

## WISE-Paris Briefing

### SECRET SHIPMENTS AND ILLEGAL STORAGE The strange story of imported waste at la Hague

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#### Briefing HAN1

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**Authors:** Xavier COEYTAUX, Emmanuel ROUY, Mycle SCHNEIDER

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**SECRET SHIPMENTS AND ILLEGAL STORAGE**  
**The strange story of imported waste at la Hague**

**1. Summary**

***COGEMA threatened with a penalty of 10 million Euros for each infraction***

On 15 February 2001, **WISE-Paris** and the French daily newspaper "*Le Monde*" revealed that "*during the summer of 2000, France accepted four shipments of German nuclear waste at La Hague, in conditions of utmost discretion.*" This information emerged at a time when it was thought that nuclear transports between Germany and La Hague had been suspended – since the revelation in 1998, also by **WISE-Paris**, of the "Contaminated Transport Affair" (see <http://www.wise-paris.org/introournewsletter.html>) – and "*led to an outcry*" in Germany<sup>1</sup>. The Minister for Environment faced questions in parliament, front page articles appeared in the press and the story made the lead in the TV news.

On 6 March 2001, COGEMA was summoned to appear before the court at Cherbourg on 20 March 2001. A local association is attempting to prevent COGEMA from "*organising any further importation*" of this type of nuclear material from Germany, under the threat of a penalty of 10 million Euros for each infraction discovered. Storage of foreign nuclear waste in France is forbidden by Article 3 of the 1991 Law on management of radioactive wastes.

Between 10 August and 19 September 2000, COGEMA imported residues on four occasions from the MOX fuel (mixed uranium and plutonium oxides) manufacturing plant at Hanau in Germany. The plant has not been producing commercially since 1991 and has only received an authorisation to condition MOX manufacturing residues and remaining plutonium into "*storage elements*"<sup>2</sup>. These elements, identical in form to MOX fuel assemblies but without the qualities required for use in a reactor, could be stored permanently as waste in the same way as un-reprocessed irradiated fuels<sup>3</sup>. These storage elements can, however, also be processed to separate the plutonium and uranium, in order to manufacture MOX fuel elements. This was planned for in a reprocessing contract between the German company DWK, acting for German nuclear operators, and COGEMA.<sup>4</sup>

At present, COGEMA only has an "*authorisation to receive, unload and store*" the Hanau batches, issued by France's nuclear installations safety authority (DSIN) and dated 27 April 1997. In the absence of even a *request* for authorisation for reprocessing in the La Hague installation – and consequently of any authorisation to reprocess – it appears that such materials should be considered as wastes, and therefore as being stored in France illegally.

The French Secretary of State for Industry<sup>5</sup> has declared that the Hanau batches "*can be recycled perfectly legally in the UP2-400 plant at La Hague: the legal status of the plant permits this.*"

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<sup>1</sup> *Le Monde*, 17 February 2001.

<sup>2</sup> The term used by the manufacturer Siemens for the Hanau batches is "storage elements" (Lagerelemente or Lagerstäbe).

<sup>3</sup> See the article by Michael Sailer, et al. "Manufacture of MOX fuel rods for Direct Storage to Eliminate Surplus Plutonium", in "*Contrôle*", N°138, published by the DSIN, 30 January 2001. This article can be obtained from the safety authority's website: <http://www.asn.gouv.fr/Publications/dossiers/c138/12.asp>

<sup>4</sup> This contract was signed six months after signing of the French Greens-Socialist Party electoral agreement barring any further signing of contracts for reprocessing.

<sup>5</sup> In a communiqué published on Internet on 16 February 2001

In a response to a written inquiry about these apparently contradictory declarations, the Director of the DSIN, in a letter to **WISE-Paris**<sup>6</sup>, "*confirmed that*:

- "*COGEMA does not at present have an authorisation to process the batches of assemblies from Hanau in an installation at the La Hague site*" and that:

- "*COGEMA has not, to date, requested authorisation to process the assembly batches from Hanau* » at La Hague.

