalty tests prescribed by the nuclear law and in addition had immediately withdrawn all shipping permits issued to the company. In the end, however, nuclear power activist Toepfer may not just have to shut down Transnuklear: the German-Belgian nuclear connection which secretly made German nuclear waste disappear at Belgian storage sites was only able to operate because most of the German reactor firms were in on the deal.

According to one Belgian prober, state prosecutors both in Belgium and in the FRG as well as a special investigative committee of the Belgian energy ministry have all determined by now that the disposal of "low-level and medium-activity waste" from German nuclear reactors was a "machinery for making more and more money on a permanent basis." Firmin Aerts, Belgium's state secretary for energy, characterized the findings of the investigation thus far as follows: the circumvention of all safety regulations was "paid for with bribes."

By Transnuklear's own admission, the firm (two-thirds owned by the Hanau nuclear power company Nukem and one-third owned by Transnucleaire, Nukem's French subsidiary) spent some DM 21 million or about 10 percent of total sales on bribes which were distributed throughout the nuclear industry. Most of the money, i.e., DM 15 million, was laundered in Belgium in bogus transactions.

Nevertheless, TN did turn rather handsome profits—which is an indication of the fact how grossly the firm overcharged its customers for its services. One of the Hanau prosecutors has been asking himself for some time why the allegedly tightfisted nuclear industry "was willing to pay such outlandish prices without batting an eyelash."

When DER SPIEGEL first carried an article entitled "Corruption in the Nuclear Power Plant" last April (in No 18/1987), the nuclear regulators and the nuclear power industry hastened to affirm, in the words of TN's managing director Hans-Joachim Fischer, that "questions of safety had never been touched." Fischer detected the first "irregularities" in the firm's books after just a short time on the job and notified the state prosecutor's office. Still, the explanation he gave was that members of the Transnuklear staff offered money and other gifts to customers "based on a wrong perception of company loyalty" in order to secure long-term contracts for the firm.

When the investigators, unaware of larger payments at the time, first looked into the DM 6 million in bribes a surprising picture of the ethical standards of the German nuclear power industry began to emerge. More than 100 employees at nuclear power plants had held out their hands, accepting new automobiles and free visits to brothels. TN kept a secret fund to pay for kitchen cabinets and television sets, wads of cash and even for transverse flutes for this or that music lover.

The investigators were amazed that huge profits were made on the relatively inexpensive transportation of "low-level and medium-activity waste." After all, according to TN, the low-radiation remnants from work on the reactor core such as gloves, soft drink cans, filters and slightly contaminated liquids did not call for expensive "safety procedures."

By last spring, the investigators found it even harder to understand why the number of bribetakers should be so large. It was not just the employees at the headquarters of the German power companies who worked out the contracts and prices with Transnuklear who benefited from "acquisition facilitation," as the bribes were referred to on the inside. The radiation protection and safety officials of many a German nuclear reactor, too, were on the TN graft list even though they had no decision-making power over dealings with the disposal firm.

According to Fischer, the reactor safety inspectors were taken care of solely "for reasons of good relations." CDU Minister Toepfer was satisfied with this explanation. Initially, the suspicion that Transnuklear might have been using money and gifts to smuggle the dangerous shipments past all safety controls was not investigated.

THe CDU politicians responsible for nuclear energy did not wish to see their image of a humane nuclear industry destroyed; an industry which gave its profits away, as fired TN exeutive Hans Holtz had always said: "We do not sponsor any commercials on television; we prefer to let our customers reap the financial benefits directly."

During the week before Christmas, Holtz took his own life in a Hanau prison cell. He had been charged with laundering DM 15 million of the DM 21 million bribe total.

This made it clear to the investigators why the reactor safety inspectors had been in on the deal: they had to certify that the contents of the waste shipments to and from Belgium corresponded to the manifests—which certainly was not the case in many instances.

But the German reactor operators, i.e., the employers of the bribe-takers, also profited from TN's Belgian transactions because they saved large amounts of money they would have had to spend on waste disposal.

The fact is that the FRG still has no terminal storage sites for nuclear waste products. Until the time these sites go into operation, by 1995 at the earliest, low-radiation waste must be encapsulated or "conditioned" and stored in interim storage locations at the reactor sites. Once these sites are full, the containers are shipped to the interim storage facility at Gorleben in Lower Saxony. The operating company, which is fully owned by the German electric power industry, prefers "not to talk" about the gigantic costs involved in providing for safe storage of radioactive waste.

When the Gorleben storage facility was opened 3 years ago, the operators expected more than 3,000 containers of radioactive waste to arrive at the site within the first 3 months. But up to now only 1,586 containers are being stored in the huge warehouse.

That surprisingly small number is one more consequence of the TN transactions. In the early eighties, Transnuklear signed an agreement with the Belgian nuclear research center at Mol. Under the contract, the state-owned Mol facility agreed to condition and return to Germany up to 6,500 cubic meters of low-level and medium activity waste from German reactors within 4 years.

Transnuklear claimed that the German waste could be reduced to 1/5 of its original volume at the Belgian facility by means of burning, steaming and pressing the materials.

Since they hoped to save large amounts of money, the German nuclear reactor operators did not look into these claims in any detail. None of the operators was willing to take note of the fact that the Belgian equipment, built in the sixties in its entirety, is "totally antiquated" even by admission of the official Belgian nuclear energy commission.

One shipment after another left the German reactors on its way to Belgium, travelling along a well-greased circuit. Radiation protection officials, whose palms had been greased by TN, signed off on the shipments with alacrity. With equal alacrity the materials were accepted by the waste disposal unit at the state-run nuclear research center at Mol which in actual fact did not really know what to do with the products. Those in charge at Mol, too, had been paid off—with new cars and with cash on alternate occasions. The department head and his deputy, the two men who had taken bribes, were both fired last fall.

Most of the bribe money was transferred to the secret Transnuklear account via Belgium. It was sent by Smet-Jet, a TN subsidiary charged with sorting the radioactive waste at Mol. The Hanau probers found that Smet-Jet had provided services to TN "worth DM 8 million at the outside" but had presented the parent company with a bill "for some DM 24 million." Transnuklear paid the bill without balking but received kickbacks for the full amount of the overcharge.

"All the German waste," says Hermann Spriet, the newly appointed head of the Mol disposal unit, "was too highly radioactive"—which is why most of the material could not be conditioned at the Belgian facility. Without a doubt, the German nuclear technicians were using the Belgian connection to rid themselves of hard-to-dispose waste in a quick and easy fashion.

Soenke Albrecht, for example, the technical director of the Wuergassen nuclear reactor, acknowledged last week that "highly radioactive core waste" from his plant "wound up at Mol." Albrecht readily admitted that no one at Wuergassen "had any contact" with the Mol nuclear research center responsible for the disposal operation and that "our only contact was with the Transnuklear people."

These practices provide possible new clues as to the origin of the plutonium which was brought in from Belgium and is currently being stored in temporary depots at German reactor plants. According to information provided to Minister Toepfer, the Belgian government was under the impression that these was "radioactive waste from a decontamination procedure of the primary loop" of the BR-3 reactor next to the Mol research center.

Last week, however, more evidence began to accumulate in support of the theory that the German nuclear power industry added the plutonium to the waste itself. The first indication of this surfaced in an interview given by TN's managing director, Guenther Lurf.

All the safety experts were aghast when they heard Lurf say that it was "indeed possible" for alpha waste, i.e., plutonium residues, to be mixed in with low-level radioactive waste, particularly if and when "there has been some damage to the reactor's fuel element."

Lurf's playing down such an incident would not let one former TN employee rest. He was able to confirm that this very thing had indeed happened, i.e. that TN had shipped alpha-contaminated materials resulting from damage to a fuel rod.

A Frankfurt lawyer, who first checked out the TN employee's identity and technical credentials, has now issued the following statement on his behalf:

I worked at the Hanau nuclear park in 1984. At that time, I was present at a meeting of Transnuklear's radioactive waste unit. At that meeting, a discussion took place about the disposal of alpha-contaminated materials from a German nuclear reactor without obtaining a proper official license. At the close of the meeting the proposal was approved to designate the material as common mixed waste and then to include it in the regular shipments to the Mol incinerator in Belgium.

I have knowledge of the fact that Mr Bretag of Transnuklear subsequently made the necessary arrangements with the director of the Mol incinerator. Through official channels I also learned that the shipments were handled as planned, using fraudulent documentation, i.e., the accompanying waybills did not reflect the true facts: they made no mention of contamination.

There still are 180 barrels containing radioactive waste from Germany in storage at Mol which "could not be processed" in Belgium, according to Spriet. Instead, less radioactive waste from Belgium, carrying fraudulent documentation, was sent back to the German reactors.

The factfinding panel set up by the Belgian energy ministry came up with an astounding explanation as to why German nuclear experts, taking radiation measurements, did not get to the bottom of the fraud right away.

If the radiation level of the Belgian waste due to be shipped to the FRG was lower than that of the original shipment from Germany, the containers were stored at the neighboring BR-3 reactor until the two radiation levels matched. It just goes to show, says energy ministry official Jef van Wildemeersch, "that in this affair just about anything is possible."

Hermann Spriet, Mol's new director, is not inclined to absolve his German counterparts of all responsibility. "If they had done their work properly," he says, "they would never have been taken in by this waste." The shipments from Belgium had an "entirely different nuclide composition" from the "contaminated presents" from Germany.

For one thing, the contents of a large number of barrels were "inadequately conditioned," according to the Hanau investigators. They found that "powdered cement was spread only on the surface, leaving residual moisture inside the containers" which permitted gases to build up. One workman at Mol, attempting to unseal such a container, has already been seriously injured.

For another thing, there is no transportation firm in Germany today capable of handling shipments of plutonium-contaminated containers. The only firm licensed to do so is Transnuklear—and its license has been revoked. Toepfer, however, will not be able to sustain the transportation ban much longer. Almost daily, plutonium shipments previously contracted for are arriving at the border and there is no one to take care of them.

This is not a new problem for the Bonn government. 9 years ago, 600 kilograms of plutonium were piling up in France which the FRG was required by prior agreement to accept but couldn't because of a lack of proper storage facilities.

The Interior Ministry in Bonn which was then in charge of nuclear regulatory activities reached an agreement with the Hanau nuclear firm which provided for the secret removal of radioactive waste to a neighboring country without notifying that country's government. The minutes of the 1978 meeting in question note that both the nuclear regulators and the company executives were aware of the danger of "diplomatic coplications."

The secret plutonium shipment to the unauthorized temporary storage site was handled by Transnuklear. The victim of the deception at that time was the Belgian government.

The Mol Nuclear Research Center

The Mol facility has been in trouble economically for some time and at least some of its equipment is utterly obsolete.

A confidential factfinding report by the special Belgian commission looking into the nuclear waste affair reserved its heaviest criticism for the technical equipment used to process the German reactor waste.

For example: the equipment for the treatment of indeterminate radioactive waste as well as the containers for liquid waste were built in the sixties. They are said to be "contaminated and hard to handle under normal conditions." The so-called "mummy," the machinery used for welding the waste into bitumen, was built in 1960. It is now "obsolete" and should have been replaced long ago. What is more, the administration buildings and storage areas are contaminated with radon and radium isotopes.

There are no funds to make the necessary improvements. The Mol nuclear research center (CEN), in its collaboration with Transnuklear, was plainly prepared to do just about anything to keep its ovens running at full capacity.

The uproar about the German radioactive waste is raising questions once again about Belgium's own nuclear program. Almost 70 percent of Belgium's energy needs are supplied by seven nuclear reactors. According to Yves de Wasseige, in his book "The Secret Face of the Nuclear Industry," the reactors are neither up-to-date technologically, nor are they adequately protected against accidents.

In densely populated Belgium, there is not a single reactor site which would satisfy U.S. standards for the safety of the civilian population. The Tihange and Doel reactors are close by the metropolitan centers of Liege and Antwerp. If an accident occurred at Doel, 500,000 people in a radius of 30 km would have to be evacuated.

The Dutch are extremely concerned about the lackadaisical attitude of their neighbors. The four reactor buildings at Doel are located just a few kilometers from the Dutch border. Despite a strike by the 700-man Doel work force, the Ebes electrical company continued to operate the main plant at full capacity for 4 weeks last April. The facility was run by a combined emergency staff composed of 150 white-collar employees and hired technicians, who had to put in up to 14 hours a day.

Political figures and scientists protested against this reckless modus operandi. But it was not before the Netherlands minister for environmental affairs made representations to the Brussels government that two of the reactors were shut down temporarily.

On the anniversary of the Chernobyl nuclear accident, the Belgian electric power industry asked the Brussels government for a quick decision on the construction of an eighth reactor, the N 8. The truth is that it would be far more important to upgrade the existing reactors by making them conform to current safety standards.

Following the initial disclosures regarding the Mol research center, Norbert Vandevoorde, the head of the radioactive waste division and Georges Dumont, his deputy, were fired for accepting bribe payments.

But there seems to be still another scandal in the making already. In spite of serious misgivings on the part of the Belgian foreign ministry, Severin Amelinckx, the director of the Mol facility, has concluded a cooperation agreement with Pakistan.

The Americans, too, view the arrangement with some concern. Pakistan has refused to sign the nuclear nonproliferation treaty and is suspected of working on an "Islamic bomb."

At the expense of the deficit-ridden nuclear research center, 36 Pakistani trainees are to be allowed to work at the Mol facility. In view of the center's financial woes, says Amelinckx, he has had to resort to public relations efforts of this kind "in order to improve economic ties." Mol has submitted a bid for the modernization of the control center at Pakistan's Kanupp reactor. Though collaboration between Mol and Islamabad is said to be limited to the civilian nuclear energy sector, the fact is that contacts already exist between Mol and Pakistani experts who are participating in the country's military nuclear program.

LE VIF EXPRESS, a weekly magazine, asks: "Is CEN really determined enough to resist each and every temptation?" Judging by the experiences of the past few months, the answer would seem to be no.

The ban on imports of German radioactive waste has served to intensify Mol's economic troubles. Up to now, the nuclear research center's official annual earnings for processing radioactive waste amounted to about DM 3.5 million—a far smaller sum than Transnuklear paid out in bribes.

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Plutonium Transport Now Requires Special Permit

51002420b Frankfurt/Main FRANKFURTER ALLGEMEINE in German 8 Jan 88 p 1

[Text] Bonn, 7 Jan—A special permit now must be issued for the transport of plutonium between Karlsruhe and Hanau. It is now required because all operating permits have been withdrawn from the Transnuklear Company by the Federal Ministry for the Environment since the waste scandal. Only Transnuklear has a containment vehicle that can transport plutonium. The transport involves plutonium nitrate which is produced at the reprocessing Installation of the Karlsruhe Nuclear Research Center. Plutonium may not be stored there. An "artificial contrivance" is required so that it can be removed to the bunker at Hanau Nuklearfabriken's site and there be stored in accordance with the terms of a final permit. According to the Ministry for the Environment in response to an inquiry, the Karlsruhe reprocessing installation is to receive permission from the Braunschweig Physical-Technical Federal Institute to transport the plutonium in the Transnuklear Company's containment vehicle.

13238/7310

Legal, Corporate Complexities of Alkem Trial Reviewed

51002423 Frankfurt/Main FRANFURTER RUNDSCHAU in German 9, 11 Jan 88

[Article by Jacob Martin: "A Drama, in Which the Power of Reality Rules Over Laws"]

[9 Jan 88 p 10]

[Box] It is not just because of the Transnuklear scandal, the bribe and plutonium story of the Nukem subsidiary, that the German nuclear industry appears in a dubious light, but also because of the controversial plutonium company Alkem. The Hanau fuel element manufacturer, 60 percent of which is owned by KWU (Kraftwerkunion) and 40 percent by Nukem, operated without final licensing, only on the basis of preliminary approvals. This was not merely the cause of sharp political conflicts within the former Hessian coalition of SPD and Greens, but also lead to its breakup. However, Alkem was also a case for the courts. In the trial of three officials from the supervisory and licensing authority in Wiesbaden and the managing director of the fuel element manufacturer, Alexander Warrikoff and Wolfgang Stoll, the Fifth Panel on Criminal Cases of the Hanau Regional Superior Court classified the practice used up to then for the licensing procedure as "unlawful." In the proceedings, which ended with the acquittal of the accused, it became clear how much the power of the factual made waste paper out of the law. In a contribution to Vol 4/87 of the renowned professional publication KRITISCHE JUSTIZ [Critical Justice], Jacob Martin discussed the nuclear-industrial complex and the law against the background of the Alkem trial in Hanau. We document it in two parts. [end box]

The drama begins on 7 November 1974. On this day the managing director of Reactor Fuel Element Union (RBU) and later Bundestag delegate Alexander Warrikoff enters the Federal Ministry for the Interior. It is a matter of a change in the law to which fuel element factories are to be subjected according to the licensing procedure of Article 7 of the Atomic Energy Law. Warrikoff represents the group to which all fuel element factories operated in Germany belong. He demands a guarantee that his companies may continue to operate where they are and as they are. The game begins.

Meanwhile—13 years later—we find ourselves at the end of the next to last act. The principal actors—in addition to Warrikoff his colleague as managing director Wolfgang Stoll as well as the three officials of the Hessian nuclear supervisory authority Frank, Thurmann and Mrs Hecker, PhD—are standing in front of the court. They have to answer to the Fifth Panel of Criminal Cases of the Hanau Regional Court for violation of Articles 14, 25, 27, 52 of the Criminal Code, Article 327, Section 1 and Section 2, No 1, of the Criminal Code, Article 7 of the Atomic Energy Law, and Article 4 of the law governing the procedure for licensing nuclear installations. At the end of the act all five are acquitted. The court's decision no longer means a great deal to the outcome of the drama, but it still determines the entertainment value of the act. The medium-sized town of Hanau—at the edge of the Rhein-Main conurbation with more than 2 million inhabitants—remained the location of the four nuclear fuel processing companies Alkem, Nukem, Hobeg and RBU even after 1974. (The factories, which are interlinked with each other within the group, have divided up the production between them as follows: Alkem: production of plutonium-containing fuel elements for the fast breeder and of plutonium-uranium-mixed oxide [MOX] elements for light water reactors. Assembly is undertaken by RBU (on Alkem's premises!) because it is the only one to possess a corresponding permit. Nukem: production of fuel elements for research and special reactors. Hobeg: production of [spherical] fuel elements for the high-temperature reactor at Hamm-Uentrop. RBU: light water reactor fuel elements, assembly, storage of uranium hexafluoride.) None of this will change over the next 15 years. Meanwhile, Hanau has become the place with the greatest non-military plutonium concentration on earth. A (wafer-thin) majority of the population approved of this state of affairs in the Hesse elections on 5 April 1987. With that, the preconditions have been created for a happy ending, although the principal actors have come in for a few more wounds in the fourth act.

The Hanau nuclear enterprises are the oldest part—and at the same time the core of the logistical perspective—of the nuclear- industrial complex in Germany. They are interesting to the jurists because they, even more than "money laundering facilities" and "black cash registers," represent typical examples of a special form of "normative force of reality." They are the reality which must be brought to the dance in order for the law to lose its (even if only relative) independent social force. Not everyone can do this, of course. But in our case a handful of people came together, who were ready and in a position to write legal history after their fashion and at the same time expand the social history of the FRG by an option, which without their action would have been blocked as early as 1980: the road to the plutonium state.

Early History

The principal actors of the nuclear-industrial complex have remained the same since its beginnings during World War II: the nuclear managers and the nuclear bureaucrats. The necessity of concentrated investment of large amounts of capital with long-term prospects in a few cartel markets presumes a nearly monopolistic organizational structure of the industry dealing with it. The necessity of detailed state control over the nuclear industry, its national interlinking and its direct connection to the greatest imaginable military potential furthermore makes it the ideal pawn for direct participation by the bureucracy in the social force. Without a distinguishable short-term military application, both groups got together in Germany for the first time in the framework of the wartime economic administration, and in the years 1940 to 1945 established a nuclear-technical center at Degussa in Hanau-Wolfgang. Perhaps they had a second "wonder weapon" in mind as a distant goal. After the war, it was possible to use the present structures for "peaceful utilization of nuclear energy" with no trouble. To begin with, at the initiative of the bureaucracy, a versatile nuclear-industrial infrastructure was built with no appreciable involvement by the energy industry during the 1950s with the appropriate government contracts. The core of this infrastructure was the Karlsruhe Nuclear Research Center. The Hanau industry took care of the logistics of the materials.

With the entrance into major technology, a legal foundation became necessary. In its central provision in Article 7, the Atomic Energy Law of 1960 introduces a licensing requirement for facilities in "production and fission of nuclear fuels" by means of a formal procedure with extensive public participation. The principal features of this method rank as constitutional. The administrative practice did not include factories for the production of nuclear fuel elements and for the reprocessing of spent elements in the group of facilities requiring licensing according to this provision. That was not very logical, to be sure, since the potential for danger in such factories, because of their dealing with large amounts of highly radioactive material all the way to plutonium, is comparable to the facilities enumerated in Article 7, Section 1, of the 1960 Atomic Energy Law, but very practical. In this manner it was possible without much trouble to master the constantly changing demands on the Hanau companies through "handling permits" according to Article 9 of the 1960 Atomic Energy Law. From the aspect of legal dogma, a handling permit according to Article 9 of the Atomic Energy Law is a license, comparable to a restaurant permit, for the storage and processing of nuclear fuels in an existing facility, whose legal foundation is not even regulated in the Atomic Energy Law. The only factors examined are criticality safety and radiation protection, but not specific nuclear safety, as such, in the plant, and least of all safety involving construction and emission protection laws. This is how, without major investments, a profitable branch of industry was able to evolve in the old Degussa huts, an industry which soon passed into the possession of Siemens and RWE [Rhine-Westphalian Electricity Works] and since the beginning of the 1970's

under their direction has entered a really big business: the supply of and waste disposal for the German nuclear reactors, including the planned fast breeder at Kalkar.

It is not possible here to describe the history of the fast breeder at Kalkar (SNR 300) and the industrial and bureaucratic power groups behind it. However, it was clear from the beginning that a part of the investment of billions had to flow into the production of fuel elements for this breeder, and that special know-how was needed here: the knowledge of plutonium processing technology. And the only company in Germany to possess that was Alkem, in existence only since 1964. On 23 February 1972 it was recorded as "Alpha-Chemie-Metallurgie GmbH" in the Hanau commercial register; its managing director was Wolfgang Stoll. Alkem had various handling licenses for the storage and processing of plutonium, which after many changes had finally been limited in 1974 to a total amount of 460 kilograms. Production was still at the experimental stage and was largely financed with public funds from the Federal Ministry for Research and Technology (BMFT). Big things were in the works there: The spent material from German nuclear power plants was (and in part still is today) reprocessed in La Hague by Cogema. The resulting plutonium must be returned. Additional processing of it into fuel elements in Germany makes it possible to operate breeder reactors and simultaneously takes care of the permanent disposal problems. Warrikoff—then managing director of RBU and political middleman between the Hanau companies and Bonn—approved of undertaking this task with the help of the company headed by Stoll and, for his part, received a promise from the BMFT of financing for the required facilities, in particular a bunker, protected against a crashing aircraft, for storage of plutonium-containing fuel rods and waste until their further use. Everything was in perfect order.

The First Act: The Law

Our drama begins as the first construction contracts for Alkem's plutonium bunker have already been awarded, late in the summer of 1974. It becomes known in Bonn that the German fuel element market has aroused not only the interest of Siemens and RWE. The multinational oil company and at that time largest group in the whole world, Exxon, is insisting on participation and has already begun to look for a site in the Rhein-Main region. That is a direct attack on the general conceptual interest of the nuclear-industrial complex in Germany. The Federal Ministry of the Interior (BMI), until 1966 the top German nuclear authority, together with the Federal Ministry for Research and Technology (BMFT), at that time even far more than today a clearinghouse for all of the nuclear industrial activities, sees only one way to prevent an even greater concentration of potential for danger in the densely populated Rhein-Main conurbation: the introduction of licensing requirements according to Article 7 of the Atomic Energy Law for fuel element factories as well. In order to lose no time, an amendment (BT-DIS 7/2183) is introduced with the help of delegate Schaefer into an ongoing debate, for entirely different reasons, about a third nuclear law amendment. Schaefer's amendment provides that facilities "for the handling and processing of nuclear fuels" should now also be included in Article 7 of the Atomic Energy Law. After the responsible principal, Pfaffelhuber, has expressly asserted that in addition to the four existing fuel element factories there are others who are pressing in on the German market, the bill receives the unanimous agreement of the Interior Committee. But it does not receive unanimous agreement from the industry represented by Mr Warrikoff. So we have the first entrance of the first principal actor on 7 November 1974. The BMI later noted the following about that:

"Thus, it turned out that the fuel element industry recognized the necessity of construction permits for future fuel element factories but feared that the frequent changes in operational procedure would be made considerably more difficult if they were subjected to the licensing procedure according to Article 7 of the Atomic Energy Law. The additional hardship was seen primarily in the fact that with the licensing method of Article 7, in contrast to Article 9, as a rule the result would be disclosure of the project and participation by the public."

It was therefore agreed to supplement delegate Schaefer's bill with the following transitional provision:

"Permits granted before the effective date of this law, according to Article 9 of the Atomic Energy Law for the operation of fuel element factories, will remain in effect. In this respect they are equivalent to the permits required after the effective date of this law in accordance with Article 7 of the Atomic Energy Law...."

At this time all the factories in Hanau have just time-limited permits according to Article 9 of the Atomic Energy Law. Nevertheless, Warrikoff agrees to the proposal, because he knows that the former librarian of the Alkem company, physicist Angelica Hecker, PhD, by now working for the Hessian Minister for Trade and Technology [HMWT], the nuclear supervisory authority responsible for licensing the Hanau companies, has already prepared for each business a summary of all pending handling licensing permits into a uniform, unlimited permit according to Article 9 of the Atomic Energy Law. But things turn out differently. The HMWT's plans become known in Bonn. At the BMI one notes:

"In the pre-parliamentary area differences of opinion regarding (the transition provision) have developed between representative who are close to environmental protection ... and those who fear the danger of encroachment on the current development of the fuel element industry. For the second time now, this has led to a dismissal of the debate on the matter in the Trade and Internal Affairs Committee. Further, a clear tendency to adjourn the matter with respect to treating it in the

framework of the fourth amendment of the Atomic Energy Law can be discerned. Sharing this tendency is recently the BMFT as well, represented by the parliamentary undersecretary, Dr Hauff, in contrast to the original department understanding. However, since the fourth amendment of the Atomic Energy Law in all likelihood will not be effective in the current legislative period, this means that the aforementioned foreign interests will initially build their fuel element factories at some sites in the FRG under the 'easy regulations' of the valid Atomic Energy Law, which are no longer justifiable for reasons of security policy."

Second Act: The Storage Site

There then follow the hectic rounds of talks, which by now have become typical of modern legislative procedure, between individual delegates, representatives of industry and ministerial officials, which finally, on the ministerial and undersecretarial level, lead to a compromise which, after intervention by the HMWT, is then passed by the Lower House but not by the Upper House. After involving the Arbitration Committee, finally the following version of the transition regulation is nevertheless created before the end of the legislative period:

"Permits for the operation of fuel element factories granted in accordance with Article 9 of the Atomic Energy Law, before the effective date of this law, continue to be valid as permits in accordance with Article 7 of the Atomic Energy Law in the version of the law up to 31 Oct 1977, insofar as these permits were given for an unlimited period. Limited permits to operate a fuel element factory will expire 3 months after the effective date of this law, unless the holder of the permit has applied for a new permit to be granted in accordance with Article 7 of the Atomic Energy Law. If this application is made in time, the previous activity may be continued until a legal decision on the application in accordance with Article 7 of the Atomic Energy Law has been taken." (BGBl. I 1975, p 1885)

This regulation is still—12 years later—the sole legal foundation for the operation of all four Hanau fuel element factories. Not a one of the present facilities even has a first partial construction permit. Even so, it has been possible to meet all the fuel element requirements of the German nuclear industry with no trouble. Applause for Mr Warrikoff and Mrs Hecker, PhD. Curtain.

Before the two principal actors will now be able to disappear from the stage for some time, another problem needs to be solved. Alkem needs a bunker which is safe against a crashing airplane for its plutonium stockpile, which according to the BMFT will be increased to more than 6 tons in the course of time. After all, not only does Hanau lie in the immediate vicinity of the largest central European civilian airport, but there are several military airfields in the neighborhood. At the end of 1974 the plans for the bunker have been approved by the Reactor Safety Commission, to be sure, but experts have not yet given individual opinions.

When people at the HMWR recognize that the construction of this bunker would be impossible after the effective date of the third Atomic Energy Law amendment, since it requires a permit in accordance with Article 7 of the Atomic Energy Law, it is too late to be approved in accordance with Article 9, Section 1, of the Atomic Energy Law because of the absence of an expert opinion, regardless of the fact that the latter actually presumes a completed facility. Mrs Hecker discusses the matter with Warrikoff and Stoll, but cannot offer her minister a tenable solution. Once more, the pushing and shoving behind the scenes begins, and on 9 September 1975—3 weeks before the third Atomic Energy Law amendment takes effect—results in an administrative act which may be without parallel in environmental history: In a "supplementary order," based on Article 17 of the Atomic Energy Law, to the handling permit for the existing operation valid only to the end of 1975, Alkem is "obligated" to build a bunker costing approximately DM 20 million and designed for about twenty times the amount it is permitted to handle. The company immediately complies with this "burdensome administrative act" and starts construction financed by the BMFT. The plutonium age in Hanau-Wolfgang can begin with bustling activity.

In Wiesbaden, on the other hand, there is icy calm. Although Dr Hecker has meanwhile received reinforcement from a group leader with complete legal training, Mr Thurmann, and a division leader experienced in roadbuilding, Mr Frank, the permit application submitted for Alkem within the prescribed period on 12 December 1975 is not going forward even one step. The reasons are obscure and have only been partly explained in the Alkem trial. It is known, however, that Stoll and Warrikoff knew that the old Alkem facilities would not receive a permit in their unchanged form. It is likely that in view of the increasingly uncertain overall situation with the fast breeder they wanted to postpone the necessary new construction involving an investment of more than DM 100 million for as long as possible.

After the successful coup with the supplementary order according to Article 17, Section 1, of the Atomic Energy Law for the bunker, they had high hopes of seeing through all other production changes in this manner. Dr Hecker notes the following in 1977:

"I cannot avoid the impression—especially since the conversation with Prof Stoll on 22 June 1977—that the companies are taking advantage of HMWT's attitude that "the companies should be working" and are undertaking preparations for the Article 7 procedure with a lot

of staying power. We should make it clear that rapid progress for the Article 7 procedure is a precondition for supplementary orders in accordance with Article 17 of the Atomic Energy Law."

We do not know whether anyone indicated anything about that or not. In any event, the licensing procedure for Alkem went without a decision for another 10 years. But Alkem itself became a hot topic again much sooner than that. In 1978 the BMFT in Hesse called for a storage facility for 775 kilograms of plutonium oxide, which the German light water reactors had obligated themselves to take back from La Hague. Alkem, with the approval of the BMFT, had bought the right to produce SNR-300 fuel elements from it. But it was not possible to accept the return shipment without an operating bunker. Without this return shipment, however, further expansion of the German light water reactors was endangered because of the lack of waste disposal opportunities, and furthermore the manufacture of the SNR-300 fuel elements could begin. That, in turn, would necessarily endanger breeder projects already under cost pressure, which inevitably would also result in Alkem going bankrupt and the loss of tax money tied up in the bunker.

But the bunker could not be brought into operation without a permit in accordance with Article 7 of the Atomic Energy Law. What had been overlooked in the procedure according to Article 17, Section 1, of the Atomic Energy Law in 1975 was that through an "order" for a handling permit the limitation on the quantity handled cannot be rescinded. And to this day the limitation is set at 460 kilograms. As early as 1978 more than 400 kilograms had already accumulated because of the production cycle and the resulting plutonium waste.

Suddenly, the responsibility for the entire German nuclear industry lies with three Hessian ministerial officials, two of whom have just entered the business. Their first idea, to accelerate the licensing procedure in accordance with Article 7 of the Atomic Energy Law, turns out to be a failure. The more intensely experts deal with the material, the more transparent it becomes that the present production facilities on principle are not capable of being approved, because they are not designed to withstand either crashing airplanes or pressure waves from chemical explosions or fires from earthquakes. Hanau is not only located in a dense air traffic region but (according to nuclear technical safety regulations) also in a zone with risk of earthquakes. Since a partial license with public participation for the bunker must also include the question of location, there is fear that the information that after an airplane crash or fire following an earthquake at Alkem more than 100,000 people must be evacuated, will carry with it the demand for secure containment of the entire facility. That continues to be rejected by Warrikoff and Stoll.

Only someone who knows what he is doing can afford to maintain what appears at first glance to be suicidal obstinacy. Stoll and Warrikoff have made preparations. They have had a warehouse built by a subsidiary of the group, Belgonucleaire in Belgium, and all the while have been putting the plutonium from France there without the knowledge of the Belgian authorities. The BMFT and later the German Foreign Ministry as well are notified of this. Then everything becomes clear. The effects of this, when it becomes known that in the course of its nuclear policy the FRG takes into account the danger that the Belgian people will largely be annihilated through a plutonium accident, are obvious. The BMFT therefore laconically makes the following remarks about the information from Alkem:

"For an already delivered portion of the 600 kilos of plutonium, which will be taken over by Cogema in 1978, it is said to have been possible, against payment, to obtain some kind of interim storage at Belgonucleaire (BN) for 6 months. BN carries the entire risk of handling the plutonium oxide, since (for reasons of proliferation safety) it was only permitted to expand its storage to uranium-plutonium mixed oxides. If the matter becomes public, the plutonium oxide must immediately be transferred to Germany."

In this situation there is only one way out: The Federal Physical and Technical Institute (PTB) must declare the plutonium storage, built for production purposes by the private company Alkem, a "federal storage facility," in accordance with Article 5 of the Atomic Energy Law and then take the plutonium "into federal custody." For this, no licensing permit according to Article 7 of the Atomic Energy Law is necessary. The matter has only one hitch: The plutonium is being continually processed by Alkem, and furthermore intermediate and end products, as well as the plutonium waste, must be returned to federal storage because the amount Alkem is allowed to handle has been exceeded.

Every student of law learns no later than his third semester that utilizing the wording of a law while obviously sidestepping the meaning of it is improper and thus in violation of the law. The department counsellors at BMI have not forgotten this lesson despite their partly advancing age. Their knowledge that "federal storage," intended as a police security measure in Article 5 of the Atomic Energy Law, cannot be a legal institution and enable a company—which requires a permit in accordance with Article 7 of the Atomic Energy Law but which is unlicensed as well as incapable of being licensed—to expand its production, is therefore not that easy to shake.

[11 Jan 88, p 13]

[Text] The Hessian administrator trio needed more than a year for this and only arrived at the goal when the BMFT, due to the consequences of additional delays (endangering of the breeder project), insisted on involving the federal cabinet. That, in turn, could not remain

concealed from the public and would be a heavy burden on the foreign policy of the FRG because of the quantity of plutonium which had meanwhile accumulated in Belgium.

This is finally what happens on 28 October 1980. After dramatic, month-long "polling discussions" involving the responsible secretaries and ministers, the Hessian nuclear authority arrranges for "temporary operation of the fissionable material storage facility" for an amount of 460 kilograms, for which once again the form of an order (this time in accordance with Article 19, Section 3, of the Atomic Energy Law) is chosen. In May 1981 the Federal Physical and Technical Institute then begins government storage in accordance with Article 5 of the Atomic Energy Law in the remaining portion of the plutonium bunker belonging to Alkem. The delimitation of the two areas takes place from room to room, in some cases even through a colored line marked on the floor, across which the plutonium is released from state custody for use by Alkem and is then taken back. When Alkem has exhausted its 460-kilo handling amount, although the arrival of a new larger delivery is unavoidable, the holding area for incoming goods and cargo rooms of the firm of Alkem are incorporated in the field of jurisdiction of the federal storage facility for the period of delivery and storage. That was the way it began in 1981, and that is the way it is today.

The construction and starting up of the storage facility are not at issue in the Alkem trial in Hanau. If one wanted to characterize the deliberate bypassing of Article 7 of the Atomic Energy Law by means of unlawful application of Article 5 of the Atomic Energy Law, not only the Hanau quintet but half of the nuclear people in Bonn would be in the dock. The public prosecutor had avoided that. This way, however, the sweat and the overtime, which the present defendants must have used to convince the ministerial and political crowd in Bonn of the necessity and rightness of the chosen path, will not be brought up. However, in his defense of the matter Thurmann indicates that in dealing with this business since 1978, mentally as well as physically the style of working developed which subsequently made possible the events of which he is accused.

Anyone who witnesses for over a year how the power of reality— properly orchestrated—makes so much waste paper out of the legal conviction of an entire generation of ministerial bureaucrats and how the sole measure of legal interpretation becomes whether, when the public finds out, one can hold out without the resignation of the responsible minister, can no longer be held responsible as an individual for separating right from wrong in those instances, in which legal procedures are the prerequisite for decision. At least not as long as success is on his side. And that can be proven in this case: In the last year before the storage facility was brought into operation, Alkem was able to market 84.5 kilograms of plutonium after processing; in 1984 it was already up to 2,095 kilograms. And thus far no aircraft has crashed on the plant and no earthquake has rocked it. The 20,000 fuel elements for the SNR 300 are ready to be used, and the regular return flow of plutonium from La Hague and Windscale is meanwhile, in MOX fuel elements manufactured by Alkem, for the second time being kept out of the environment by the safety containers of German light water reactors. Applause for our principal actors. Curtain.

Third Act: Pre-Approvals

However, the startup of the plutonium bunker and the bypassing of the authorized processing amount made possible by it, solved only one of the problems connected with the conversion of the originally authorized Alkem company into a production company for SNR-300 fuel elements and an industrial supply company for MOX products. The new orders require both qualitatively and quantitatively the most varied changes in the production process and the introduction of new technologies. As for changes that are "insignificant" in the sense of the Atomic Energy Law, they can be permitted without problem under nuclear supervision. On the other hand, "significant" changes in a facility requiring a license in accordance with Article 7 of the Atomic Energy Law also need a permit in accordance with Article 7 of the Atomic Energy Law, the law states. But this permit is exactly what people at Alkem are having the abovementioned difficulties with.

And not just at Alkem. It turns out that for the years between 1975 and 1979 all four Hanau nuclear companies were not licensable in their present form. This does not refer merely to safety against aircraft crashes and earthquake safety. But those two problems block the solution, because they can only be eliminated at high cost for new construction. The facilities which do exist are also not licensable for entirely different reasons: Here there is a lack of stability, there it is fire safety, almost everywhere there is lack of flooring which can be decontaminated and containment capable of low pressure, and here and there other things as well. With respect to these matters, the facilities could be updated (with the exception of old Nukem). But the group is not prepared to do so as long as the question of required new construction has not been resolved. But the BMI does not drop the requirement that the incidents of "aircraft crash" and "earthquake" must be taken into account in the design for Alkem and Nukem; for RBU and Hobeg nothing has even been stated about a decision in this problem as late as the mid-1980's.

The Hessian nuclear supervisory authority does not permit itself to be confused by that, however. It does what had already been agreed with respect to the third amendment to the Atomic Energy Law and practiced in the example of the bunker: It "licenses" for 4 years and in large numbers any necessary changes in the way of the "order" according to Article 17 of the Atomic Energy Law. To begin with, no one notices that this practice does not correspond with the Atomic Energy law: A

change prescribed for the operator in the manner of the order also requires a permit in accordance with Article 7 of the Atomic Energy Law if it is "significant." An order corresponding to Article 17, Section 4, of the Federal Emission Law, according to which the authorities can arrange the directives in such a detailed manner that a licensing procedure is no longer necessary, is absent in the Atomic Energy Law, and for good reason: The principle of public participation, which has constitutional force, would otherwise be invalidated for this field. But this problem is only "discovered" when the operation of an "extraction facility" already constructed by RBU before the effective date of the third amendment to the Atomic Energy Law is to be "licensed," and it is determined that in this case it is not possible, try as one might, to work with a supplementary order.