The DSIN therefore indicates unambiguously that there has been no request for authorisation and, consequently, even less granting of an authorisation for processing of waste at La Hague. This situation seemed sufficiently serious to the lawyer acting on behalf of the CRILAN<sup>7</sup> association, and the Regional Councillor Didier Anger, to bring an action against COGEMA in the court at Cherbourg, to prevent any further organisation of importation of materials from Hanau. The court was also asked to order COGEMA, among other things, to pay a bond of 10 million Euros for each infraction discovered.

In its letter to **WISE-Paris**, the DSIN affirms that "*processing of the Hanau shipment in the UP2-400 installation would require a specific authorisation from the DSIN which nothing in regulations prevents from being issued.*" Above and beyond the fact that no one has made any request, it is not certain that the DSIN could, at present, issue such a specific authorisation.

In fact, COGEMA, at La Hague, also stores manufacturing residues from MOX fuel fabrication at its Melox (Marcoule, France) and ATPu (Cadarache, France) plants. These wastes are stored in the same way as those from Germany, i.e. in the form of storage elements. In its 1997 Annual Report, the DSIN stipulates that "*the DSIN reminded COGEMA that processing in the La Hague plants of residues from Melox and ATPu supposes a modification of the Decrees granting authorisation to La Hague.*"

It is hard to see how processing of storage elements from Hanau could not be subject to the same regulatory conditions as those applying to residues from French plants. And furthermore, the UP2-400 plant, commissioned in 1966 and soon to be closed down permanently, has not been in operation for more than two years. Decree No. 63-1228 of 11 September 1963 on basic nuclear installations states, in its Article 4, that "*if the installation is not brought into service within the period fixed or is not operated for a period of more than two consecutive years, a new authorisation, issued in the same form, is required.*" The "same form" being that of a licensing procedure including a public enquiry. In other words, it would appear that not only does COGEMA not have an authorisation to reprocess MOX manufacture residues, but the DSIN could not issue such an authorisation for the obsolete UP2-400 in the absence of a new procedure including a public enquiry - an industrial nonsense given the age of the installation.

In fact, COGEMA never envisaged reprocessing of these materials in its UP2-400 plant, but has, for a long time, been planning to use new plants, and its UP2-800 installation in particular. Publication of the Decree authorising the desired modifications at the La Hague site are still making their way through the relevant ministries.

But even if a new Decree were to see the light of day, processing of materials such as those from Hanau would remain subject to a special authorisation. The request for modification of the Decree authorising creation of the UP2-800 and UP3 plants, signed by COGEMA's CEO, Ms Anne Lauvergeon, on 20 September 1999, stipulates that "*regarding adaptation of the types of fuels and materials to be reprocessed in UP3-A and UP2-800, each significantly different new type will, at the appropriate time, be the subject of a specific safety dossier and request for authorisation, to be submitted to the relevant administrative*

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<sup>6</sup> Letter of 23 February 2001 (see Annex 4)

<sup>7</sup> Comité de Réflexion, d'Information et de Lutte Anti-Nucléaire (CRILAN)

*departments and ministries, especially the ministries responsible for the Environment and for Industry."*

Storage of these Hanau storage elements is not the only problem. Germany is storing around 50 tonnes of irradiated MOX fuel at La Hague and Belgium and Australia send research reactor fuels for reprocessing. In the absence of authorisations and precise planning of reprocessing, these materials constitute waste which – according to the argument developed for the Hanau shipment by Mr Thibault de Montbrial, CRILAN's lawyer – is stored illegally on French soil.

## **2. The MOX Fabrication Plant at Hanau**

### ***Origin and Production History of the Hanau Plant***

The German MOX (uranium-plutonium mixed oxide) fuel fabrication plant at Hanau in the Land of Hesse went into production in 1972 and was run by Alkem (40 % Nukem, 60 % Siemens) until 1988. With a nominal capacity of 25 tons of heavy metal (tHM) per year, the plant was an important part of the Germany plutonium industry<sup>8</sup>.

The Hanau MOX production for light-water reactors and fast neutron reactors averaged about 5 tHM/year in the 70s and early 80s, before going up to between 16 and 25 tHM/year between 1984 and 1991. In all, the first Hanau plant produced 158 tHM (6,2 t of plutonium) of MOX for light-water reactors and 5,9 tHM (about 1,7 t of plutonium) of fast breeder reactor fuel<sup>9</sup>.

It was decided in 1982 to build a second plant with a nominal capacity of 120 tHM/year and construction commenced in 1987. The plant was supposed to go into production in 1989, but construction was never finished. Today Siemens is trying to sell the plant equipment in the context of the disposition of Russian military plutonium.

### ***Accidents at Hanau***

In February 1987, and again in March, irregularities in the operation of the Hanau MOX plant generated several leaks of radioactive material causing contamination of 20 workers with plutonium. After an investigation the authorities recorded near-systematic irregularities in the accounting of nuclear materials at almost all levels of the plant. It was immediately decided to shut down the plant and in August 1987 backfitting work was started. In October 1987 the plant was granted a partial license and production continued intermittently under Siemens from 1988 to 1991. Then the plant changed name to SBH, Siemens Brennelementewerk Hanau.

On 12 December 1990, an explosion injured two workers and after three cases of plutonium contamination by inhalation, the plant was completely shut down on 18 June 1991 by order of Joschka Fischer (then Minister for the Environment in the Land of Hesse).

### ***Shut Down Operations at the Installation at Hanau***

From 1991 to 1994, German political classes were divided on the question of MOX. The majority of German nuclear operators saw direct storage of irradiated fuel as an advantage over reprocessing.

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<sup>8</sup> Together with the WAK reprocessing pilot plant in Karlsruhe from 1971 to 1990, then the Wackersdorf plant in Bavaria which construction was never finished and was definitely abandoned in 1989.

<sup>9</sup> Until 1985 the core for the fast breeder reactor SNR-300 at Kalkar was fabricated here, a reactor that was never commissioned.

In 1992 Siemens was authorized to partially empty the plant and in the course of that year one ton of storage elements was produced in order to evacuate the nuclear materials still remaining in the production lines. Total evacuation of nuclear materials from the plant was not envisaged until 1995, when Siemens decided to abandon Hanau, and did not begin until the end of 1998. In all, 28 storage elements (close to 14 tons) with low quality-control criteria (inappropriate for use in a nuclear power plant) were produced from 400 kg of MOX powder, 490 kg of plutonium powder and 60 kg plutonium nitrate in liquid form.

The reason for producing this "bad MOX" was to immobilize the plutonium and plutonium contaminated residues still remaining in the plant. There was no intention to produce reactor fuel. This is the idea, later studied by the l'Öko-Institut<sup>10</sup>, of producing "bad MOX" or "storage elements" in order to condition excess plutonium with a view to permanent storage. And it was in the form of "storage elements" that Siemens evacuated the residual plutonium from the installations at Hanau.

### **3. The UP2-400 Reprocessing Plant – La Hague**

#### *The History of the Plant*

A decree issued 10 August 1961 announced the "urgent and public interest" of the building of a reprocessing plant for irradiated fuel, financed 50% by the military budget of the CEA (Commissariat à l'énergie atomique). Five years later UP2<sup>11</sup> (Usine de Plutonium n°2) at La Hague started processing the first tons of used fuel from gas graphite reactors. A second plant, AT1, was built at the same time and destined to process fuels from fast-neutron reactors. UP2 and AT1 together constituted INB (Installation Nucléaire de Base) number 33.

When EDF began to develop light-water reactors in the late 60s this led the CEA, then operating the installations at La Hague, to build the HAO (Haute Activité Oxyde) headend to reprocess the fuels coming from light-water reactors. A decree issued on 17 January 1974 authorized this modification of the UP2 and opened the way for reprocessing of low enriched uranium oxide fuels coming from light water reactors.

Following the decree of 9 August 1978, COGEMA, then a 100% subsidiary of the CEA, started to operate most of the installations at the La Hague site (UP2 and AT1, HAO, ELAN II B, STE2). Only the storage facility for solid low level radioactive waste i.e. the present CSM (Centre de Stockage de la Manche) remained under the responsibility of the CEA until 24 March 1995, when ANDRA took over operation of the site.

#### *Production*

From 1966 to 1987, UP2 reprocessed a total of 4,900 tons of gas graphite fuel. From 1988, only the UP1 plant at Marcoule continued to reprocess this type of fuel, UP2 now dealing only with fuels from light-water reactors.