A newly engaged legal assistant occupies himself with the matter in July of 1979 and right away finds the "solution," which six years later brings our principal actors to the dock: the "model extraction facility." With a clear eye the new man recognizes that licensing for significant changes at the Hanau companies actually presumes a method in accordance with Article 7 of the Atomic Energy Law, but that it cannot be concluded until the "basic license" has been granted. Until then, no significant changes are possible, according to the wording of the law. That—he concludes with razor-sharp logic—is not compatible with the "inventory protection" allowed by the transition regulation of the third amendment to the Atomic Energy Law, because a "continuation of the existing activity" naturally presumes the possibility of changes in safety and operational technology. In order to fill the gap, it can be deduced from the law that "pre-approvals" are permitted with respect to current licensing procedure.

What the esteemed legal assistant, and after him until today all users of the theory overlook, is the following: In the transition regulation of the third amendment to the Atomic Energy Law the rule is precisely the opposite of what is legally understood as "inventory protection." Fuel element factories are subject to the material criteria of Article 7 of the Atomic Energy Law without any regard for inventory, and may only continue to be operated if they correspond with these. The operators thus receive no material inventory protection, but only the procedural privilege that they do not have to close down their plant until they have determined whether the plant actually satisfies the criteria of Article 7 of the Atomic Energy Law. In reading the law with an unbiased mind, it follows that with each need to change as a result of security reasons the legality of the enterprise ends. Because in determining the lack of security, it is simultaneously established that the facility in its presently licensed form is not licensable according to Article 7 of the Atomic Energy Law. The operator must now choose either to change his application according to Article 7 of the Atomic Energy Law, whereby the procedural privilege is automatically eliminated, because now there is no application in the sense of the transition amendment to justify continued operation. Or the operator does not change his application; then he must immediately be rejected by the authority because of apparent non-licensability.

There is neither in Bonn nor in Wiesbaden any kind of ministerial proceedings in which this solution, which urgently suggests itself according to the words of the law and against the background of the legal doctrine of inventory protection, is even being discussed. One gets the impression that the ministers have not even read the final wording of the law, but only the first version of the transition regulation negotiated at the beginning of our drama with Mr Warrikoff. However, their intention is reflected neither in the wording of the final law ("activity up to now") nor in its sense (full application of the Article 7 criteria to old facilities as well), because other participants in the legislative procedure had other intentions and were ultimately able to put them through. It may be that this only succeeded because all participants were under the misconception that the Hanau companies would be materially licensable according to Article 7 of the Atomic Energy Law. But there is no thesis in legal methodology which in such a case of "motivational mistake" allows the legislators to return to earlier versions which did not become law.

But this is legal hairsplitting, which from the outset lies outside the imaginary capability of the acting official and beyond the interest horizon of the entire nuclear-industrial complex. Shutting down RBU is also not taken into consideration, precisely because it is known that the extraction technology used up to now unequivocally cannot be licensed. Instead, the "model extraction plant" is used, in more than 100 cases so far. In so doing, "pre-approval" is increasingly becoming "replacement approval" for the strengthening and expansion of the Hanau production plants to the extent intended in the Article 7 procedure. Alkem, above all, has a great need for executive activity in this area. The field of security-technically indispensable equipment is quite rapidly being abandoned, and business management arguments are taking precedence.

And thus we arrive at the area in which since 1984 the public prosecutors have been interested, based on notification by the population. Their findings show that in at least six cases, purely for reasons of business management, without raising the safety level, significant changes have been permitted by means of "pre- approval" by the three Hessian supervisory officials and partly implemented as well by the two managing directors.

It begins in the year 1982. Cogema announces that it will now also deliver plutonium oxide in shipping containers with a 3.5 kilogram content. Previously, Alkem has not been permitted to handle such containers, because the danger of criticality is greater in them: The content of four 2.5-kilo containers together is not critical, but that of four 3.5-kilo containers could trigger a plutonium chain reaction ("excursion") if they accidentally came

together. Alkem nevertheless accepts the containers, processes them as well, and afterwards takes pains to legalize this procedure through "pre-approval," which it receives on 6 September 1982.

A good 3 months later the next decision of this kind is issued: Changes in the breeder fuel concept have made the production of fuel rods with a higher enrichment of fissionable fuel necessary. These have to be stored. A higher enrichment of fissionable fuel means greater risk of criticality. Pre-approval follows on 20 December 1982.

On the same day the change in the plant's system for the production of MOX fuel elements is approved. Here is the background for Alkem's entrance into the production of long light-water reactor rods of type Biblis. Both from the viewpoint of criticality and from the viewpoint of radiation protection, new security questions emerge. What the authority has decided regarding that and permitted through "pre-approval," is something the public will find out, as with all these other essential changes, sometime in the course of the next few years when granting the corresponding partial permit in accordance with Article 7 of the Atomic Energy Law. To be sure, this permit, to which agreement was given "before," will refer to a facility with a different structure in a different finished building. But this tiny blemish will be tolerated by the HMWT without difficulty.

The problematic pre-approval takes place on 31 January 1983. Here as well it is a matter of the production of mixed oxide fuel elements. The plutonium reprocessing necessary for this had only been permitted Alkem in the form of an "oxalate method." This process has two shortcomings, however: The plutonium yield is not optimal and the finished MOX elements can only be reprocessed with difficulty after their burn-up in the reactor. Both shortcomings can only be corrected through complete conversion of the entire chemical reprocessing procedure. This new method—described by experts with the abbreviation A(U/Pu)C due to its complication—conceals new dangers, however. For instance, in addition to other highly concentrated fission products, the dangerous americium is produced in an earlier phase. In another phase the presence of elementary hydrogen gas is necessary, which leads to considerable risks of explosion.

A short time later come the fifth and sixth pre-approvals brought on exclusively for reasons of business management. One rests on the fact that a delivery order from the breeder company to Alkem can only be fulfilled by increasing the ratio of fissionable material in production line 2 from the previously permitted 35 percent to 45 percent. Here as well there are not inconsiderable criticality problems. The other pre-approval concerns the establishment of a previously not existant installation for final conditioning of plutonium-containing waste. This facility is required because Alkem is unable to find interim storage at its own plant or anywhere else for its liquid and solid radioactive waste because of production-specific characteristics (a high ratio of alpha radiation) and the considerably increased production volume in its present form. Permanent disposal is not possible anyhow, as is well known. The HMWT grants the appropriate pre-approval and at the same time a permit according to Article 3 of the Radiation Protection Ordinance for the storage of the conditioned waste barrels, whereby a total conversion of the waste situation at Alkem results and the enterprise takes another step into the state, which is to be the object of a later approval in accordance with Article 7 of the Atomic Energy Law.

Through the practice of pre-approval, the transition regulation of the third amendment to the Atomic Energy Law has acquired a totally new meaning over the course of time. The companies do not continue their "former activity," until the present stock in accordance with Article 7 of the Atomic Energy Law is approved, but through "pre- approvals" they bring it to a level, over more than a decade, at which it is then approved in accordance with Article 7 of the Atomic Energy Law. Finally, an agency is showing creative imagination in applying unsuccessful laws. Applause! Curtain.

Fourth Act: The Trial

However, creative use of the Atomic Energy Law opens up problems which were so foreign to the responsible authorities until just a few years ago that people did not even take not of them. According to Article 327, Section I, of the Criminal Code, anyone is punishable who "without the required permission... operates a nuclear-technical plant." Which permit is the one required, is indicated in Article 7 of the Atomic Energy Law and in the transition regulation of the third amendment to the Atomic Energy Law. Operation of a nuclear-technical installation on the basis of a "pre-approval" has not been provided for there. In early 1984 the public prosecutor finds out through notification from a citizen of Hanau about the granted pre-approvals and begins to examine the legal situation. In so doing, the office takes a legal position which meanwhile has also been confirmed by the Federal Constitutional Court: That it is the original competence of the criminal prosecution authorities to interpret the elements of a criminal offense, and that accordingly the question of what permission is "required" within the framework of Article 327 of the Criminal Code can be determined by the criminal prosecution authorities themselves. They are not bound by the interpretation of the administrative authorities on this point.

From the outset, the investigating senior public prosecutor does not share the legal opinion of the Hessian nuclear authorities. Based on the existing initial suspicion of a violation of Article 327, Section 1, of the Criminal Code, he demands that those six pre-approvals should be brought to light, of which we already learned in the third act, which out of sight of the public prosecutor in the classic manner prove that here, under the

cover of "former activity," one is carrying on what had already been begun with the establishment of the "federal storage facility" in 1980/81: the actual annulment of the licensing requirement (also) for already existing fuel element factories in accordance with the third amendment of the Atomic Energy Law. Scarcely has this legal interpretation become clear in the continuing investigations, when the war of legal experts begins, which to this day has not been concluded. The first expert testimony, produced in 1985 on behalf of the HMWT, by Ronellenfitsch arrives at the conclusion that the practice of pre-approvals is permitted. At the same time, Rossnagel is working on the interpretation of a single pre-approval declaration (involving a permit to increase the internal company shipping units of fissionable material from 2.5 to 3.5 kilograms) and arrives at the result that the official declaration handed down cannot be regarded as "required permission" in the sense of Article 327, Section 1, of the Criminal Code. He later generalizes and reinforces this opinion on behalf of the public prosecutor's office, in conflict with Ronellenfitsch's expert opinion.

In 1986 the battle expands—incorporating the set of problems posed by the required licensing according to the Federal Emission Protection Law and thus the elements of criminal offense according to Article 327, Section 2, of the Criminal Code. It continues with several expert opinions by attorney Geulen on behalf of the new Hessian minister for environment and energy on the one hand, and an expert opinion by attorney Haedrich of the HMWT on the other. However, the public prosecutor has formed a final opinion on the basis of Rossnagel's expert opinion and charges managing directors Stoll and Warrikoff with perpetration of a crime in accordance with Article 327, Section 1, of the Criminal Code and officials Dr Hecker, Thurmann and Frank with being participants in this offense.

With a decision on 6 April 1987, the Fifth Panel for Criminal Cases of the Hanau Regional Superior Court opens the principal proceedings and allows the charge. The little legal war, which until then had been rather ridiculed by the public, suddenly acquired a political dimension. For that which the three officials did in their daily administrative practice corresponded at all times of their activity with the prevailing political intention of the responsible minster—in the state of Hesse as well as on the federal level. As soon as they themselves dealt with individual measures—for example former Hessian Ministers of Economic Affairs Reitz, Hoffie and Steger in the case of Nukem—they had to fear that they themselves would end up in the dock. A conviction of the managing director of Alkem would not only mean shutting down this company, but Nukem (old) and possibly even of RBU as well. Final legalization of these companies through licenses in accordance with Article 7 of the Atomic Energy law is not in sight before 1990, however.

So, from the first day of public proceedings the Hanau trial did not turn into a tribunal against the nuclear industry, but against the public prosecutor.

However, this simple alignment gets somewhat confused with the announcement of the verdict on 12 November 1987. To be sure, the accused are acquitted, but the court states loud and clear what it thinks of the practice of pre-approvals: they are against the law, without any qualification. If it had been shown in the proceedings of the court that the accused knew of this illegality or had even caused it through deliberate conspiracy, they would have been convicted. But the evidence for such a determination was not sufficient for the court. It could also just have been legal sloppiness on the part of the authorities and thoughtless confidence in the correctness of the authorities by the nuclear companies. That is a painful conclusion for the accused, but no more than that. They leave the stage after Act 4 with a black eye, to be sure, but heads held high. Applause. Curtain.

Fifth Act: Criminal Justice Versus State?

Unfortunately, the copy deadline (of KRITISCHE JUSTIZ, ed. note) forces the fifth act of the drama to remain open, to begin with. Its confusions and struggles will no longer—as we all know—decide the ultimate fate of the Hanau companies. But it will be exciting, nevertheless. On the day judgment is pronounced, all the participants will no longer be in the dark about the illegality of pre-approvals. Since both the public prosecutor and the defense had urged acquittal, the decision acquired legal force when handed down. None of the Hanau companies is still in the inventory-protected state of 1975. But none so far has a final construction or even an operational permit in accordance with Article 7 of the Atomic Energy Law. For RBU and Hoberg public participation in accordance with Article 7 of the Atomic Energy Law has not even taken place.

The immediate establishment of legitimate conditions is therefore possible only through a temporary shutdown of the companies until final licensing (and subsequent construction of the required new buildings and facilities). But neither the operators nor Environment Minister Toepfer as the top supervisory authority nor Environment Minister Weimar as the Hessian executive authority will go so far as to take this step so close to the goal. After this, will the administration and management again be summoned before the bars of criminal justice? The state monopoly on power suddenly dissolved into two individual parts working against one another, one of which is connected to a group of companies and the other to a critical public. The normative force of reality capitulates before its own contradictions and changes back to its original state: normative demand and real power.

11949

Nuclear Regulatory Apparatus Said Fragmented, Inadequate

51002424 Frankfurt/Main FRANKFURTER ALLGEMEINE in German 13 Jan 88 p 2

[Article by Klaus Broichhausen: "Many Authorities Responsible for Radioactive Waste"]

[Text] Bonn, 12 Jan—The search is still under way for steel drums that were brought, filled with nuclear waste, from the Belgian nuclear research center at Mol to German storage sites. According to information by the Hanau shipping firm Transnuklear, there should be 1,942. But local authorities have only found 1,808. To begin with there was even puzzlement as to who should look for the kegs. One regional government alleged in Bonn that one should first determine who supervises the transportation and storage of the drums. Since the exposure of the nuclear scandal, nuclear energy experts, who according to the Atomic Energy Law are supposed to be characterized by special reliability, are not the only ones guilty of manipulation, corruption and sloppiness. Major weak points in the state supervisory system are also becoming visible. This applies primarily to the "waste tourism" across national borders. It is customary to ship nuclear waste to Belgium, France, Great Britain or Sweden. But what happens on the other side of the border is something the German regulatory agencies do not know exactly.

Control over the removal of nuclear waste takes place in a great muddle of authority. This makes manipulation easier. Legal regulations for handling fissionable materials and other radioactive materials are contained in the Atomic Energy Law and in the Radiation Protection Ordinance. The Atomic Energy Law applies to nuclear fuel, including radioactive waste from peaceful application of nuclear energy, if the waste contains a certain amount of nuclear fuel with a certain amount of radiation and heat. All other radioactive materials are disposed of in accordance with the Radiation Protection Ordinance. These include tools, work clothes or other objects from nuclear power plants which have been subjected to radiation, as well as residue from nuclear energy use in research and medicine, such as from cobalt sources.

Because of this bisection of the regulations in nuclear law, there are not only different licensing and control methods but also different practices in eliminating the waste. Thus, nuclear fuel must be placed in federal storage facilities. Other materials with low and medium radiation are received at state collection sites. Whether legal regulations were correctly observed in licensing and supervising the shipment of waste sent to Mol and brought back from there, very carefully separated according to the Atomic Energy Law and Radiation Protection Ordinance, that is part of the investigation in this case.

Personnel and Technical Means Were Lacking

Using the legal regulations is difficult but not impenetrable. However, a multitude of agencies are responsible for licensing and control. The federal minister for environment, nature conservation and reactor safety has the ultimate supervision, according to the nuclear law, over peaceful utilization of nuclear energy. The states are answerable to the environment minister "within the framework of the Federal Mandate Authority" in accordance with the nuclear law. Complying with the legal regulations is also the responsibility of the states. What the states do in private on their own responsibility, however, is something the Federal Ministry of Environment can only inadequately control. It lacks personnel, and the necessary supply of technical means are lacking as well.

Many examples can be given to show how confused the entire system of licensing and control is. Thus, the Federal Physical and Technical Institute in Braunschweig is responsible for licensing the transportation of nuclear fuels, even the smallest amounts. It is a "subordinate" agency of the Federal Ministry for Economic Affairs but it is tied to the Federal Ministry of Environment. Transportation of other radioactive substances, on the other hand, are authorized by the states. Decisions about importation and exportation of radioactive materials are made by the Federal Office for Trade and Industry in Eschborn.

Practical supervision under the responsibility of the states is entrusted to: environmental authorities, trade control offices, local police authorities or the waterway police. The spokesman for environment policy of the union's parliamentary group, Laufs, says that this kind of fragmented responsibility makes government control very difficult. Accusations from all parliamentary parties that the control and licensing of shipments across borders did not rest on a reliable legal foundation, are only partly accurate. International recommendations, which are also applied, exist for the safety of the transports. Corresponding regulations are contained in the Dangerous Goods Ordinance. Quite rightly, however, after the Transnuklear affair people are examining how the control and supervision system for border-crossing nuclear shipments can be improved.

It is entirely undisputed on the federal as well as state level that much needs to be improved in the supervision of transportation and storage of nuclear waste. Present regulations and government instruments for supervision must be more efficiently utilized. Better technical preconditions for supervision must be created. And after the experience of the waste scandal the question must be asked whether the competence of the Federal Government should be expanded. The union and the FDP were already concerned during the environmental negotiations in the coalition debate. Federal supervision is to be increased. Environmental politicians from the coalition consider it necessary for the Ministry for Environment

to be placed in the position, based on personnel and organization, of continually following the supervisory measures of the states, as the environmental spokesman of the FDP's parliamentary group, Baum, expressed it, so that the ministry itself can participate in the scrutiny. Baum therefore urges that a special federal authority, a Federal Office for Reactor Safety and Radiation Protection, should be established, as an authority of the Ministry for Environment. By so doing, not only the responsibility of the states but of other Bonn ministries would be affected. It would be natural to transfer existing institutions to such a new federal authority, for example the Institute for Radiation Hygiene, the Institute for Atmospheric Radioactivity Studies and to some extent the Federal Physical and Technical Institute.

Such a reorganization would be a laborious undertaking, since neither the states nor other departments like to have their authority taken away. However, the opportunity for a reorganization is favorable today. In the general horror about the waste affair and the weaknesses of the regulatory system, the readiness to make organizational changes has become greater everywhere.

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BILD on Possible Diversion of Nuclear Material

DW150845 Hamburg BILD in German
15 Jan 88 pp 1, 8

[Unattributed report: "Toepfer Closes Nuclear Factory"]

[Excerpts] The FRG is experiencing the greatest nuclear scandal of its history. In the wake of unbelievable sloppiness and "irregularities," Environmental Minister Toepfer ordered the Nukem nuclear plant closed yesterday. Nukem is the mother firm of Transnuklear, the firm that has been talked about for months because of bribery and irregularities.

It was learned in Bonn that apparently (approved) nuclear waste barrels have been filled (illegally) with highly poisonous plutonium. Transnuklear transported the barrels to the Mol Belgian power plant.

There the plutonium was said to have been extracted and shipped on—possibly to Pakistan or Libya. The nuclear nonproliferation treaty explicitly bans the "proliferation of knowledge and material for the production of nuclear weapons."

Environment Minister on 'Nuclear Waste Scandal'

LD151158 Hamburg DPA in German
0956 GMT 15 Jan 88

[Text] Bonn (DPA)—According to Environment Minister Klaus Toepfer (CDU) the State Prosecutor's Office in Hanau so far has "no incriminating evidence" in connection with speculation that the Transnuklear company has transported fissionable material from the Belgian nuclear center of Mol to Luebeck, which was then shipped to Libya and Pakistan. Toepfer made this statement, based on a report from the State Prosecutors Office, at the start of a Bundestag debate today on the widening nuclear waste scandal.

The environment minister stressed that, in view of the "monstrous suspicion" of an infringement of the nuclear nonproliferation treaty by Transnuklear, in addition to the investigations by the State Prosecutor's Office, he initiated all measures for clarification. A talk with the Belgian authorities is to be held in Bonn today. Furthermore, a renewed check by the IAEA, which exercises control over fissionable material on the basis of the nuclear nonproliferation treaty, has been arranged.

Toepfer again made it clear that his instruction to the Hesse state government to suspend temporarily the operating licence of the Hanau nuclear firm Nukem has nothing to do with the rumors about a possible violation of the nuclear nonproliferation treaty by Transnuklear. His instruction was issued purely because Nukem withheld information in connection with the nuclear waste affair and because management shortcomings became known, giving rise to "considerable doubts" about its reliability with regard to both "personnel and organization." Toepfer stressed that this was not a prejudgment, but that his action means there could now be a proper investigation under the law.

The investigation of events surrounding Nukem concerns not only 50 barrels of nuclear waste which, Toepfer said, contained material contaminated with, among other things, plutonium, but also two containers from Mol that have disappeared. He said a link between these missing barrels with the rumors about possible uranium trafficking has "so far not been established." Toepfer introduced his statement to parliament, at whose session Hesse Premier Walter Wallmann (CDU) and Hesse Environment Minister Karlheinz Weimar (CDU) were also present, by pointing out that he was only briefed yesterday by Weimar on the latest developments regarding Nukem.

Toepfer said all the firms involved in the fuel cycle would be checked, and the Federal Government is prepared to be tough. Hesse Premier Walter Wallmann said in the debate that the responsible State Prosecutor's Office has meanwhile informed Interpol of the suspicions. He said that dummy corporations in Switzerland have also been mentioned in connection with speculations about supplies of material to Libya and Pakistan.

Wallmann strongly rejected opposition accusations that the Hesse state government did not inform the public promptly about events. He said the information was released as early as possible. Nothing has been concealed.

Basic Assumptions of Nuclear Energy Policy Seen Threatened

51002426 Hamburg DIE ZEIT in German
15 Jan 88 p 1

[Commentary by Robert Leicht: "Nuclear Pandora's Boxes"]
[Text] The containers of nuclear waste—aren't they the modern equivalent of Pandora's box? After Prometheus—according to the ancient story—had wickedly brought the humans fire, Zeus in revenge sent them Pandora, from whose vessel comes all evil and suffering in the world. We who live today, however, hoped that we could use the nuclear fire and then seal all the remaining evil in boxes, put them underground and thus get rid of them for good. The Transnuklear scandal takes this vision into the criminal field.

Since 1981 the Transnuklear company in Hanau has brought back not quite 2,000 containers with falsely declared contents from Mol in Belgium. In at least 321 of them the nuclear ashes with low and intermediate activity were mixed with cobalt and plutonium. On the other hand, 2,000 cubic meters of overly radioactive waste from the FRG ended up in Mol. The poisonous business ran like a greased wheel, in the truest sense of the word, with millions in bribes.

Boxes for the public prosecutor, to be sure. But it is not enough that we put the criminal elements behind bars, and that we also pull the coarse loops of the administrative control net tighter. The scandal cannot be reduced to the misguided behavior of a hundred people in the nuclear environment. On the contrary; we must once again recognize that the nuclear cycle is still just as open as Pandora's box. And we must draw the consequences of this realization.

Twenty years ago, the FRG nuclear industry was allowed, supported by politics, to go to work without a hermetically sealed waste disposal arrangement. Such a system exists nowhere in the world even today; no one has a functioning permanent disposal site. Only because of this circumstance could the Transnuklear scandal come to pass. And as long as this remains so, every scandal must again trigger even the fundamental debate about nuclear energy.

Now we even hear from the mouth of a cabinet minister that the nuclear industry has lost confidence. But in view of the close connection between industry and politics, the governments cannot exempt themselves from the damage that has been inflicted. They should also be concerned about their own credibility with the citizens. If Environment Minister Toepfer acknowledges the deplorable state of affairs, he may survive the test. But if he tries to avoid the actual political question—can we master and justify nuclear power?—he will be toppled, as will all those who only want to resort to one thing: close their ears.

If we consider all the mishaps, disturbances and scandals along Prometheus' path, in retrospect they form a pattern, which turns the four principal theses of nuclear energy policy upside down.

First: Nuclear energy is technically safe—this belief was undermined by Windscale, Harrisburg and Chernobyl.

Second: The human being is practically and morally able to cope with this technology—this assertion died between Hanau and Mol.

Third: Nuclear energy is unbeatably cheap—this calculation is made without proper accounting. As long as no one knows whether and how waste disposal can be perfectly regulated, no one can even guess the cost of nuclear power.

Fourth: The politicians have the matter firmly in hand and are keeping the citizens fully informed—this assumption is becoming increasingly thin. After the fire at Windscale in Britain the politicians, as revealed by documents 30 years later, did not want to tell the truth. After Chernobyl they did not know how to tell the truth. And after Hanau, no one knows what the truth is.

Deadly Risks

After the accident in the Ukraine, all German politicians announced that nuclear energy is at best a transitional energy. After the scandal in Hesse we must all ask them probingly: When does the transition period finally begin?

Politics has never faced a task equal to the present one: For the first time in the history of the world, with nuclear energy we have entered a technology which in the worst case carries within it the end of humanity as a risk. People have previously taken deadly risks into the bargain—for themselves and their contemporaries. But never before did they do so for future generations. However, if we want to correct these decisions we must for the first time say goodbye to a technology, whose dangers do not disappear by the fact that it is no longer used. That is the double titanism of our time: Nuclear danger potentials and waste disposal problems accompany both getting out and getting in. In the future we can no longer take such categorically new risks, which we do not beforehand know we can completely control—be they new energy sources or gene technology. We must also turn the burden of proof around. From now on it is not the critics but the advocates of a new technology who must show that their arguments are sound.

With all of this we know two things: Renunciation of nuclear power changes none of the original reasons for its development, neither the finality of fossil energy sources (coal, oil, natural gas) nor the ecological dangers (greenhouse effect) inherent in them. On the other hand, nuclear energy would never be in the position of supplying all that fossil energy sources produce today. Industrialist Ludwig Boelkow has calculated for the FRG: "If

we were to draw our entire energy from nuclear power, we would need 350 nuclear power plants, and about 50 would constantly be under construction in order to replace older plants." Such visions are absolutely unrealistic, from the standpoint of safety and waste disposal alone. Furthermore, we can see the growing skepticism and resistance with which our 21 nuclear power plants (four additional ones are under construction) already meet.

Thus, we have long found ourselves, whether we suspect it, want it, or not, on some kind of exit path. We just do not know where it is taking us. If we are to replace the fossil energy sources by something other than nuclear energy, we need an enormous potential of alternative energy sources. As soon as we have found it, however, we can give up nuclear power. At the present time our nuclear reactors meet 10 percent of our primary energy need; worldwide, 394 reactors produce only four percent. Who would like to maintain that a change is out of the question?

Search for Alternatives

The burdens of the transition will be considerable, of course. Industrial change requires sacrifices, which should be fairly distributed. With the global risks of nuclear power, a provincial German renunciation policy would only be an alibi. But when others are to follow suit, someone has to be the first. What should we do?

To begin with, we must put a limit to our nuclear energy utilization. We should definitely not enter into plutonium breeder technology. Even those who operate it no longer believe in Kalkar; they want to leave our children and grandchildren an option. But no one can ask these descendants whether they see this as a poor inheritance. The present shadow boxing around Kalkar is a weak attempt to shift blame and damages (cost so far: DM 7 billion) back and forth. It would be more honest to put an end to the project.

If Kalkar is out, however, a reprocessing facility only makes sense for someone who wants to hang on to nuclear power and prevent the change. But anyone who is serious about the slogan of transitional energy must urgently look for a permanent storage site, first, for the transition period, second, for highly radioactive wastes, whose return from abroad is due in 90 years and finally for the radioactive rubble after the reactors are pulled down. The breakthrough in nuclear fusion—with all its other unknown risks—hoped for by many would multiply the waste disposal problems.

It cannot be helped: We must devote all our strength, money and time primarily toward freeing us from both fossil and nuclear energy. We promoted the development of nuclear power with DM 27 billion from the revenue coffers, but used only DM 1 billion to search for alternative sources of energy. Anyone who does not correct this ratio is blocking the future.

This opens up a new field for research. To start with, we should continue to look for possibilities of using energy in a more rational manner, as well as saving it. Initially, the combination of solar energy with hydrogen technology appears—according to outlines by its proponents—to be most promising. Wind, water and biomass may be added as well. Much indicates that the road to success and economic use is still long. But that is why we should get started as soon as possible.

Our political reaction to Transnuklear must therefore reach beyond just overcoming the scandal. There is more involved than the most urgent sanctions, which can only cure the symptoms. It could be that our nuclear power plants, given improvements and tightened controls, could yet give us a grace period. But we must also utilize this grace period more decisively from day to day.

After Chernobyl there was a verbal consensus between the parties: transition. After Transnuklear this must finally become politics. At the bottom of the mythical Pandora's box, there still remained hope. In the Pandora's boxes that really exist, we find nothing of the sort.

11949

Firm Denies Sending Nuclear Supplies to Pakistan

LD161348 Hamburg DPA in German
1158 GMT 16 Jan 88

[Excerpt] Frankfurt (DPA)—The Hanau nuclear firm Alkem has denied a report on the RTL Plus Television station that the firm passed on nuclear material illegally. "Alkem has never delivered fissile material to countries of the Third and fourth world, and that includes Libya and Pakistan," a company spokesman said on Saturday. Alkem's exports took place only after authorization by the Federal Government, Euratom, and the IAEA in Vienna.

Alkem said it welcomes the fact that the alleged delivery of fissile material (proliferation) is to be investigated by parliament.

Israeli Protest of Uranium Deliveries Denied

LD161051 Hamburg DPA in German
0931 GMT 16 Jan 88

[Text] Bonn (DPA)—A spokesman for the Federal Defense Ministry Saturday denied a report on the RTL Plus Television station that Israeli Defense Minister Yitzhaq Rabin had protested to Defense Minister Manfred Woerner about deliveries of uranium 235 to Libya and Pakistan. "This has no foundation whatsoever," the spokesman said.

Toepfer Says No New Proof of Delivery to Libya, Pakistan

LD161720 Hamburg DPA in German
1602 GMT 16 Jan 88

[Text] Hamburg (DPA)—According to Federal Environment Minister Klaus Toepfer (CDU), no new proof has been furnished regarding the accusation that the Hanau firm, Transnuklear, delivered fissile material to Libya or Pakistan. The minister told BILD AM SONNTAG: "We have followed up all proof, suspicions, and rumors, even abroad. Any information which could provide proof that this outrageous suspicion might be true has not emerged."

Toepfer asked the SPD group deputy chairman, Volker Hauff, to finally produce the information or proof "which he claims to have or to hand it to the state prosecutor." Should the SPD politician fail to do so Toepfer intends to "call him to account publicly for the incalculable damage he has caused with his assertions in our country." Hauff talked on Friday about proof which has clearly emerged from documents found at Nukem.

As regards the report by the private television station RTL that Israeli agents had planned the abduction of German scientists, Toepfer said: "Yet another product from the kitchen of rumormongers. I have no such information. However, in this case too, we are following up carefully any trail and any information."

German Enterprises Said Not Involved

LD181128 Hamburg DPA in German
1058 GMT 18 Jan 88

[Text] Bonn (DPA)—According to responsible circles in Bonn, fissionable material has been supplied abroad from the Belgian nuclear center at Mol, without German enterprises being involved. These circles, who spoke on Monday of a "hot trail" leading to Mol in the nuclear affair, named Pakistan as one of the receiving countries.

According to this information, the nonapproved supplies were possible because checks in the part of the center concerned were not carried out by the IAEA in Vienna. The supplies are said to have involved "considerable quantities."

DER SPIEGEL Reports on Shipment

DW190700 Hamburg DER SPIEGEL in German
18 Jan 88 pp 18-30

[Unattributed cover story: "Suicide of the Atom"]

[Excerpt] The Brussels-based nuclear company Belgonucleaire (BN) has been supplying Pakistan, the threshold country, with nuclear technology know-how for years. BN is closely interlinked with the Nukem and the Transnuclear companies. The Hanau Nukem company's sister company Alkem for some years hid more than 600kg of plutonium in BN facilities behind the back of the Belgian Government, while Bonn was informed about it.

Belgonucleaire, interlinked with Nukem, is also responsible for a nuclear "pilot facility," which had been built in Pakistan at the beginning of the seventies. According to Munir Khan, the president of the Pakistani Nuclear Energy Commission, that reactor gave the Muslim country the "capability to produce the necessary plutonium for a bomb."

In addition to that, the Mol National Nuclear Research Center [in Belgium] for years had trained and financed "trainees" and "auditors" coming from Libya and Pakistan. The authorities learned only later that the so-called apprentices from the Third World were high-level nuclear experts in many cases. Two years ago the Mol research center's manager, Severin Amelinckx, met in Islamabad organizers of the military nuclear research program, including the head of the "weapons" group and the technical manager of plutonium production for military applications project.

Pakistani weapons research was supported by a Nukem subsidiary, Inter-Nuclear, based in the Swiss town of Zug. By bypassing the nonproliferation treaty, it supplied the necessary heavy water to the Islamic country. The Hanau Nukem manager, Manfred Stephany, supervised the secret transaction as a member of the administrative panel.

The Nukem company's activities in the nuclear sector cover the world. The Hanau company (promotion slogan: "We Invented Techniques of Our Own and Know International Measures") trades in nuclear fuels and is making some real profit.

The Hanau company and its 100-percent owned U.S. subsidiary "Nukem Incorporated" dominate some 80 percent of the world market. It was just 20 employees in Hanau who carried out the transactions in uranium and plutonium. They made about half of the Nukem company's profits.

The trade in critical materials, however, is accomplished no less unscrupulously than the disposal of nuclear waste. Company documents, which DER SPIEGEL has, show the way Nukem sells fissionable material by bypassing international agreements. In some cases even the European supervisory agency Euratom is informed.

Nukem profits greatly by South African uranium, which is under a U.S. embargo and thus has a low world-market price ($17 instead of $21 per U.S. pound). The scam is that Nukem delivers South Africa fuel to North America, but changes the certificates of origin while under way. Sometimes the certificate is exchanged with RWE [Rheinisch-Westfaelische Elektrizitaetswerke], which stores

the same amount of uranium of Australian origin. Even the Bonn research ministry renders services by providing documents of origin for South America or Canada.

Australia, a uranium producer, is also being deceived. Australia makes it an obligation for all its foreign customers not to enrich the raw material to make a fuel with which weapons can be made. The Canberra government must approve exceptions to the rule, but it does so only rarely.

In a deal using Australian material, which was supposed to be highly enriched, contrary to the agreement, the Nukem company turned to Euratom for help. In order to "rule out the risk inherent in the mandatory Australian approval procedures," Nukem applied to Euratom "to change the Australian origin" without Australian approval. The European supervisory agency gave its approval and covered Nukem. "In case of inspection," the agency stated, Nukem would be "informed" in time.

Euratom documents, "in light of the explosiveness, to be treated as strictly confidential," demonstrate that the supervising agency constantly tolerates methods that run contrary to the agreement. The supervising agency does not think in security terms, but in economic ones. It wants to save industry "considerable expenditure," according to a 19 November 1987 protocol.

Euratom and the European nuclear industry are driven by the concern that they might be caught. The declared "goal of the session," is to avoid the matter being made public while the facts could be proven at the same time."

State of Waste Transport, Storage Technology Surveyed

51002435 Bonn DIE WELT in German 18 Jan 88 p 3

[Article by Klaus Bruns: "To Gorleben Via Wackersdorf—The Cycle Is Complete on Paper—Waste Disposal Plan Calls for Intermediate Storage, Recycling of Spent Fuel Rods, Terminal Storage"]

[Text]

Internal and External Intermediate Storage

The FRG has decided on a waste disposal plan which calls for both "internal and external intermediate storage, subsequent recycling of spent fuel rods through the use of radioactive residues and the conditioning as well as the terminal storage of radioactive waste."

With regard to the realization of the plan which was approved in 1983, the government report made public on 13 January tersely states: "There has been some progress; but there have also been delays in some areas." The truth of the matter is that spent fuel rods were placed in internal "intermediate storage in a wet state" following discharge in a so-called decay basin. That basin is located in immediate proximity to the recator, i.e., the so-called steel containment. It is here that the initial, short-lived radioactivity spends itself. Every German power plant is required to have sufficient storage space to accomodate a complete load of nuclear fuel.

The next step involves the transportation in special, highly stress-resistant containers. For testing purposes, a "Castor-type" container which weighs up to 115 tons and has walls 44 centimeters thick was dropped from a height of nine meters onto a hard concrete-and-steel foundation and subjected to temperatures of more than 800 degrees centigrade for more than one-half hour. A missile weighing some 1,000 kg was fired at the speed of sound at a "Castor" container from a special cannon. The FRG material testing laboratory dropped one of these containers from a helicopter from an altitude of 200 meters onto a no longer used airport runway. The container remained serviceable, i.e., it held fast.

Equally drastic tests were conducted in the United States where accidents were staged. A truck and a train carrying such transport containers, both traveling at a speed of 130 km per hour, were made to crash into a concrete wall. In addition, the containers were placed in an oven heated to 1,000 degrees for 1 1/2 hours, sustaining only superficial damage. In England, a train was made to crash into a transport container lying on the rails at 160 kilometers per hour. That container, too, held fast.

The destination of these transports is an external storage facility. The purpose of such facilities, as the brochure of the Gorleben fuel rod storage facility puts it, is to provide orderly and proper intermediate storage in the so designated warehouses for fuel rods and waste until they are subsequently reprocessed or, in the case of waste, until it is placed in terminal storage in a salt mine."

The Gorleben intermediate storage facility in eastern Lower Saxony was completed in 1984. Since that time, low and medium activity waste has been stored there. The plan is to start storing fuel rods there sometime later this year. The warehouse, which measures 189 by 38 meters, can accommodate 420 containers. Depending on its size, each of the containers can hold between four and 33 fuel rods. They have a capacity of 6.5 tons of uranium.

In all, Gorleben can accomodate 1,500 tons of "heavy metal," i.e., about one-third of all spent fuel rods in the FRG by 1990. Up to then, however, only 200 tons of spent uranium fuel will be placed in intermediate storage domestically. Agreements concluded with France, England and Sweden provide for the initial shipment of 3,080 tons to those countries. France and England will not only provide intermediate storage but also reprocessing and return shipment, including the nuclear waste.

The FRG goal is to carry out reprocessing domestically. Construction of the Wackersdorf reprocessing facility in the Upper Palatinate was begun in December 1985. The

facility is to placed in service in 1996. Long before then, the supplementary facility at Ahaus in the Munster area will be available for intermediate storage. Ahaus will provide storage capacity equal to that at Gorleben. An administrative court ruling has ordered a temporary halt on construction work, however.

At this time, recycling of spent fuel rods is being carried out in the FRG on an experimental basis only. For the past 16 years, the nuclear research laboratory in Karlsruhe has been conducting tests, using the "Purex" process. Scrapped fuel rods are pulverized by mechanical means, dissolved in boiling nitric acid and thus broken down into their chemical components. Uranium and plutonium (the latter produced inside the reactor from non-fissionable U-238) are extracted with the aid of organic solvents, i.e., a mixture of tributyl phosphate and kerosene. The rest are highly radioactive fission products which first undergo "volume-reducing conditioning" and are then removed to the designated terminal storage facility at Gorleben to be sealed up there for all eternity.

We should add at this point that the fuel rods are not really "spent" in the true sense of the word. They have been contaminated by fission products and "emaciated" as far as their original three-percent content of fissionable U-235 is concerned. At the same time, part of the original 97-percent content of non-fissionable U-238 has been transformed into plutonium. The latter is fissionable and thus usable for nuclear energy production.

Not a Bomb-Capable Mixture

We should also mention that the plutonium produced in a conventional breeder reactor consists of a mixture of several kinds of plutonium and thus cannot be used to build atom bombs in the opinion of the experts. In other words, it is not at all certain that the plutonium said to have been smuggled to Libya or Pakistan could be used to build a bomb, leaving aside the fact that the amounts involved are infinitesimally small.