Together, UP2 and HAO, which make up the plant called « UP2-400 » (with a nominal capacity of 400 tons of uranium per year), began reprocessing operations in 1976. With 4,400 tons of oxide fuel reprocessed at the end of 1994 – when the new UP2-800 plant started up – UP2-400 continued but only on small-scale campaigns:

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<sup>10</sup> See article by Michael Sailer, op. cit. ; also the report by C. Küppers, W. Liebert, M. Sailer, *Realisierbarkeit der Verglasung von Plutonium zusammen mit hochradioaktiven Abfällen sowie der Fertigung von MOX-Lagerstäben zu direkten Endlagerung als Alternativen zum Einsatz von MOX-Brennelementen*, Öko-Institut, 1999

<sup>11</sup> A first plutonium plant, UP1, at Marcoule in the Gard, was definitively shut down in early 1998. It went into production in 1958 to satisfy the needs of the nuclear weapons programmes.

- a campaign in January 1996 reprocessing 12,4 tons of fuel,
- a last campaign reprocessing 32 tons, 4,9 tons of which were MOX, in January and February 1998.

The UP2-400 unit conducted two MOX reprocessing campaigns. The first, in 1992, reprocessed 4,7 tons of used MOX from Germany. The second, in 1998, brought the total quantity of MOX reprocessed at La Hague to less than 10 tons<sup>12</sup>. UP2 / HAO also reprocessed more than 10 tons of Phénix-type fast neutron reactor fuel between 1979 and 1984 in dilution with gas graphite reactor fuel.

### ***The Present Situation***

The UP2 plant is an old installation that was built before the decree of 11 December 1963 concerning basic nuclear installations and which stipulates "*basic nuclear installations may be created only with special authorization*". UP2 was only "declared" on 27 May 1964, in accordance with article 14 of the same decree, in a letter from the CEA to the Government. There was therefore no decree to limit the annual production of the UP2 plant. Later, with the authorization for the creation of the HAO, the UP2/HAO unit came under the decree of 17 January 1974, which stipulated a maximum daily production of 4 tons (i.e. about 800 tons per year). Plant operation, however, proved such a limit to be unrealistic<sup>13</sup>, and the UP2 "nominal" capacity was finally established at 400 tons of uranium per year. Hence the denomination "UP2-400".

For UP3-A and UP2-800, built after the December 1963 decree, and which commenced production in 1989 and 1994 respectively, the decree of 12 May 1981, limits annual production to "about 800 tons of uranium contained in [light water reactor] fuel elements before irradiation" each.

The lack of precision concerning the laws that are applicable to UP2-400 led the public inquiry committee in charge of the COGEMA and ANDRA files on their demands for modifications (public inquiry conducted from 2 February to 17 May 2000) to ask the operator for the plant's legal situation. COGEMA responded mentioning two decrees:

- the first dated 17 January 1974 authorizing the creation of the HAO head end and certain modifications to UP2,
- the second dated 9 August 1978 authorizing COGEMA to operate certain installations at La Hague instead of the CEA, UP2 being among them.

Nothing in these decrees indicates the nature of the fuel to be processed in the installation. The reprocessing "*conditions*" at UP2 and HAO are supposed to be explained in an application letter from the managing director of the CEA, dated 19 May 1972. Because the DSIN considers that it "*has no right to supply a letter that belongs to the operator*"<sup>14</sup>, strangely, the basis of the operating conditions for this plant are not public. According to Mr. Bessasson of the DRIRE Basse-Normandie<sup>15</sup>, reprocessing of MOX fuel at UP2-400 is mentioned in this letter dating from 1972.

UP2-400 has not produced since March 1998, the date of the last short-term campaign declared to the DSIN. The lack of reprocessing activities led COGEMA to use the plant to "*receive and store*" all fuels that could not be stored in INB no. 116 and 117 i.e. UP3-A and UP2-800 respectively. Since 1996 the DSIN has regularly authorized storage at UP2-400 of

<sup>12</sup> AT1 also reprocessed more than a ton of irradiated MOX.

<sup>13</sup> The average yearly production for the UP2, until 1994, was 320 tons, all categories of fuel combined.

<sup>14</sup> Interview with Alain Delmestre, Secretary General of the DSIN, 23 February 2001.

<sup>15</sup> Personal communication, 20 February 2001

fuels whose characteristics excluded them from being reprocessed at UP3-A and UP2-800, without COGEMA necessarily making an application for authorization to reprocess these fuels at a later date. The stored fuels come from France and abroad (Belgium, Germany, Australia, for example) and from different types of installations (unirradiated MOX fuel fabrication residues, irradiated MOX fuels, irradiated research reactor fuels, standard uranium fuels with high burn-ups...).

UP2-400 is currently carrying out uranium and plutonium purification operations (in the MAU and MAPu facilities respectively) and packages plutonium for the UP2-800<sup>16</sup> plant. But it has not reprocessed fuels since 1998, according to information supplied by the DSIN<sup>17</sup>, which, according to the terms of article 4 of the decree of 11 December 1963 should oblige COGEMA to make a new application for authorization if it wishes to use this installation for reprocessing operations.

COGEMA is scheduled to shut down the installation after the implementation of the R4 facility (in the UP2-800 plant), which is supposed to replace the UP2-400 installations for the previously described functions. This implementation should take place in 2001, according to COGEMA. The DSIN, however, states in its 1999 annual report that it "*particularly expects to receive firm commitments from the operator concerning a definitive stop to operations in the HAO head end, in which no campaigns were carried out during 1999*".

#### **4. The German Plutonium Program**

##### ***The Reprocessing of German Fuels at La Hague***

The annual quantity of irradiated fuels discharged from the 19 German reactors is in the region of 465 tHM (on average) and the reprocessing of German irradiated fuels at La Hague can be summed up as follows:

- 1,643 t reprocessed at the UP2-400 plant at La Hague ;
- 2,484 t reprocessed at the UP3 plant at La Hague from 1990 to the end of 1999 (another 1,652 t were scheduled for reprocessing at the end of 1999 at UP3).

On 31 December 1999, of the 9,260 t generated (including MOX) by the light-water reactors since 1966 (start up date of the first German light-water reactor), German reactors collectively had delivered 4,540.9 tHM of irradiated fuels to La Hague. And 179,4 tHM of research fuels (particularly fast neutron reactor fuels) were generated by German research reactors (Germany has not used this type of reactor since 1991), 48.2 tHM of which were delivered to the CEA and 10.7 to the BNFL.

An initial estimate tells us that at the end of 1999, reprocessing had separated nearly 42 t of plutonium from used German fuels<sup>18</sup>.

##### ***Fabrication and Use of German MOX***

MOX for German reactors was produced in three other plants besides Hanau: ATPu (Atelier Plutonium) at Cadarache (CEA-COGEMA), the P0 plant at Dessel (Belgonucléaire) and MDF (MOX Demonstration Facility) at Sellafield (BNFL). The total fabrication of MOX for light-water reactors for German utilities comes to:

- ATPu at Cadarache: 247.4 tHM at the end of 2000 (on 31.12.1999 another 262.6 tHM was scheduled to be delivered to German utilities)<sup>19</sup> ;

<sup>16</sup> Public Inquiry of COGEMA, INB no. 118, impact study, chapter 2B page 10.

<sup>17</sup> Letter DSIN-FAR/SD1/N°10223/01 of 23 February 2001 in response to questions from WISE-Paris.

<sup>18</sup> Calculated by WISE-Paris on the basis of an average plutonium content of 0,95 % for irradiated UOX fuels and 3,5 % for irradiated MOX and a separation factor of 99,9 %.

<sup>19</sup> COGEMA Cadarache, personal communications, April 2000 and February 2001; PreussenElektra, « Plutonium-Workshop », 13/14 January 2000, Jülich, Germany.

- P0 at Dessel: about 110 tHM at the end of 1998 and in the region of 130 tHM as of the end of 2000<sup>20</sup> (on 31.12.1999 another 147.5 tHM was scheduled to be delivered to German utilities) ;
- MDF at Sellafield: 2.1 tHM<sup>21</sup> at the end of 2000 (on 31.12.1999 another 8.5 tHM was scheduled to be delivered to German utilities) ;
- Hanau: 158 t of MOX for light-water reactors produced between 1972 and 1991.

At the end of 2000 we can estimate that the 537.5 tHM of MOX produced for German utilities absorbed nearly 27 t of plutonium<sup>22</sup>.