As far as plutonium toxicity is concerned, it may well be true that a grapefruit-sized quantity would suffice to destroy all of humankind. Similar "calculations" can be made with regard to all types of strong poison. But it would be extremely difficult to make the poison work. The mere presence of plutonium in a compact or even in a dissolved state creates few problems. In the atmosphere, its radiation does not reach far and is not even powerful enough to penetrate cardboard.

In its pure state, well-packaged plutonium could theoretically be carried in a man's trouser pocket. If ingested, plutonium is usually evacuated in its entirety. Only if inhaled as dust in the atmosphere will plutonium lodge in the lungs and cause cancer—in which case it will kill.

Thus far, 190 tons of uranium and one ton of plutonium have been recovered in the FRG—all of it at the Karlsruhe experimental laboratory. When the Wackersdorf facility is placed in service 8 years from now, it will be able to handle an average annual volume of 350 to 500 tons of heavy metal.

The Purex process, for that matter, has been in use for the past 35 years. In the United States, such large-volume facilities for military nuclear fuels have proven highly effective. Purex facilities have been operating in England and France for the past 30 years. At Mol in Belgium, which has recently been in the news because of criminal acts in connection with the waste transports by the Hanau firms of Nukem and Transnuklear, the process was used in conjunction with an R&D project between 1966 and 1974.

Later, the "Pamela" pilot project to provide for "terminal conditioning" of highly radioactive waste was started there. This process calls for reducing reprocessed, highly radioactive waste to extremely small size and sealing it into boron silicate. The fission products are then to be placed in terminal storage in this form.

The recycling ingredient to be returned to the fuel circuit is the production of new fuel rods which calls for joint processing of uranium and plutonium which transforms them into so-called MOX fuel elements. The nuclear power plants at Unterweser, Obrigheim, Neckarwestheim, Karlsruhe and Grafenrheinfeld have already been experimenting with such recycled elements.

Prior to reuse, the excess uranium must be enriched once more. A domestic, commercial facility equipped to do this is not in sight although the necessary sophisticated technology, e.g., high-speed centrifuges and separatory funnels, is already available. In this field, the military nuclear powers will continue to provide the required services.

What is left is radioactive waste—high activity waste from recycling; medium activity waste from recycling and from the nuclear power plants and low activity waste from the laboratories and nuclear medicine production.

The plans for waste disposal are quite clear, but their implementation is uncertain in some respects. There is no real time pressure: the amounts may be impressive but not really unmanageable. The real problem is that this "mountain of waste," the thousands of barrels and containers standing around at countless locations both inside and outside the FRG, is a heavy psychological burden. This also applies to the intermediate storage site at Gorleben where 40,000 barrels containing 200 liters each are housed. About the same amount is stored at the Mitterteich intermediate site, operated by the Bavarian utility companies. And whenever the Ahaus goes into operation, it will be able to handle still another 40,000 barrels.

Terminal Storage a Priority

The terminal storage site in the Konrad iron ore mine near Braunschweig is in sight but not yet available. Thus, the waste remains aboveground, creating a climate conducive to bribery and scandal. This certainly seems a good enough reason for giving priority to the establishment of a terminal storage facility.

The United States, France and England have long since been storing their low and medium activity waste underground. The GDR has been operating an underground storage site for such waste at Bartensleben since 1978. Switzerland and Sweden have plans for storage in underground caverns. In the FRG, the Konrad mine is currently being readied for this purpose.

The Konrad mine will provide for storage space totaling one million cubic meters, i.e., equal to a cube each side of which is 100 meters in length. The FRG's accumulated nuclear waste (comprising 675 freight cars of a train 7 1/2 kilometers long, as a magazine recently noted with relish) could be stored in the Konrad mine 25 times over. Even the 230,000 cubic meters of waste projected for the year 2000 would take up less than one-quarter of the planned storage space. Is there really a shortage of storage space?

In the final analysis, the waste problem focuses on the five percent of high activity waste for which a terminal storage site is being sought but has not yet been found. High activity waste produced in the recycling process causes a great deal of heat. Prior to terminal storage, it must be certain that the heat produced over a period of centuries does not harm the integrity of the terminal storage site. This is hard to prove; for reasons of time, if for no other. Under the circumstances, one has to rely on common sense and logic.

The FRG's choice has fallen on the geological formations of rock salt. Rock salt has no contact with water-bearing strata in and of itself, nor is it susceptible to mechanical stresses. Above all, however, the rock salt layers were formed more than 200 million years ago in the North German Basin and have not undergone appreciable change since that time even though subjected to extreme stress from geological and other acts of nature, e.g., the forces which created the Alps and/or caused volcanic eruptions. In a way, it is odd to think that a few thousand barrels might be able to bring disorder into geology, causing radioactivity to wreak vengeance on those who produced it.

Nevertheless, it is unclear whether the Gorleben salt layers, where drillings have taken place since 1985, will pass the test. The mine accident of 12 May 1987, when a shaft collapsed at a depth of 225 meters and one man was killed, may not speak to the issue of Gorleben's suitability as a terminal storage site one way or the other. In fact, the FRG Physics and Technology Laboratory continues to hope that Gorleben will qualify. At any rate both confidence and doubt continue to introduce uncertainty into the equation. Work on the Gorleben shaft is not scheduled to be resumed until the middle of this year.

09478

Report Claims No Violation of Nuclear Treaty

LD200001 Hamburg DPA in German
2330 GMT 19 Jan 88

[Text] Mainz (DPA)—The Bonn Energy Report, the main source of information for Hesse's Environment Minister Karl-Heinz Weimar, has no evidence of any violation of the Nuclear Nonproliferation Treaty by the nuclear firms in Hanau. In a ZDF [German television] interview HEUTE-JOUNRAL Editor Dieter Kassing said on Tuesday evening: "We have no evidence of any involvement of German firms in the transport of volatile fuels to Mol or Pakistan via a north German port. We have indications of this, we have suspicions, but we have no clear proof."

In the same program Weimar admitted that "naturally I am not very happy to hear Mr Kassing say that." Last week the latter told him there were indications that the Transnuklear firm had transported fissile material from Mol via Luebeck to Pakistan and Libya. Kassing had asked him to treat the information in confidence.

On the basis of that information, said Weimar, he had had to notify the State Prosecutor's Office, inform parliamentary deputies, and bring the matter to the public's attention. "I believe we acted quite properly" on the matter, he said.

The SPD Bundestag group deputy chairman, Volker Hauff, on Monday largely retracted his assertion that there is already proof of a breach of the Nuclear Nonproliferation Treaty by the Hanau firms. Neither does the State Prosecutor's Office believe there are any signs of a German breach of the Nuclear Nonproliferation Treaty.

Multiple Parliamentary Committees Said Hampering Probe's Credibility

51002428 Frankfurt/Main FRANKFURTER ALLGEMEINE in German 22 Jan 88 p 1

[Text] Three different parliamentary committees—in Strasbourg, in Bonn and in Wiesbaden—investigating the same issue, i.e., the Hanau nuclear affair, that really does not make much sense. It is not just a case of unnecessary duplication but an abuse of parliamentary powers. Lately, investigative committees have been created at ever shorter intervals and frequently for negligible reasons. Of course there are committees which everyone feels are needed. The probe into the Kiel affair was a case in point. It demonstrated how an investigation is done: rapidly, to the point and in a spirit of loyal cooperation.

It would probably be foolhardy to expect as much from the new investigation committees in Bonn and in Wiesbaden. The parties of the left are less concerned with clearing up the facts than with pursuing political goals. The Hanau example is to be used to castigate the nulcear industry as a whole. As events in Wiesbaden have shown, this appears to be the undisguised purpose of the Greens and of about one-half of the SPD contingent. In pursuing this goal, they even seem prepared to cast doubt on their own credibility. Krollmann, the head of the SPD Landtag delegation, had to do an about-face when almost one-half of its members refused to heed his call not to create an investigation committee. The step was taken in complete awareness of the fact that the decisive offenses in Hanau were committed under an SPD administration.

In Bonn, the Greens have said that more than 100 witnesses will have to be heard. SPD chairman Vogel apparently agrees; he feels the probe will take 2 years. In the end, no one may get an idea of the real story behind the suspicious nuclear waste transports and the disappeared barrels in Hanau but the hope is that the waste disposal issue will be kept alive. The Bundestag would surely have every reason to deal with this issue—but not in a flamboyant committee setting but as part of normal parliamentary procedure. The self-esteem of the parliament would seem to dictate this modus operandi. Far too often, however, that self-esteem has already succumbed to the temptations of television democracy.

09478

Commentary Sees Possible Public Rejection of Nuclear Policy

51002429 Munich SUEDDEUTSCHE ZEITUNG in German 22 Jan 88 p 4

[Commentary by Klaus Dreher: "The Real Point of the Scandal"]

[Text] Rarely have the political parties approached a parliamentary probe with as much remorse as the one which is looking into the Transnuklear affair. They are all saying that the nuclear waste scandal must be cleared up fully, mercilessly and without regard to the status of the individuals involved. Under the circumstances, CDU Deputy Manfred Langner was unable to find fault with the language contained in the SPD motion regarding the committee's specific brief.

This is not to say that the absence of partisan bickering necessarily makes for a high-toned debate; nor does it tell us anything about how serious and impartial the participants will be in their effort to shed light upon the tortuous paths taken by the nuclear materials. SPD political leaders, both in Bonn and in Wiesbaden, have freely admitted that they played a major role in the buildup of the nuclear industry in years past. But that is not really the point. The real job of the committees, in SPD Deputy Harald Schaefer's words, is to shed light on the events which served to undermine the far from clear-cut confidence of the public in the nuclear industry. Abuses, wrong decisions broken rules, venality and sloppy handling of dangerous materials—all these issues are to be addressed by the probers.

Since politicians of all parties (with the exception of the Greens) must share the blame, it may perhaps be assumed that a coalition of responsible individuals will emerge who will try not to uncover any more secrets than absolutely necessary. This is even more likely in view of the fact that political leaders such as Walter Wallmann and his minister for environment, Karlheinz Weimar, who have voiced suspicions which they subsequently had to tone down or retract, have gotten bloody noses for their eagerness to make disclosures. This particularly concerns the issue with which the Bundestag hopes to deal on a priority basis, i.e., that the provisions of the nuclear non-proliferation treaty may have been violated. All the participants are already finding it difficult to come up with the right approach to that issue. After all, how is one to interpret the cabinet statement to the effect that this accusation is "groundless?" If the committee were to accept the statement at face value, it might just as well conclude its investigation right here and now.

For all that, the public may not place a great deal of trust in the willingness of the politicians to disclose or to put an end to conditions which they themselves brought about or which they must now justify. The sole reason why Wallmann's assertion that he had been informed of a shipment of materials for a nuclear bomb from Hanau to Libya and Pakistan caused a veritable climate of hysteria was that the unimaginable had all at once become plausible to people. Wallmann suffered from a crisis of conscience when asked whether he knew that newsmen were investigating the story. If he had kept quiet, he would have been accused of having tried to hide something. Now he is being blamed for having made the information public. The fact is that Wallmann became so wrapped up in his subject as he reported on it before the Hesse Landtag, the Bundestag and, at length, the Bonn press briefing that he finally seemed convinced of its accuracy although it had been based on hearsay in the first place. The fact that this bit of information so alarmed him does indicate how little concerned he was about these dangers up to then although Volker Hauff (who subsequently exposed himself to even greater ridicule) and the Greens had been warning of them for a long time.

This particular trail may turn out to be a dead end, but the real point of the scandal centers on the virtually unlimited possibilities of the relatively scant controls over the transportation of nuclear waste. It has been shown, after all, that nuclear materials were shipped from Nukem to Mol in Belgium which should not have been taken there under German regulations. Barrels were then shipped from Mol which contained compounds other than those which had been taken there. It follows from this that two laws were broken and that Nukem broke a third by not informing the authorities of the

entire procedure. But if that is possible, one must ask, what other shipments may be traveling back and forth across Germany's highways day in and day out?

Even though the committee's charter does not specifically say so, the members will have to reestablish the proper relationships between concealments, coverups and the suppression of evidence on the one hand and exaggerations on the other. Klaus Toepfer, the minister for environment, who is one of those politicians who learns from his mistakes, has introduced the concept of "acceptancy" with regard to nuclear energy. If a great majority of the people does not accept nuclear fission as a means of producing electric power, as it now seems, then the politicians must take the necessary consequences even if they themselves consider this technology to be justifiable.

09478

Bavaria Faults Bonn's Inaction on Terminal Waste Storage

51002432 Munich SUEDDEUTSCHE ZEITUNG in German 22 Jan 88 p 20

[Article by Hannes Krill: "Bavaria's Intermediate Storage Capacity Good for Another 14 Years, Dick Says—Environment Minister Calls for Action in Aftermath of Transnuklear Scandal"]

[Text] According to Alfred Dick, Bavaria's minister for environment, the Bavarian government plans to do what is necessary in the aftermath of the recent scandal involving Nukem and Transnuklear, the two Hanau nuclear companies but also intends to go ahead with the construction of the nuclear reprocessing facility at Wackersdorf. Dick made his statement to the environment committee of the Bavarian Landtag which met yesterday at the request of the SPD and the Greens to discuss the Bavarian aspects of the nuclear waste scandal. Among other things, Dick called for making the importation and export of nuclear waste subject to official authorization and for tightening nuclear waste legislation and control. In the debate which followed Dick's report to the committee, the SPD called for a gradual retreat from nuclear energy while the Greens demanded an immediate halt.

No Significant Differences

As far as he knows, Dick told the committee, only one Bavarian nuclear energy company employee is involved in the Transnuklear corruption scandal. This employee, he said, has since left the company, however. Citing Belgian data and the result of spot checks of the contents of the 144 nuclear waste containers conditioned at the Belgian nuclear research center and currently being stored in Bavaria, Dick said that the documentation accompanying the containers had not been falsified. An unannounced inspection of Bavarian nuclear fuel storage facilities "turned up no significant differences between authorized and actual inventories." This proves, Dick said, "that no nuclear fuel from nuclear technology installations in Bavaria has been diverted for unlawful purposes."

The minister called for complete clarification of the Nukem and Transnuklear affairs and for stiff penalties to be handed out to those responsible. Although the scandal has shaken public confidence in the reliability of nuclear energy, he said, it has not had a negative impact on public health or on the staffs of the nuclear utilities.

Nevertheless, Dick feels that these events clearly call for action. He suggested that the importation and export of radioactive waste henceforth be subject to authorization in order to guarantee that nuclear waste is treated and disposed of in the states which originally produced it. In addition, he called for official decrees guaranteeing that the production of nuclear waste be limited "to absolutely necessary quantities." The minister also proposed budget increases for the inspection corps to hire additional staff and purchase technical equipment.

In this connection, Dick appealed to the Bonn government to resolve the terminal storage issue at long last. "It is a crying shame the way Bonn has let this thing slide," Dick said. The Bavarian nuclear power plants alone, the minister pointed out, are faced with the problem of what to do with 134 tons of spent fuel elements each year for which interim storage sites must be found until a terminal storage site becomes available. At most, Bavaria's intermediate storage capacity is good for another 14 years. After that, the situation will get serious. "If the disposal problem has not been resolved by that time," Dick said, "the only real way out would be to shut down all the nuclear power plants."

What Else Needs To Happen?

SPD and Greens committee members cited the thus far unresolved problems in connection with terminal storage of nuclear waste to accuse Dick of glossing over and playing down the situation. Anyone wanting to learn from the Hanau nuclear waste scandal, said Hans Kolo, the SPD Landtag delegation's environmental spokesman, should not "be concerned with assigning the blame but with taking responsibility." The Harrisburg, Chernobyl and Windscape catastrophes as well as the Hanau affair have shown that dealing with nuclear energy can never be safe because human error cannot be ruled out. "What else needs to happen," Kolo said, in addressing the nuclear energy advocates on the government bench, "before you finally realize that reality has long since overtaken the most vivid products of our imagination?"

Kolo called for a gradual retreat from nuclear energy, asking that the government make sure that no new nuclear power plants are planned or placed in service. Kolo's suggestion to step up the debate about the future uses of nuclear energy and to ask critics from the

scientific and the research community as well as from industry to speak to this issue was welcomed by Dick. "I am grateful for this suggestion," the minister said.

Speaking for the Greens, Armin Weiss said that the Transnuklear scandal and the report by Dick "prove that what the Greens have been saying for years is absolutely true." Because of technical and human inadequacies, it will never be possible to get nuclear energy under firm control. For another thing, Weiss said, since the disposal problem has not been solved and since the civilian and military uses of nuclear energy cannot be separated, this technology must be abandoned as rapidly as possible. "Any other course of action can no longer be justified." Weiss voiced the fear that the alternative to an abandonment of nuclear energy would be a "totalitarian state" with a kind of "nuclear Gestapo."

09478

Unresolved Problems Propel Spiraling Waste Disposal Costs

51002437 Bonn RHEINISCHER MERKUR/CHRIST UND WELT in German 22 Jan 88 p 2

[Article by Leonhard Spielhofer: "Waste Disposal Costs Incalculable—Many Unresolved Problems Will Force Utilities, Consumers To Spend Billions"]

[Text] We are talking big money. The Rhenish-Westphalian Power Company (RWE), the biggest utility in Germany, has built up a DM 4.6 billion reserve to prepare for any future financial surprises in dealing with the disposal problems of its nuclear power plants. Franz Josef Spalthoff, a member of the RWE board of directors feels that the utility has "thereby made allowances for all determinable risks and all determinable cost increases."

But neither Spalthoff, nor anyone else can really tell whether this sum of money will suffice because the financial aspects of the waste disposal issue are just as uncertain as its political future. At the present time, the real cost of nuclear power simply cannot be calculated in view of the unresolved terminal storage question.

In marked distinction to other sectors of the economy, the energy industry set the nuclear train in motion without laying the tracks for its ultimate destination first. It will be years before that will be the case. It is taking chances with the future to assume that the fuel rods can be recycled at Wackersdorf at reasonable enough cost and the majority of them will be reusable just as it is to suppose that the planned underground terminal storage site in the "Konrad" ore mine near Braunschweig or the one in the salt mine at Gorleben or the intermediate storage facility at Ahaus will really work out.

The first construction phase of the German nuclear industry will soon be completed when the final two reactors, the "Emsland" and the "Neckar II," are placed in service. Many corporations made a lot of money on the program, e.g., construction companies and power plant builders such as "Kraftwerk-Union," a Siemens subsidiary; transportation firms such as Transnuklear and banks, which provided some of the capital.

There is a good deal less money to be made in the second stage, i.e., in the disposal of radioactive waste produced by the more than 20 reactors which turn out more than 23,000 megawatts of power. Both politically and economically, the question still is how best to deal with the nuclear fuel cycle and the waste disposal: by reprocessing the radioactive material or placing it in terminal storage.

It is an urgent problem. There are said to be as many as 70,000 barrels in our domestic nuclear power plants awaiting intermediate or terminal storage. In France and Great Britain, some German material has merely been "parked" until 1992. Thereafter, the foreign companies concerned could simply dump the hot goods on the doorstep of the German utilities.

The Braunschweig Physics and Technology Laboratory (PTB) has determined that by the year 2000 conditioned radioactive waste in Germany will have increased from the present 30,000 cubic meters to some 230,000 cubic meters. Because of the existing uncertainties and the continuing lack of domestic storage sites, the experts are trying to devise imaginative alternatives to help reduce the volume of waste materials in order to keep the shortage of space within limits.