### ***Irradiated and Reprocessed MOX***

On 31 December 1999, 317.4 tHM of MOX had been used by German light-water reactors. 142.5 tHM were still in reactor cores, 74.6 tHM were stored in spent fuel pools, 56 tHM had been evacuated to the COGEMA, 14.4 tHM had been sent to BNFL and 29.9 tHM were stored in various installations other than those already mentioned.

With 10 reactors that have MOX loaded to some extent, Germany is capable of consuming some 50 tHM of MOX per year, from which we can calculate for the German nuclear reactors a total MOX fuel consumption of about 367 tHM for the end of 2000.

The only known reprocessing campaign for irradiated German MOX is the 1992 campaign which, according to COGEMA, concerned 4,7 t at the UP2-400 plant. The campaign was conducted by COGEMA in order to demonstrate to German electricity utilities the feasibility of reprocessing irradiated MOX fuel. To our knowledge, no other campaign of this type has been conducted since.

## **5. Nuclear Materials, Fuel or Waste?**

### ***Legal Transportation a Non-issue***

The discovery after the fact of two series of discreet shipments of nuclear materials between Hanau and La Hague – four shipments of plutonium took place in 1998 already - raise many questions. But the essential question is not about the content of the authorizations that must be given in order to load, transport and unload the nuclear materials. It seems to be clear that the vehicles conducting the materials were authorized to do so. The contrary would be extremely worrying! The real question relates more, on the one hand, as to whether it was appropriate for COGEMA to sign a reprocessing contract with DWK<sup>23</sup> (Deutsche Gesellschaft für Wiederaufarbeitung von Kernbrennstoffen) in October 1997 i.e. well after the signing of the Verts-PS (Ecologists-SP) agreement in March 1997 that stipulated that there should be no

<sup>20</sup> Deduced by WISE-Paris from Belgonucleaire graphs (<http://www.belgonucleaire.be/SITEFR/implprfr3.html>). Questioned on the figures from which the graphic is issued in the beginning of february 2001 and many times then, Belgonucleaire is still not able to "guarantee" it will give us the figures.

<sup>21</sup> According to CORE (Cumbrians Opposed to a Radioactive Environment).

<sup>22</sup> Estimated by WISE-Paris based on an average plutonium content of 5.5 % for MOX fuels produced at ATPu, P0 and MDF.

<sup>23</sup> The DWK is a company owned by the German electricity companies:

- RWE Energie AG (25,5%)
- Norddeutsche Gesellschaft zur Beratung und Durchführung von Entsorgungsaufgaben bei Kernkraftwerken mbH (Nord GmbH) (24,5%) [détenu à 88% par PreußenElektra]
- Bayernwerk AG (14,5%)
- Hamburgische Electricitätswerke AG (HEW) (7,5%)
- Energie Baden-Württemberg AG (12,1%) <12.98> (via EnBW Kraftwerke GmbH)
- Vereinigte Elektrizitätswerke Westfalen AG (5,5%)
- Isar-Amperwerke AG (3,5%)
- Neckarwerke Elektrizitätsversorgungs-AG (3,5%)
- Technische Werke der Stadt Stuttgart AG (3,5%).

further reprocessing contracts. And on the other hand, it relates to whether or not the German and French administrations had the political legitimacy to deliver authorizations in the middle of a period when transportation of nuclear materials between Germany and La Hague, publicly at least, were banned. Finally, it is a question whether the facilities at La Hague do have the necessary authorizations to process the materials.

### *Transport Stopped in Germany*

When the shipments between Hanau and La Hague took place, transportation of spent fuel from Germany to France had been suspended<sup>24</sup> since mid-1998 (following the contaminated transport scandal<sup>25</sup>). As of 1 March 2001, the return of German reprocessing waste was limited to a very small volume of vitrified high level waste<sup>26</sup> and amounted to two shipments, a TN 28 VT (a cask capable of holding up to 28 glass containers) in 1996, then two Castor 220/28 (a German designed cask similar to the French TN 28 VT) in 1997, which corresponds to the reprocessing of about 110 t of spent fuel i.e. less than 3% of what the La Hague plant processed for German electricity utilities. And that is the situation some 25 years after the reprocessing of the first fuel elements and more than nine years after the application of the law forbidding the storage of foreign waste on French soil.