Choosing sites, obtaining building permits and operating licenses have always been political decisions in the nuclear industry and are likely to continue defying accurate financial predictions. The Kalkar reactor on the lower Rhine is a case in point. Over the 13 years it took to build, the cost of the fast breeder at Kalkar jumped from DM 1.5 billion to almost DM 7 billion. At this stage, it is hard to imagine, much less to calculate, what the ultimate price tag of the Wackersdorf facility will be. Just as construction costs for the nuclear power plants kept rising in the past, costs for reprocessing and terminal storage of radioactive waste will surely rise astronomically in the future. The experts have found that disposal costs between 1970 and 1985 rose by an average of 11 percent annually. In terms of compound interest, this comes to 316 percent over 15 years. Originally, the utilities budgeted 0.6 pfennigs per kilowatt hour to pay for the fuel cycle including intermediate and terminal storage. By now, the cost has jumped to between 2 1/2 and 3 pfennigs.

For all that, the price of uranium which skyrocketed in the late seventies has since returned to more moderate levels. The worldwide uranium surplus seems to guarantee moderate prices in the decades ahead as well. In the meantime, technical progress has helped cut enrichment costs and this, in turn, has also lowered the price of nuclear fuels.

It is much more difficult to predict what the cost of reprocessing and recycling spent fuel rods will be. Throughout the world there are two opposing points of view both in the political and the economic realm. One side is in favor of direct terminal storage. The other side is in favor of reprocessing and terminal storage of totally unusable materials. As in most disputes, each side is accusing the other of faulty calculations.

The United States and Sweden, which is on the verge of abandoning nuclear energy, are in favor of terminal storage in the first instance. France, England, Japan and leading circles in the FRG are more inclined toward reprocessing plus terminal storage. In the United States and presumably in the Soviet Union as well, this latter procedure has been followed until now in the military field in order to obtain sufficient fissionable material for the production of atom bombs. Thus far, no significant experience has been gained worldwide in the area of direct terminal storage, according to a recent report by the FRG environment ministry to the Bundestag.

The experts are therefore unable to provide firm estimates of the cost of either reprocessing or terminal storage. In 1985, Klaus P. Messer of Essen, one of these experts, suggested that reprocessing costs be looked at both from the point of view of the past and of the future. "The early era of industrial reprocessing with its unrealistically low prices should serve as a warning," Messer said, "that today's optimistic cost estimates are wrong in that future prices are likely to be higher."

The Bavarian utilities, at any rate, would rather not do without the reprocessing facility even if it should prove more expensive than direct terminal storage. Jochen Holzer of "Bayernwerk" in Munich put it this way: "Even if the reprocessing facility should turn out to be a little more expensive than terminal storage, industry would prefer this option to the hard-to-estimate financial risks involved in the presently unknown terminal storage site as well as the cost of the intermediate storage facilities."

It is estimated that the German electric power industry has placed almost DM 10 billion in reserve to meet the disposal costs. At first glance, this may seem like a staggering figure. And yet, it offers no guarantee whatever to the consumer that he might not have to dig far deeper into his pocketbook at some time in the future because everything will have become a great deal more expensive and problematic than expected.

09478

Illegal Movement of Weapons-Grade Uranium Seen Still Possible

51002436 Hamburg DIE ZEIT in German
22 Jan 88 pp 11-14

[Article by Horst Bieber, Michael Haller and Wolfgang Hoffmann, with an interview with Hessian Environment Minister Karlheinz Weimar by Michael Sontheimer: "Nuclear Corruption on a World Scale"]

[Text] "They have gone crazy," raged an employee of the nuclear enterprises in Hanau in front of the gates to his company and then added, even a little more upset: "No one knows anything, but we are being lynched."

But no one was being lynched on this Thursday, January 14. However, on this day Federal Environment Minister Klaus Toepfer knew far more than the worker in Hanau. Shortly before 5 p.m. he had instructed his colleague in Wiesbaden, Hessian Environment Minister Karlheinz Weimar, by cable to "rescind the nuclear technology permits issued to Nukem." Based on new knowledge in the Hanau company affair, which has been smoldering since April 1987, Toepfer finally drew the conclusion that the company and the operator of the company could no longer guarantee the trustworthiness required according to Article 7 of the Atomic Energy Law.

What had only been suspected up to then had condensed into evidence. The managers of the Nukem nuclear company kept silent for weeks and months about what they had known for a long time and what they should have reported immediately: serious lapses and manipulations with nuclear material. For years, Nukem subsidiary Transnuklear has been shipping falsely declared nuclear waste from Belgium to the FRG and storing it in unsuitable locations at German power plants. In any event, bribery and illegal sums of cash for bribes were part of the game.

An indication of how low confidence in the reliability and seriousness of the nuclear industry has sunk even in its advocates, was the fact that the rumor that the Hanau companies had traded weapons-grade material from Belgium via Luebeck to Libya and Pakistan, of all places, spread like wildfire: arming the Third World, even the worst dictatorships, into a nuclear power with German know-how. Bonn's international reputation seemed threatened.

SPD delegate Volker Hauff said after the special session of the Environmental Committee of the German Bundestag last Thursday: "The really serious result of this special session is that there are reasons, going beyond the initial suspicion, suggesting that the nuclear non-proliferation treaty was violated, that weapons-grade material has flowed from the EC through other countries to Pakistan and Libya."

Even earlier, Walter Wallmann, Hessian minister president, had replied to a question by Green Party member Joschka Fischer that the suspicion existed that weapons-grade fissonable material had been passed on and that the nuclear non-proliferation treaty had been violated. The background for the alleged revelation: A dubious informant, who without proof declared proliferation rumors already circulating in Belgium to be fact, had come forward to Wallmann's environment minister, Weimar. Weimar informed the Public Prosecutor's Office and Minister President Wallmann. Four days later the "information" turned out to be mere talk.

The last act, for the time being, of the Hanau scandal chronicle had begun on 8 December. The executive board of Preussenelektra, operators of nuclear power plants in Niedersachsen and Schleswig-Holstein, had reported to Bonn that falsely labeled drums with nuclear waste concentrate were being stored on the grounds of the Unterweser and Stade nuclear power plants. After a thorough analysis, the content yielded small amounts of plutonium and larger amounts of cesium and cobalt 60. All of the drums—in the meantime they have added up to 2,348—originate from Mol in Belgium, the location of the Belgian firm of Smet-Jet and the Belgian nuclear research center CEN. Drum shipper Transnuklear had very close connections with both.

Two days later the executive secretary of the Radioactive Waste division of Transnuklear, Hans Holtz, who had already been fired in the spring for business irregularities, was arrested. He is said to have falsified entertainment receipts and diverted company funds. Another two days later, in his cell in the Hanau pretrial detention prison, Holtz slit his wrists and bled to death. He was despondent and particularly embittered that he was arrested for actions that he undertook on behalf of the Transnuklear and Nukem managements, while his superiors in part still work undisturbed in Hanau.

December 17: Environment Minister Klaus Toepfer pulls the emergency brake. He instructs the Hessian nuclear authorities for the time being not to issue any new transport permits to Transnuklear as well as to rescind the present permits. Toepfer naturally appears "shocked over all that is now being revealed," but he is still far from believing that "this is a characteristic feature of dealing with nuclear energy in the FRG or elsewhere."

This is a mistake, as will later be shown, a mistake which also allows him to ignore what the deputy parliamentary group chairman of the SPD, Volker Hauff, recommends to him: "The entire nuclear economy belongs on the test stand." Toepfer, however, is not contemplating a withdrawal of operational licenses for Nukem, its subsidiaries, and if necessary also the nuclear power plants and all other affected companies. He waits until the affair escalates.

Unstoppable Decline

On 13 January Klaus Toepfer gives a declaration before the Bundestag regarding the Transnuklear affair: "Once again, people's ability to be responsible in dealing with our growing knowledge of the building blocks of life, reflected in the technological progress, has become questionable. People's corruptibility is precisely a concretization of the concern that their ethical and moral strength is not enough in order to be responsible for the increasing possibilities. It is necessary to cut deeply in order to regain confidence."

Illegal shipments by Transnuklear; DM 5 million in bribes in the FRG, Belgium and Sweden; an additional 15 million gone between Mol and Hanau. Two suicides and employees of the nuclear industry under suspicion of being involved in the scandal are not sufficient for the environment minister in Bonn to make the really deep cut recommended to him by SPD delegate Hauff on this day.

The next day, 14 January, the echoes of the Transnuklear debate in the German Bundestag barely silent, Toepfer is informed by his division head Walter Hohlefelder that his speech yesterday has been superseded. In a bundle of seized papers it has unequivocally been demonstrated that the management of Nukem has known since the summer of 1987 about the irregularities by its subsidiary Transnuklear, placed under its supervision. Even more: Nukem had had some of the drums delivered from Belgium analyzed and had determined that there was plutonium, cesium and cobalt; nevertheless, it failed to inform the supervisory authorities, as was its duty.

Frantic activity in the Bonn parliament as well as in the Hessian state house. To Otto Schily of the Green Party that is "really the beginning of the end of nuclear energy;" he calls the affair in its dimensions "worse than the Flick affair" and believes "a criminal conspiracy is at work." His colleague in the parliamentary group, Lieselotte Wollny, wants people to believe: "The payment of DM 21 Million in bribes and the deaths of two managers finally make sense."

Gerhart Baum of the FDP sees only "the tip of the iceberg" in the case. Harald B. Schaefer (SPD) assumes "a first-rate deception maneuver."

Kurt Biedenkopf (CDU) also asks to be recognized: "Events at Transnuklear cannot be reduced to people's corruptibility." To Biedenkopf, the "transitional character of nuclear energy" has once again become evident.

The unstoppable decline of Transnuklear began when Hans-Joachim Fischer started his job as business manager in the nuclear village of Wolfgang, a city district of Hanau. He found out that an illegal cash box was kept at the Nukem subsidiary, through which millions had flowed into foreign pockets.

An overtaxed district attorney and two officials of the Hessian State Criminal Police all by themselves tried to prove that the dozens of accused had committed punishable offenses. When the Hessian Greens complained about the slow and insufficient information, Hessian Minister of Justice Karl-Heinz Koch replied on 3 September, that the personnel contribution depended on the extent and difficulty of the case. "Accordingly, the present criminal proceedings have no particular ranking in the queue of 35 major proceedings being handled by the central office at the present time."

It made it all the more difficult for the investigators that the possibilities of criminal prosecution are relatively small. Bribing someone in charge of radiation protection at a nuclear power plant only becomes a criminal offense if taxes have not been properly paid on the bribe money. A person in charge of radiation protection, as far as he is concerned, is not a public official and so can allow himself to be bribed by anyone he wants.

It was not until December that several searches of the premises took place in the Transnuklear affair, and the question of plant safety was raised.

Opponents of nuclear power had doubted from the outset that safety was not at stake, for after all there had been enough attempts at suppressing or downplaying accidents. As so often in the more than 10 years of major controversy over nuclear power, the nuclear critics have been right. The "new beginning" now proclaimed by the Nukem supervisory board appears almost cynical to the nuclear critics, for employees of Degussa, which owns 35 percent of Nukem and under whose guardianship everything is now to be made legal, already played a dubious role in the early stages of the Transnuklear scandal. For example, it was tax experts from Degussa who had advised Nukem for years, and they also participated in the first major crisis meeting last spring. It was explained at the time to the Transnuklear sales managers, who were later fired, that they had complete support.

The Hanau scandal story, which began with the then universally admired technology of peaceful utilization of nuclear energy, clearly shows the moral decline of the nuclear industry and with it the loss of confidence in nuclear energy. Hopes of having permanently solved the nuclear energy problems of future times have given way to the gloomy prospect of a world, contaminated by unscrupulous nuclear producers, in which corruption and lies dominate. The allegation, meanwhile refuted, about the plutonium deal between Hanau and Libya and Pakistan fits almost too well into this image: Seemingly criminal nuclear fuel dealers do not even shrink from nuclear armament of a Gaddafy or Zia-ul-Haq, and consequently from endangering the entire world, as long as a deal can be made. And perhaps there is something to the rumor, if one envisages not Nukem or Alkem but the behavior of the nuclear nations.

From the beginning, the industrial nations directed all their efforts toward the goal that such horror visions should never become reality:

The U.S.-promoted Non-Proliferation Treaty (NPT) of 1 July 1968, which took effect 2 years later, had a military component to start with: The number of nuclear-armed powers should be kept as small as possible by means of strict delivery controls.

The dilemma was obvious: The have-nots, as they are obviously called, did not want to be excluded from the civilian benefits of nuclear technology; the haves feared that with the selling of technology and nuclear fuels, nuclear bombs would also spread all over the world. The Non-Proliferation Treaty (NPT) says—in brief—that the signatory states are not to acquire nuclear weapons and may not help others to do so; but it permits the spread of technological knowledge for civilian use. In order to achieve both, international trade with the nuclear fuel uranium, above all, was to be channeled and controlled—with the help of the International Atomic Energy Organization (IAEO) in Vienna. Only civilian uses are controlled, of course. For example, Article 14 expressly forbids supervision of "military activities." As soon as a signatory state declares that it wants to use nuclear material "for non-peaceful activities," all controls are eliminated. Supervision resumes only when the nuclear material is again employed in peaceful use. This means that out of fear of military espionage, the signers from the beginning supplied the nuclear non-proliferation treaty with so many loopholes, that in the nuclear-armed nations controls can be suspended practically on request.

In the FRG, a non-nuclear-armed nation, the then Union government violently opposed the treaty, which it felt was an obstacle to the domestic nuclear industry. As long as the FRG was governed by the Union, at that time under Chancellor Kiesinger, the document was not signed. The social-liberal coalition finally signed the treaty in 1969, but it was only ratified in 1974, after the control mechanisms—the so-called verification agreement—had been negotiated and the misgivings of the Union parties against overly far-reaching controls had been taken into account. Even so, significant portions of the CDU/CSU voted against ratification at the time, among them Alfred Dregger, now Prime Minister Alois Mertes and Manfred Woerner, later defense minister.

France did not at all agree to the treaty, and neither did China. And Latin America feared the exclusion of nuclear technology more than the danger from new atomic bomb nations. With the Treaty of Tlelelolco in 1967 it created a nuclear-free zone in Latin America in order not to have to accept the NPT.

"The Vienna net," a former manager judged, "is a rather coarse net—the sharks are caught, but the piranhas get through." The comparison was not without good reason. In 1975 the FRG and Brazil concluded an agreement to supply the South American state with closed nuclear systems—reactors, enrichment, reprocessing. Such a civilian system could, there was no doubt about it, be used for military purposes; the only real barrier was the political declaration of intent of the military, which ruled in Brasilia at the time, not to make a bomb. Well over a year before, India had exploded a nuclear device, rigged up from Canadian and U. S. deliveries for peaceful uses. India and Brazil supplied the decisive reason for a "self-limitation" by the nations with advanced military and civilian use: In the London Club of 1976/77 they

promised to be more restrained in exporting nuclear technology installations. Proliferation had turned out to be not an abstract worry but a concrete threat.

Control Net Without Loopholes?

With Euratom in 1957, the members of the (then) European Economic Community had given themselves a parent organization for joint promotion of nuclear energy, which created a control mechanism of its own. It was to guarantee "that nuclear fuels are not provided for purposes other than the intended ones"—no matter which. Euratom actually became important only as a central authority for purchasing and enriching fissionable material.

In addition to the two supranational control bodies there are fussy delivery controls, imposed primarily by the United States, the uranium producer, which must indicate exactly what the buyers do with the explosive material. This applies to Nukem GmbH in Hanau as well, which gets its uranium from the United States. Today there exists a tremendously dense network of strict controls "for acquiring, processing, using, importing and exporting on the basis of national and international regulations," Nukem managing director Karl Gerhard Hackstein, who was fired last week, insisted 2 years ago. His list was impressive:

—Every import and export of nuclear fuel must be approved by the Federal Office for Trade and Industry.

—The Euratom supply agency supervises the use of radioactive material. In so doing, its acts as owner of all the nuclear fuel located on the territories of EC nations; the nuclear companies only count as "paid refiners."

—Purchasing uranium from the United States is only permitted by the authorities, if the use and whereabouts of the material can be documented.

—The international atomic energy authority IAEA in Vienna supervises each installation which processes nuclear fuel for civilian purposes with its own control group, the safeguards, who snoop into every corner of the companies with equipment, computers and movie cameras and are supposed to record all that goes on. For each facility a special supervisory plan exists (facility attachment), which was negotiated with the operators of the installation.

The IAEA controls include three measures: first, the so-called inclusion of weapons-grade materials in zones, whose entries and exits can be tightly guarded. Second, the controllers keep balance sheets and material controls at these entries and exits. Thus, the two IAEA and Euratom inspectors at Nukem have long had their own offices. The third measure, materials balancing, consists primarily of just balancing the books with a few spot checks; inventories are rare, because the company in question must be closed down for that. "We are grateful for the understanding and support which we have found in the operators, except for a very few," IAEA expert Tempus praised the attitude of the nuclear plant operators shortly before the end of the year.

Incorrect Amounts Possible

With Alkem, above all, the supervision plan was always behind because company heads raised objections and doubts. Adolf von Baeckmann, IAEO safeguard advisor in Vienna, admits: "We are not, of course, allowed to look behind every door."

As late as last week, after doubts had been raised about the effectiveness of the IAEA supervision, Jon Jennekens, chief of the Safeguard Department of the Vienna organization, insisted that the control measures by his officials were efficient and without gaps. The risk that nuclear weapons-grade material is being diverted from Hanau, is "equal to zero," he says.

Meanwhile, other experts are arriving at different conclusions. U.S. nuclear critic David Albright has been warning for years against the illusion of controls without gaps. And Robert Jungk recognized 11 years ago that the growing dangers that lurk in the form of mistakes, misuse and sabotage must lead to increasingly more far-reaching controls, and in the end to an armored "nuclear state."

As early as 1983 constitutional law expert Alexander Rossnagel, who has specialized in nuclear energy application issues, undertook an experiment in thought: Assume that all safety systems worked perfectly: What risks of abuse still remain? Using the example of plutonium theft, he demonstrated the possibilities of an illegal, but to the control authorities undetectable, theft of plutonium. Rossnagel's finding: Controllers compare the inventories of real plutonium with their books every 2 to 6 months. Due to several factors (such as measurement conditions and changing procedures) the results necessarily differ from each other. The difference is the "amount not covered," which, depending on the installation, could be as much as 1.5 percent of the material flowing through. "According to previous experience from balancing material in reprocessing facilities, it is questionable whether it is even possible to achieve the required balancing accuracy." At the time Rossnagel mentioned several examples of how and where balances have led to considerable errors in the amount of plutonium. Since then there have been other irregularities as well.

All the differences indicating erroneous amounts have been cleared up since then, Jon Jennekens said soothingly last week. However, he was not able to refute the principal argument by Alexander Rossnagel and other critics of the safety system, that plutonium theft in practically minute amounts is possible at any time.

The reason is that before each inventory as much material can be diverted as the Vienna controllers tolerate under "amount not covered" in their statistics. "In some companies that can be more than one percent of the material flowing through," confirms a spokesman of the supervisory authorities. Natural scientist Michael Sailer of the Eco-Institute in Darmstadt believes that the share of "untraceable material" as a result of calibration and measurement errors is often greater than what the Vienna controllers maintain.

According to the most recent permit by the Hessian environment minister, Alkem GmbH will process about 2,500 kg of plutonium oxide annually. With two IAEO inventories per year, theoretically 10 to 15 kg could be "diverted" each time without being included in the control system, that is to say up to 30 kg a year. The critical mass required for building an atomic bomb is 17.5 kg of plutonium oxide. "Just theoretically, material for three nuclear bombs could be diverted every 2 years," Rossnagel explained to DIE ZEIT.

How much bomb-grade material has disappeared in the past 20 years from Western enrichment and reprocessing installations cannot be accurately established. In his just published book "Die Unfriedliche Nutzung der Kernenergie" [The Unpeaceful Use of Nuclear Energy] (VSA Verlag, Hamburg), Rossnagel has compiled a list of previously known cases. According to calculations by several U.S. scientists, up to 1978 in the United States alone more than 4,000 kilograms of highly enriched uranium or plutonium are said to have been missing, enough to build hundreds of nuclear bombs. Says Rossnagel: "It will always be unclear whether the missing material disappeared just through faulty measurement procedures or whether parts of it were stolen or diverted." The balance of fissionable materials at the British reprocessing facility at Windscale in 1977, after 7 years, also showed a statistical deficit of 98 kg of plutonium. In 1981 the official investigation report again showed a deficit of more than 10 kg of plutonium.