### *The Verts-PS Agreement in France*

In March 1997 the French Socialist Party and the Ecologists signed an electoral agreement in which, in the environment and territory part, it is written that "no new reprocessing contract shall be signed". In June 1997, the coalition gained the majority.

Nevertheless, in October 1997, COGEMA signed a transportation and processing contract with the German company DWK concerning storage elements coming from Hanau. It seems therefore that from the moment it was signed, this contract violated the Verts-PS agreement. What is clear is that the Ministry for the Environment knew nothing of the existence of this contract.

## **6. The Future of the Hanau "Storage Elements"**

The assemblies from Hanau cannot be used in a reactor because they do not correspond to the technical specifications and quality control standards. They were made from MOX production residues at Hanau. These assemblies were produced to condition plutonium in order to store it, but were never intended for use in a reactor.

It is nothing but waste that COGEMA imported during summer 2000. The La Hague site has already received French MOX residues from MELOX, but its future is still vague. A URP (plutonium redissolution unit) installed in facility R1 of UP2-800 would be able to process the residues by means of electrochemical dissolution but "*for residues in the form of fuel pins or fuel assemblies, spent fuel pools C and NPH [Nouvelles Piscines Hague, designating spent fuel storage pools A and B] can be used to store them while awaiting processing at a later time*"<sup>27</sup>. According to COGEMA, the facility T4 of UP3-A could also be used to recover the plutonium contained in the residues. The safety authority DSIN nevertheless pointed out to the operator according to its 1997 annual report that "*the processing of residues produced by MELOX and ATPu in the La Hague plants supposes a modification of the decrees authorizing La Hague*".

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<sup>24</sup> Lionel Jospin and Gerhard Schröder signed an agreement on 31 January 2001, again authorizing the renewal of this transport **after** a first return of vitrified high level waste scheduled for late March or early April 2001

<sup>25</sup> On this question, see **Plutonium Investigation** no. 6/7 « Transport Special » (on the web, <http://www.wise-paris.org/introournewsletter>)

<sup>26</sup> That is to say, the most radioactive part, though smallest in terms of volume, of all the waste produced by reprocessing.

<sup>27</sup> Public Inquiry of COGEMA, INB no. 117, étude de dangers, chapter 4D, pages 18 and 19. Reactor spent fuel storage ponds NPH (A and B) and C are part of UP2.

The dossier the COGEMA submitted to the public inquiry in 2000, with relation to an application to modify authorizations for the La Hague plants, clearly evokes the possibility of processing residues coming not only from the group's fuel production plants but also "*residues generated by other French or foreign fuel manufacturing plants*"<sup>28</sup>. However, Anne Lauvergeon, CEO of COGEMA, pointed out in the letter of application for modification of the decrees regulating UP3-A, UP2-800 and STE-3 that, apart from the fuels presently reprocessed at La Hague, "*each significantly different new type [of fuel and matter for reprocessing] will be the subject of a special safety dossier and an application for authorization*",

At present, UP2-400 is used for storing fuels for which it has not applied to the DSIN for specific authorization to reprocess although, according to the French Ministry for Industry<sup>10</sup> "*the legal situation of this plant authorizes it*". COGEMA does not consider these nuclear materials as waste because it is possible, technically, to extract plutonium from them.

In the present situation, COGEMA cannot reprocess these MOX residues. The UP2-800 and UP3-A plants will not be authorized to process it before summer 2001, and DSIN has not delivered any specific reprocessing authorization to UP2-400. Added to this, the plant's lack of reprocessing activities for more than two years means that a new application for authorization has to be filed. These residues must therefore now be considered as waste. This raises the question of the legality of storing this material, particularly in the light of the clear stipulations of the "Bataille" law of 1991: "*It is forbidden to store imported radioactive waste in France, even if it has been reprocessed on French soil, beyond the period of time technically required for reprocessing*". In the absence of a precise schedule and reprocessing authorization, this waste is being stored illegally in France.

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<sup>28</sup> Public Inquiry of COGEMA, op. cit.

<sup>29</sup> Press release from the Secretary of State for Industry, Christian Pierret, 16 February 2001.