Nuclear waste is a convenient hiding place for the purpose of getting diverted material past the controls and out of the country, experts agree. Euratom and IAEA check only the circulation of fissionable material and do not worry about the resulting radioactive waste. The Transnuklear scandal in connection with the Belgian nuclear enterprises in Mol makes it obvious how easily hundreds of nuclear waste drums with imprecise of even false declarations can be shifted across borders, stored and shipped back: The supervisory authorities check only the accompanying papers, but not the content of the drums.

Meanwhile, the German company has succeeded in "realizing a European Community of nuclear waste, but in an illegal manner," joked the deputy director general of CEN, Georges Stiennon, in Mol in Belgium. His was an understatement, for there have long been Transnuklear companies in the United States, South America, Japan and Australia as well: Increasingly, nuclear transportation is taking place according to the rules of a world-wide network.

Third World nations wanting weapons-grade material for nuclear bombs can obtain the appropriate nuclear fuels, despite the nuclear non-proliferation treaty, through several honestly operating trade companies, some of them headquartered in the little Swiss city of Zug, or on the black market. Because in parallel with the buildup of enrichment and reprocessing installations in the industrial nations, an illegal trade has developed in—presumably diverted—enriched uranium and plutonium. In a lawsuit against former CIA agent Edwin Wilson in 1983 a black market was discovered in the United States between the uranium nations and Libya: A Belgian business partner of Wilson's, a certain Armand Donnay, made it known to Gaddafy's negotiators that he had access through a German nuclear plant to sufficient fissionable material to build a bomb. The deal is said to have foundered on the quality expectations of the Libyans who demand 80 percent enriched uranium, whereas the Belgians could only offer 20 percent enriched. The cargo ship "Scheersberg" was in the headlines in the spring of 1977, when the ship, on its way from Antwerp to Genoa with 200 tons of natural uranium, disappeared without a trace. A West German company, Asmara Chemie, had bought the cargo and passed it on to an Italian firm. Later, the "Scheersberg" re-emerged—with a new crew and entirely different cargo. To date, neither buyer nor seller have either reported it or alerted the insurance companies.

In 1986 two British journalists followed a tip from an intelligence man and undertook investigations in the black African country of Sudan. Their inquiries showed that since the late 1970s the capital of Khartoum has been the most important transshipment site for uranium and plutonium black market dealers. "In the last 5 years so much material has been traded that in addition to black Africa, there was enough material for Libya, Pakistan and Iraq as well to arm themselves with nuclear bombs," they concluded. Negotiators for these countries are said to have been repeatedly seen in Khartoum. These investigations are also confirmed by Alexander Rossberg. He maintains that between 1980 and 1987 at least six illegal deliveries were sold through Sudan, among them one shipment containing 12 kg of plutonium, another 11 kg of enriched uranium.

It is not just fissionable materials that are illegally traded by dealers between the industrial countries and the Third World countries; expert knowledge for the handling of nuclear installations is also magnanimously transferred from Western Europeans to curious technicians from Third World countries. And with the know-how the installations were sold as well, despite the treaty banning

it. There are countless pieces of evidence of the lively export of embargoed construction elements to the risky countries of South Africa, Argentina, Libya and Pakistan.

It was at a party, of all places, that Dr Abdul Quader Khan, educated in West Berlin and Holland and head of the Pakistani nuclear program, became talkative last year. First, the "father of the Islamic bomb" chatted with a journalist about details of the Pakistani nuclear shopping in the United States and Western Europe. "Whatever we wanted," Khan proudly recounted, "we had already bought before the Western governments got wind of it." European firms had showered him with offers and almost thust upon him parts for the nuclear installations.

FRG businessmen as well successfully sought the favor of the Pakistani bomb builder. Albrecht Migule, for example, sole proprietor of the small export company CES Kalthof GmbH. The now 66-year-old engineer from Freiburg supplied Pakistan with a complete installation for the production of uranium hexafluoride (UF_6), the gaseous basic material for the enrichment of nuclear weapons-grade uranium. Migule deliberately ignored the export list, which lists primarily nuclear and armament industry export goods for which permits are required.

From Welchental in the Black Forest he and his four-man operation organized the nuclear shopping spree at specialized companies in the FRG; 150 suppliers—among them Mannesmann for pipes and Siemens for cables—delivered individual parts for the UF_6 factory. The German Customs were cooperative. In order that CES Kalthof GmbH did not have to provide interim storage for the deliveries which had arrived in the picturesque Welchental valley, customs officers reserved a storage hall. Declared as "machines and installations," a total of 62 legally customs-cleared truck caravans from the Schenker forwarding company left the FRG. Addressee: Arshad, Amjad and Arbid Limited, Karachi.

The German supervisory authorities would never have known about the artfully concealed nuclear export without a tip from the CIA. The individual parts, which according to estimates by nuclear experts of the Federal Government fit the Pakistani nuclear weapons program "like a glove," at this point in time had long since been assembled in the Pakistani desert. One therefore had to be satisfied with a lawsuit against the clever businessman.

"The problem has now been solved," the responsible section head at the Federal Office for Trade and Industry, Manfred Ruck, now announces, 7 years after the deal. The solution: A paper, "soon to be incorporated into the forms," has recently been added to the licensing documents for exports. In the new application it is indicated that "diversification into several export orders"—read: redefinition of sensitive exports into several deliveries of harmless individual parts—is not permitted. Will that be a deterrent?

With the help of keen-witted industries, agile dealers and indulgent politicians, and despite the nuclear non-proliferation treaty and the London Club, it is generally estimated that eight nations from the circle of have-nots have meanwhile altered their status to such an extent that they either already possess or are soon able to build nuclear weapons. First Israel, then Brazil and Argentina, India and Pakistan, Iran and Iraq, and finally South Africa as well. The pairing is not accidental. The neighboring countries either act as rivals or are characterized by a hostile history, such as India and Pakistan.

How much progress Brazil has made on the bomb is difficult to judge. It has been determined that the military, which has been in power since 1964, has achieved the most important successes without civilian help. They allegedly possessed enrichment and reprocessing capability, and the Navy is already talking loudly about laying down a nuclear-powered submarine. Argentina has come even further; on its own it has undertaken basic research with determination since World War II.

The fact that Iraq was well along the way to having fissionable material was indirectly proven by the Israelis, who in 1981 bombed the Osirak test reactor near Damascus. The Iraqis have not overcome this setback even today. The Iranian program is even further behind. It was started with U. S. help under the shah; there is some indication that the ayatollahs have been continuing work on it in the last 2 years, but becuase of their war have not been able to make any costly investments.

India has long since proven its bomb-building capability. Its strict refusal to submit to controls does not necessarily mean that it possesses a significant number of bombs—it would be enough to let Pakistan be afraid that it does. Its neighbor Pakistan, which receives U. S. economic aid only on the condition that it not build any bombs, operates exactly the other way around. Islamabad has nevertheless in secret developed its nuclear industry in a crash program. Today it is able to enrich uranium into bomb-grade material, and it also has reprocessing capability in order to obtain plutonium.

Israel has developed all components on its own. The roughness with which it screens off the Dimona center argues greatly in favor of the credibility of former employee Vanunu, who a year and a half ago revealed that Israel was able to manufacture "bombs assembly-line style." South Africa as well has long had the knowledge and installations to build uranium or plutonium bombs. The nuclear non- proliferation treaty runs out in 1995, after 20 years of validity. Despite its many loopholes it may have delayed the nuclear armament of the threshold nations, above all in conflict zones, but it has not been able to prevent it.

The power of nuclear weapons, shamelessly demonstrated by the world powers since 1949, may have kept the old world in an unstable equilibrium; to the have-nots its means the megalomaniac prospect of being able to be just as threatening and deterrent as the world powers. Now we are terrified by the apocalyptic vision that we may be forced by some ayatollah or al-Qadhdhafi to strike first.

The rumor of the secret Pakistani connection to Nukem in Hanau was not the cause of this horror vision, of course, but it was an illustration, and therefore also credible to many people.

'I Must Adhere to the Atomic Energy Law': Interview With Hessian Environment Minister Karlheinz Weimar

[Question] It has been known since April 1987 that two employees of Nukem were fired and that over a hundred employees, among them four safety inspectors, received cash or gifts from power companies and nuclear reactors. Why did you continue to state as late as mid-December that no safety concerns were involved?

[Answer] After I assumed office, I discussed this entire issue in early May with the Federal Environment Ministry, the Justice Ministry and the Public Prosecutor's Office. We agreed that the Public Prosecutor would undertake the investigations and inform us about the situation at each point. We often asked, and each time the Public Prosecutor's Office stated the same, that there are no indications whatever in the entire bribery scandal that any kind of safety-related things are involved.

[Question] But since October it has been clear that an accident was covered up in Mol and since June it has been known that at least two leading employees there were bribed. At that time, at least, you should have done something?

[Answer] No, definitely not, in order to say it clearly once more. Everything that was uncovered there went to the Public Prosecutor, according to my information. We did not receive any alarm signal from there. I ask you, where should we have started?

[Question] You have explained several times that you see no reason to doubt the trustworthiness of Transnuklear and the Nukem management. The investigating authorities have known since the end of June that Dr Hackstein is said to have encouraged the bribery. At the beginning of September DIE ZEIT wrote unchallenged that Mr Stephany knew about all these things. Even that was not enough?

[Answer] Independent of these accusations, as early as last summer we had already subjected all the nuclear companies in Hanau except Transnuklear, which is not under our supervision, to an internal organizational audit. I simply cannot initiate investigations there on the basis of just any unsubstantiated suspicions brought to me in whatever manner.

[Question] They turned out to be very substantiated. Furthermore: Can you, as an influential CDU politician, permit that only two officials of the State Criminal Police in Wiesbaden are to investigate this complex set of inquiries?

[Answer] That is their evaluation.

[Question] Every middle-sized construction scandal has special commissions with more than 20 officials.

[Answer] I can already see how this is going to end. In the future, we will allow ourselves to be advised by the press; obviously, it is wiser than we are. I can only say that there is outstanding cooperation between the authorities in this matter.

[Question] During that period, did you believe Nukem's safety assurances?

[Answer] I was speaking of the statements by the Public Prosecutor's Office. The subject of our conflict with the firm of Nukem is now the 50 drums that stood there, shipped back from Mol, and the 22 drums that have not been returned, and the two drums that have disappeared. Those are things which only came to light in the course of this entire complex involving Transnuklear. That was the point which first destroyed our confidence in their trustworthiness. What transpired there in economic matters, for example with respect to encroachment by Transnuklear on Nukem, that is a matter for investigation by the Public Prosecutor.

[Question] You do not see any cause for suspicion in the fact that a company bribes the safety inspectors of nuclear reactors—no matter what its motives?

[Answer] I have stick to law and order. My opinion doesn't matter.

[Question] But everyone knows that Transnuklear is organized as a division of Nukem. It had been known for 9 months that Nukem was part of it.

[Answer] Article 7, section 2, paragraph 1, of the Atomic Energy Law, which regulates trustworthiness, provides certain fundamental principles that this must be supported by facts and that we thus have an obligation to verify it. When we determined that we had been deceived as supervisors there, we acted immediately, inside of a few minutes. On 13 January we intervened in a massive way. Everyone is always wiser after the fact.

[Question] Afterwards, did you personally feel swindled by the Nukem management when these ominous drums suddenly turned up?

[Answer] Yes. That's also why I reacted so strongly to the information. What really reduced my personal confidence to an unusual extent is also the fact that, at a time when we were heavily into the investigations, unbeknownst to us the company still tried to "stage-manage things." That cannot be permitted by a supervisory authority.

[Question] Your friend in the party, Dr Warikoff, former managing director in Hanau, has stated that there are a few black sheep in Hanau....

[Answer] The black-sheep theory is putting it too mildly. May I quote Toepfer: "We must cut deeply, with the objective not to kill the patient but to cure him."

[Question] Do you anticipate the ultimate closing down of Nukem?

[Answer] At the moment I have no idea. We expect acts of self-purification, which will then be evaluated in an overall judgment with the federal environment minister.

[Question] What does this self-purification look like?

[Answer] For example that at least all those employees who are in any way involved in all these incidents of drums and payments of bribes will naturally have to go.

[Question] According to our information, that is about 30.

[Answer] As far as I'm concerned it could be even more.

[Question] What do you think of Lothar Spaeth's proposal to nationalize transportation of nuclear waste?

[Answer] That is one solution; I don't know whether it is the optimal one. If there aren't enough controls, there could still be irregularities.

[Question] At least bribery would be punishable. Until now a safety inspector could cash in when his employer didn't notice or condoned it.

[Answer] After the investigations have been concluded, we must of course discuss how much we have in the way of sufficient legal underpinnings to sanction such things correspondingly. We must also try to understand much more accurately what happens to the materials. There should be as little transportation as possible.

[Question] Reducing transports? And beefing up the overtaxed control authorities....

[Answer] The Federal Cabinet has already made a decision in principle in that direction. It is important that we have a high density of supervision with great inspection mobility. I once described it as wholesome uneasiness.

[Question] Earlier you said that you felt disappointed by the Nukem management. The story of the nuclear companies in Hanau is a series of scandals. Could you understand those who say that the nuclear pot has boiled over?

[Answer] The basic question of yes or no to peaceful utilization of nuclear energy can hardly be determined on the basis of the Hanau nuclear companies. It is an emotional point, I admit, that many people now say, my God, the whole thing doesn't work. But nevertheless it is our duty to evaluate according to the Atomic Energy Law, whether the preconditions for trustworthiness are present or not. And in those instances where we said they were no longer present, we intervened.

[Question] You regard demands for giving up nuclear power as maudlin sentimentality?

[Answer] No, those are their expressions. No, I respect people's feelings in that connection. I'm only stating that I have to adhere to the Atomic Energy Law. And I do think we still live in a constitutional state.

[Question] To begin with, it is important to realize the constitutional state in Hanau.

[Answer] That's what we are doing. Nukem is now closed down, and before that we undertook measures to retrofit the plant. Politically, we are quite rightly being asked: Can you manage that? People will simply have to give us a chance to prove at this stage that we are capable of ensuring, with the means of the constitutional state and with our findings, that things get onto the right track over there.

11949

Kohl Interviewed on Nuclear Power, Safety

LD241124 Hamburg DPA in German
1019 GMT 24 Jan 88

[Text] Bonn (DPA)—Federal Chancellor Helmut Kohl (CDU) has expressed considerable doubt as to whether the safety system for use of nuclear energy is adequate. In an interview with Deutschlandfunk [Radio Network] on Sunday, Kohl said he did not think that what had grown up over the past 25 years "was appropriate to the psychological and actual demands which the citizens today placed on such a system."

The chancellor rejected an immediate withdrawal from nuclear energy. He had never been one of those who were addicted to nuclear energy; however, nuclear energy was still necessary for a period "which, given safety, will extend to the first decades of the next century."

On the Hanau nuclear works scandal, Kohl said the first thing was that everything had to be exposed regardless of persons or institutions. "I am capable of all feasible steps

regarding this and am in agreement with them." In using nuclear energy, one had to work on the principle that the health and safety of the citizen had priority over all other considerations.

In Kohl's view, a new safety system could also mean more powers being transferred from the local governments to the Federal Administration. This was not a federal question, but rather a question of effectiveness. There were areas where it had become apparent that more could be done from the center. He would be speaking about this at the very first opportunity with the prime ministers of the states. "We really need to take stock first," the chancellor said.

Waste Container Certification at Source Proposed

51002430a Duesseldorf HANDELSBLATT in German 27 Jan 88 p 14

[Text] Bonn, 26 Jan 88—Plans are to prevent false documentation of nuclear waste containers by introducing government controls at the time the contents are conditioned and not after the containers arrive in storage. Experts of the ministry for research proposed this solution as a response to the Transnuklear scandal.

The idea of subjecting the containers to inspection upon conditioning was already suggested in a research study on radioactive waste safety submitted to the ministry in 1984. Since that time, inspections have been conducted at the time of conditioning in the FRG, but apparently not at the Mol facility in Belgium. Once the waste has been encased in concrete inside the containers, it is difficult to determine the actual content, particularly if measurable radiation corresponds to the data contained in the waybills, as it did in the case of the questionable containers.

Rolf Randl, a senior research ministry official in charge of the fuel circulation and fissionable material flow control department, declared at a press briefing that the future disposition of the 2,400 falsely labeled nuclear waste containers from Mol is a legal and political problem but not a technical one.

According to existing storage guidelines, he said, the containers can be placed in terminal storage without undergoing any reconditioning. This also applies to the 321 barrels which contain a total of 200 miligrams of plutonium and cobalt 60. The plutonium content, he added, is below the permissible limit irrespective of whether the entire 200 milligrams are contained in one barrel or distributed throughout most of the 321 barrels—which no one can tell.

The contents of the so-called distended barrels (of which there are 50 or 60 at this time) need to be reconditioned before the barrels can be placed in terminal storage. Toward this end, the concrete inside the barrels must be crushed in a shielded chamber and the resulting waste must be reconditioned. It will then take five times as many containers to accomodate the waste. To deal with the gases which cause the containers to swell, the Karlsruhe nuclear research center is developing nuclear waste containers equipped with bleeder valves. The escaping gas is filtered so as not to permit radioactive particles to reach the outer air.

09478

BW Power Plants Undertake Own Waste Transport

51002430b Duesseldorf HANDELSBLATT in German 27 Jan 88 p 14

[Text] Stuttgart, 26 Jan 88—In a reaction to the Transnuklear scandal, the operators of Baden-Wurttemberg's nuclear power plants have informed the Land government of their readiness to assume repsonsibility for conditioning and transporting low activity waste. Baden-Wurttemberg's minister for environment has said that he plans to tighten government inspection procedures.

During a press briefing in Stuttgart, the minister, Erwin Vetter, told local newsmen that low activity waste produced at the power plants will be conditioned on the spot. Such waste has always been stored on an interim basis at the plants themselves but not before "it was carted all over Europe" because conditioning was less expensive elsewhere. If the nuclear power plants at Philipsburg, Neckarwestheim and Obrigheim compress and vaporize the low activity waste on their own and encase it in concrete in containers, Vetter said, there will be an immediate 50 percent drop in the number of highway transports and a 95 percent drop in the foreseeable future. This leaves the shipments of waste to be burned in the yet to be established central combustion facilities at the Karlsruhe and Juelich nuclear research centers as well as at Siemens in Karlstein. This involves one transport per month per operator.

The major Baden-Wurttemberg operators, i.e., EVS, Badenwerk, Neckarwerke and TWS, have also expressed their readiness to acquire the majority in a transportation company and to let that company handle most of the shipments. Vetter said that the Land government hopes that this concentration of transportation management as well as the assumption of responsibility and self-control on the part of the operators will result in increased safety. According to EVS management sources, the operators are contemplating acquisition of the majority of GNS stock (GNS is a Steag subsidiary with a nationwide network) or opting for a special Baden-Wurttemberg solution. If the operators do not succeed in forming a transportation company of their own, a state-run company would not be ruled out, Vetter said. Indications are that shipment of high activity waste—spent fuel rods—which was also handled by Transnuklear in the past will be turned over to the Bundesbahn [German Federal Railroad].

Since the cost of on-the-spot conditioning is only slightly greater than that of waste conditioning by an outside contractor, energy prices are not likely to rise, an EVS spokesman told HANDELSBLATT. Just the same, economic considerations are cited as the reason why radioactive waste has thus far been transported back and forth halfway across Europe.

09478

Nuclear Forum Hits Industry's Public Information Failure

51002431 Duesseldorf HANDELSBLATT in German 28 Jan 88 p 2

[Article by Heinz Juergen Schuermann: "Wide-Open Communications Gap—Urgent Need for Nuclear Industry To Provide Information"]

[Text] Although world energy prices are quite low at present, nuclear power is still competitive. In terms of base load, i.e., the operation of the power plants around the clock, the price advantage of nuclear power as compared with all other electric power alternatives in the FRG is even likely to improve further.

Three-fourths of all costs of operating a nuclear power plant are fixed costs. These costs were incurred in the past, when the plant was built. Ongoing costs are relatively small. By comparison, the variable costs of fossil fuel power plants are much higher; in fact, the ratio is almost exactly the reverse. In this regard, the nuclear power plants already in operation and those soon to be commissioned—there are no plans for any new plants at present—are at an economic advantage in the sense that their variable costs are less than one-half as high as those of the fossil fuel plants.

At the winter meeting of the German Nuclear Forum in Bonn, all the experts agreed that nuclear power plants to be built some time in the future will still be competitive in view of the fact that fossil fuel prices are likely to rise sharply once again. The mining and/or drilling costs for new coal, petroleum and natural gas deposits will be much higher than at present. If the FRG were to drop out of the nuclear power field, its competitive position internationally would suffer while the advantages to be gained in security policy would be relatively small.

This is one side of the coin. The other side of the utilization of nuclear energy is public acceptance. The general consensus at the Bonn meeting of the experts was that "broad public approval is a prime requirement for the success of nuclear energy" and that "the economic aspects are of secondary importance." In the end, the members of the forum agreed that meaningful judgments could only be made on the basis of a comparison between the various sources of energy and that the risk potential of alternative utility options should be studied.

Cost Effectiveness Is Guaranteed

This line of argument is doubtless convincing; but as things stand at the moment the nuclear industry must first meet the challenge of providing full and intelligible explanations. Any analysis of cost effectiveness presupposes that the complete nuclear cycle is under control from start to finish and that includes "accurate" calculation of waste disposal costs.

The operators of nuclear power plants are taking the easy way out when they say that "waste disposal works from the technical but not from the political point of view." It is true that the politicians share part of the blame for this international nuclear waste tourism by having continued to delay the establishment of conditioning and intermediate storage facilities in the FRG. But the actual breakdowns in the transportation of low and medium activity waste were the result of a lack of control by the industries concerned.

The different waste disposal programs also need to be reexamined. In this regard, work on direct terminal storage should be speeded up even if most of the experts favor the reprocessing facility (including the breeder).

The German Nuclear Forum came to the conclusion that the acceptance problem is primarily a communication problem. Unfortunately, however, the urgent need to provide the public with easy to understand information to which it is entitled now more than ever was frequently ignored at this meeting.

Specific dangers connected with the utilization of nuclear energy, particularly with regard to plutonium, were dealt with at the Bonn meeting in abstract, scientific terms and thus hardly meaningful to the layman. The nuclear experts made no effort to let an interested public share in their expertise. The speaker from the Munich "Society for Communications Strategy" was absolutely right. "If the experts fail to provide intelligible information," he said, "the journalists cannot turn out intelligible news stories."

09478

Nukem Scandal May Reveal Broader Nuclear Industry Corruption

51002427 Hamburg DIE ZEIT in German 29 Jan 88 p 21

[Article by Michael Sontheimer: "Throwing Illicit Money Around"]

[Text] "There is a certain something about nuclear energy," Joschka Fischer says with a sardonic smile. Then he leans back contentedly in his chair behind his desk at the Wiesbaden Landtag. "We suspect that all this is just the beginning," he adds. "First, it was Transnuklear; then Nukem. I wonder what's next?" We have rarely seen Fischer, the only member of the Greens to

hold a ministerial post thus far, in such a good mood since the social democrats fired him from the Land government for his opposition to licensing Alkem, the Hanau firm. Fischer knows that his weakened Greens stand to regain their stability the more outrageous the nuclear scandal turns out to be. It would prove yet once more that the party is right in seriously doubting that nuclear energy can safely be controlled.

According to documents and statements made available to DIE ZEIT, Fischer's suspicion that a great many details and ramifications of the nuclear scandal have yet to come out does not appear to be unfounded. For example: Why did officials of the FRG technical inspection service receive gifts from Transnuklear and why was a staff member of the German Nuclear Fuel Reprocessing Co. (DWK) paid DM 45,000 by Nukem? Why did Transnuklear pay for bordello visits not only by men who worked at various nuclear power plants but also by staff members of the Juelich and Karlsruhe nuclear research centers? Did Nukem follow the Transnuklear example and enter "necessary expenses" in its books, as corrupt practices of all kinds are euphemistically labeled by business corporations?

The records of the hidden Transnuklear treasury used to channel millions into and out of the firm's accounts show that up to DM 30,000 per month were spent on such visits to bordellos over the past several years. Transnuklear (TN) footed the bill for its customers at establishments such as "Studio Chan Pan" in Munich, at "Top Secret" in Quickborn, at "Tante Anna" in Essen or at "Colibri" in Hamburg-St. Pauli. Visits to bars and bordellos at Transnuklear's expense were not only arranged for officials of five FRG electric power companies and various nuclear power plants from Brunsbuettel to Phillipsburgh but also for foreign business acquaintances from the Swedish nuclear waste reprocessing plant in Studsvik and the Bern Electric Power Co. in Switzerland.

Transnuklear's magnanimous ways made sense. After all, TN got its orders from the power companies and nuclear power plants. It is still unclear why staff members of the two nuclear research centers at Juelich and Karslruhe were among those to enjoy bordello visits free of charge. Cooperation with the Juelich facility involved the high-temperature reactor at Hamm and as for the other center, Nukem, TN's parent company, simply liked to do business with Karlsruhe. There may even be a simpler explanation: perhaps bordellos are merely part of the game in the nuclear industry.

It proved easy for the TN executives to bribe the officials responsible for nuclear waste disposal, including four radiation control inspectors. First, they made them small presents and then larger ones and finally just handed them cash. In that way, they could blackmail them. For 6 months, the investigators still believed that no safety issues were involved, i.e., that they were merely dealing with a case of "commercial" bribery. But once they discovered that nuclear waste had been doctored and waybills had been forged, they finally realized why the list of bribed individuals also included safety inspectors.

When Hans-Joachim Fischer took over his new job early last year as managing director of TN, he had no inkling of all this. By February, however, he had already uncovered a number of irregularities. But he did not prefer criminal charges "against persons unknown" until almost 2 months later, i.e., until Walter Wallmann had won the Hesse Landtag election by a razor-thin margin.

Even then, in April of last year, it was clear to see how TN had succeeded in gaining the top spot in the waste disposal field and in increasing the earnings of its "radioactive waste" department tenfold between 1979 and 1986. For years, various bogus companies presented fictitious bills or overcharged for their services. The resulting funds were drawn out of the official company budget and laundered in numbered Swiss bank accounts. This "black" money, totaling about DM 5 million, was used to pay for the "necessary expenses." In the final analysis, it was the consumer who paid for all the video recorders, electric organs, automobiles, vacation trips, bordello visits and bribes. TN had worked out regular code relating the size of the bribe to the quantity of radioactive waste to be handled. The bribes, amounting to between one and five percent of the value of the total order, were included in the bills.

Only two criminal police officials and one state prosecutor have been assigned to the wideranging investigation of these rather remarkable business practices—remarkable even by the standards of a nuclear waste disposal company. For all that, they do not have any legal power. Since nuclear power plant employees and radiation safety inspectors are not civil servants, they cannot be charged with corruptibility and taking advantage of their position. Unless the TN executives were guilty of embezzling any of the bribe money, they can only be charged with tax evasion in view of the fact that they failed to report the payments to the internal revenue service. At this time, none of the accused is in jail and it is quite possible that most of the bribed nuclear officials will never be sentenced by a court.

The Belgian state nuclear research center is located near Mol, 40 km from Antwerp, in one of the poorest areas of the country. Between 1981 and 1986, Transnuklear had business dealings with the center amounting to some DM 14 million. Thus far, there is no way of telling how the bribes figure in TN's corrupt deals involving the Belgian facility. Even the investigators themselves are not sure. Up to this point, some 2,000 barrels [containing radioactive waste] sent back from Belgium have been found throughout the FRG. 321 of them contain traces of plutonium.

"You cannot possibly imagine how corrupt the Belgians were," former TN chief accountant Hans Holtz has said, referring to his business partners in Mol. TN soon

realized that the Belgians could be bought. As early as autumn 1980, Van den Voorde, the head of the waste department, was presented with a Golf Cabriolet worth DM 24,000. Dumont, his deputy, was given a pair of binoculars and a hunting rifle worth just under DM 10,000. Over the next several years, the two collected annual bribes which ran into five figures. Both men were fired late last year; but Dumont was soon rehired. Spriet, the new head of Mol's waste department, said that a mistake had been made in the Dumont case. This is not particularly surprising in view of the fact that Spriet also accepted gifts from TN, according to a company executive who handed out a great many of them.

The Belgians themselves were no penny pinchers either. Faced with the loss of a Transnuklear order in 1984, they formally offered a bribe to one TN official. He immediately informed the TN management of the impropriety—but nothing happened.

It is not clear as yet what services the Belgians performed in exchange for the bribes. Under any circumstances, they did provide unauthorized intermediate storage for TN waste shipments which they either could not or at least found difficult to process due to excessive radioactivity. The Belgians claimed that this was done "for lack of funds."

It was not until early December that the German prosecutors asked that warrants for the arrest of two former and one present TN employee be issued. The two men who had already been fired last April were accused of having pocketed some of the bribe money. Hans Holtz, who had used black money to renovate his kitchen and had forged expense account vouchers, slashed his wrists 5 days later in the Hanau prison and bled to death. As the firm's chief accountant and head of the nuclear waste department he had been responsible for TN's "black" treasury and for paying out the bribes. A former member of his staff was released after just 1 day in jail.

Wilhelm Bretag, on the other hand, who was not let go by Transnuklear until almost a week after his arrest, was released from prison on 6 January. Bretag was responsible for maintaining contact with the Belgians at Mol and getting the presents to them. As compared to the FRG, conditions in Belgium were positively exquisite for the Hanau staff. In Belgium, which is second only to France in the use of nuclear power in Europe, the nuclear power debate was nowhere near as lengthy and acrimonious as in the FRG. This is one reason why the Mol staff is not as squeamish in safety matters.

"The facility seems more like a railroad switching station than a rigidly controlled nuclear center," a NEUE ZUERCHER ZEITUNG reporter wrote. The Smet-Jet Co., which operates a nuclear waste facility at Mol belonging to Transnuklear, is the worst offender of all. In a corrugated metal warehouse, radioactive waste is being compressed and encased in concrete. Much of the work is done without protective clothing. Paul Staes, one of the Belgium's deputies to the European Parliament, reports that two former Smet-Jet workers are suffering from leukemia.

This provisional waste facility may provide the answer to the question of why two members of the Mannheim technical inspection service came to benefit from TN's "necessary expense" account. Before the equipment was set up in Mol, it was approved by the two inspectors.

Transnuklear placed orders with Smet-Jet amounting to DM 25 million, i.e., substantially more than with the state nuclear research center. The Smet-Jet bills were paid in very short order. Bretag, TN's Belgian contact, saw to that. Last fall, however, Hans-Joachim Fischer, TN's new managing director who had uncovered the shady deals in February, began to wonder about the payments to Smet-Jet, since the services it had provided were worth only DM 10 million at most.

What happened to the remaining DM 15 million? Although all the newspapers have been saying since last December that this is all bribe money, there is no proof of it. It is conceivable that Transnuklear was swindled by wily industrial cleansing contractor Smet. Another likely scenario, contemplated not only by former TN employees, is that Bretag and his Belgian partners may have pocketed the difference.

It was not until after Walter Wallmann raised the possibility of nuclear proliferation that the Hesse investigating team went to Mol and started looking for the missing DM 15 million. Previously, the Belgian investigators had not been particularly helpful or forthcoming. The Belgians, in fact, are somewhat surprised about the hue and cry being raised in the FRG. "The entire story seems to be turning into a psychosis, particularly in the FRG," the director of the Mol nuclear research center said.

On the site of a Mol reprocessing facility decommissioned in 1974 because of technical problems the so-called Pamela pilot project has been set up to produce storage-stable waste. Since January 1985, the Pamela project has been making use of a process developed at the Karlsruhe nuclear research center to vitrify high activity nuclear waste, thus conditioning it for terminal storage. The project is operated by DWK, which is having the large reprocessing plant built at Wackersdorf. FRANKFURTER RUNDSCHAU explained why these processes are not being tested in the FRG. "There were no citizen initiatives; there was almost no way to appeal the decision," the newspaper wrote. "Under the circumstances, it was possible to build the facility within three short years—an unheard of achievement in the FRG."

DWK assigned the job of building Pamela to a construction consortium, financed in equal parts by Nukem and the Heidelberg Power Co. (KAH). As for KAH, it is by no means uninvolved in the nuclear scandal either. It provided Transnuklear with a numbered bank account

in Switzerland for money-laundering operations. What is more, it teamed up with TN to pay a six-figure bribe to an employee of Preussen Elektra who subsequently committed suicide by throwing himself into the path of a speeding train last spring.

Pamela cost some DM 150 million to build. Eighty percent of the bill was footed by the German taxpayer who also paid for most of the DM 45,000 which Nukem and KAH gave to the DWK employee responsible for drawing up the plans for the Mol pilot project. The records kept by a former Nukem accountant show that cashier checks totaling DM 47,500 were drawn against an account held by the consortium. Of that amount, DM 45,000 went to the aforementioned DWK employee. The payment was camouflaged by having the man do a study—a procedure to which TN had already resorted on previous occasions in order to fill up its black treasury.

When DWK in Hanover got wind of these machinations in May of last year, that member of the Pamela planning staff was asked to quit—which he did without a public announcement. Now, DKW maintains that "there is no connection between this matter and the letting of the contract." Nukem even goes so far as to deny that any payment was made to the DWK employee. That raises the question, however, of why he was asked to quit. Nukem and DWK also claim to have no knowledge of the fact that the Pamela planner was treated to a 2-week vacation in the Allgaeu by Nukem, which is what the abovementioned Nukem records plainly show. And that, after all, is the very corporation which intends to accept responsibility for safe storage of radioactive waste for tens of thousands of years and which would like to build the terminal storage facility at Gorleben.

"TN is just the tip of the iceberg," Hans Holtz always maintained. "It all started with the bribes paid during the construction phase of the nuclear power plants. Compared to that, our payments are quite harmless." Nukem resorted to bribes practically all the time, Holtz said, and the competition most likely did so, too.

According to the already cited notes taken by a former Nukem official, "necessary expenses" amounted up to DM 100,000 annually. Nukem, which will "neither confirm, nor deny" this, would thus be caught up in the nuclear scandal not merely as Transnuklear's negligent parent company which handled bookkeeping and purchasing, etc., for TN.

At Nukem, as at Transnuklear, three staff members were fired. But Werner Ihl, the head of the purchasing department, for example, who signed off on the orders for video recorders, television sets and automobiles to be given away, has held on to his job. "Ihl also had stationery printed for bogus firms," one of the TN employees fired last April recalls. "More than 10 employees who were either involved in these things or knew about them have not been let go as yet." When specifically asked, a Nukem spokesman said: "We are not prepared to provide information about internal personnel matters."

"There is a need for major surgery, if confidence is to be regained," Klaus Toepfer, the minister for enviroment had already said in his government statement before the Bundestag. Major surgery is definitely called for—nuclear energy certainly is in a class by itself. The Hanau crowd has no real conception of what wrongdoing is all about. Here is what TN's press spokesman Helmut Gombocz has to say on the subject: "The FRANKFURTER ALLGEMEINE is the only newspaper to realize that there is no TN scandal and no Nukem scandal but that Germany is the laughing stock of the whole world."

Nuclear energy certainly is in a class all by itself.

09478

Parliamentary Investigative Committee Lacks Clear Mandate

51002425 Frankfurt/Main FRANKFURTER ALLGEMEINE in German 2 Feb 88 p 4

[Article by Klaus Broichhausen: "A Fight About Words and Punctuation Marks"]

[Text] Bonn, 1 Feb—The Bundestag investigative committee, which begins its work on Thursday of this week, does not even have a name. Opposition and coalition were not able to agree on a name primarily because they could not come to terms about what the task of the committee should be. Originally, the SPD wanted to call it the "nuclear scandal committee." The coalition's title is "Nuclear Scandal-Transnuklear." SPD opposition leader Vogel would have been content with this wording, as he indicated at the plenum, if a slash were inserted between the second and third words. But the coalition puts a hyphen between them. For his part, the chairman of the committee's SPD group, delegate Schaefer (Offenburg), has put an end to the battle over the name by speaking merely of the "second investigative committee of this legislative period."

The tug-of-war about words and punctuation marks clearly shows the conflict which will burden the work of this committee. The reason the coalition puts the investigations under the motto "Nuclear Scandal-Transnuklear" with a hyphen is to conceal its intent of clearing up the scandal started by Transnuklear as quickly and smoothly as possible. This is what the committee should concentrate on, demands the chairman of the union group, Langner. The jurist was nominated for the committee above all for his rich experience as chairman of the Flick committee. SPD and Green Party people also say that the goings on at Transnuklear must be cleared up in the new committee. But they do not want to limit themselves to that. They insist that in the committee the entire nuclear industry, as Schaefer says, should be put

on the stand in all its national and international ramifications and with all of its national and international control authorities. In so doing, it should particularly be examined whether the present concept of eliminating radioactive waste, the Federal Government's waste disposal concept, can and should be realized.

Such an expanded task is what the SPD with its minority right is assigning to the committee. On this point it is supported by the member of the Greens on this committee, Schily. The SPD and Greens begin their work on the committee determined to prove that nuclear energy is not justifiable. It is evident at the start of the committee that the SPD and the Greens want to extend the deliberations until the Bundestag elections. This is why Langner accuses the opposition of rolling out the nuclear energy story "starting with Adam and Eve." The environmental spokesman of the FDP, Baum, accuses the SPD and Greens of saddling an investigative committee with the tasks of an inquiry commission in order to make it immobile.

The coalition urges that, first, the suspicion should be pursued that German companies have violated the nuclear non-proliferation treaty and, that, second, the Transnuklear affair should be cleared up. The coalition demands interim reports for both, the first by the summer recess for Parliament. In order for the investigation to get under way immediately, the coalition has already proposed to the constituent session of the committee that some experts and witnesses should be heard. Who is to be considered a witness will be the subject of much preoccupation in the course of the next few weeks, since the witness will have to give evidence before the investigative committees of the Hessian provincial legislature and the European Parliament as well. After the nuclear waste tourism, the witnesses are now going on tour.

Committee Chairwoman Matthaeus-Maier is not afraid that, as she says, her parliamentary group will demand that the committee should be given the expanded task. However, people in her own ranks would place her in an embarrassing position unless opposition delegates did not also devote their entire energy to obtaining answers to many questions that remain open in the scandal. Whoever has the chairmanship of such an investigative committee can significantly influence the process and the result of the work. Chairwoman Matthaeus-Maier also has the confidence of the coalition that she will head the deliberations in a fair manner.

11949

FINLAND

Ships Accused of Carrying Uranium to Pakistan

LD190321 Helsinki International Service in Finnish 1600 GMT 18 Jan 88

[Text] The Department of Energy atomic office at the Ministry of Trade and Industry has asked the Finnish Embassies to confirm whether Finnish ships have possibly taken part in the alleged smuggling of uranium. A Belgian representative of the Greens Euro-Parliament claimed on Friday night in Brussels that the Greens have evidence on the smuggling of uranium from West Germany to Pakistan. According to the claim, enriched uranium would have been taken illegally from the Belgian nuclear research center at Mol to the West German Nukem company, which manufactures nuclear fuel. Mol denied the claims today.

The Greens claim that the uranium smuggling from West Germany to Pakistan has been accomplished with Finnish vessels. According to the Finnish Board of Navigation, no Finnish ships have traveled from West Germany directly to Pakistan since 1984. The Finnish authorities have no knowledge about possible unloading and reloading in some intermediate harbor. The Interpol Office of the Finnish Central Criminal Police has not received any request to investigate the matter.