

***NOGENT, JUST ANOTHER POWER PLANT  
...BUT SO CLOSE TO PARIS***



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<b>I - NOGENT : JUST ANOTHER POWER PLANT</b>
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**A - THE FRENCH PLANT POPULATION IN THE 80'S**
**(1) - Historical recap**

54 "PWR" type production units are today operating in France.

There are three different installed electrical power levels : 900 MW, 1300 MW and 1400 MW (3 units under construction)

Work began between 1970 (Fessenheim n° 1, 900 MW) and 1983 (Golfech n° 2, 1300 MW)

1st connection of a PWR 900 Fessenheim 1	April 1977
1st connection of a PWR 1300 Paluel 1	June 1984
last connection of a PWR 900 Chinon 4	November 1987
last connection of a PWR 1300 Golfech 2	1993

**(2) - The PWR 1300 units**

Nogent 1 was the 12th PWR 1300/20

Nogent 2 was the 14th PWR 1300/20

Civil work began at Nogent in 1980

**Between 1980 et 1981, 11 units were under construction including both Nogent units.**

**B - THE CHOICE OF SITE**

The increasing consumption in the Ile de France region in the early 80's affected this choice.

At the same time, and since 1985, certain conventional thermal power plants were reaching the end of their useful lives, either because of their age or because of their high coal or oil fuel costs.

The Nogent site is located in the Champagne-Ardenne region, on the border with the Ile de France, and helps to supply these regions.

In February 1975, the Champagne-Ardenne Regional Council gave a favourable opinion to installation of a nuclear power plant in the Marne or Seine valley.

The Nogent site was chosen for the following reasons :

- this part of the Seine is located at a major very high voltage transport network node,
- the flow of the Seine is great enough to guarantee closed loop cooling and dilution of waste,
- the land available was easily accessible by road, rail and river. Futhermore, as this land was considered floodable, the location of the plant did not occupy valuable agricultural land.

The last, but far from negligible, factor was that population distribution around the site was relatively low : 12 000 inhabitants within a 10 km radius in 1982. The annual population variation between 1982 and 1990 was + 0,99 %, with the neighbouring large towns being Nogent-sur-Seine 3 km away, with about 5 000 inhabitants, Romilly-sur-Seine 15 km away, with 16 000 inhabitants, and Provins, 17 km away, with 12 000 inhabitants.

The location of the plant *thus* offered an economic opportunity to a region in which second homes were growing at the expense of primary residences.

## C - KEY DATES

### Administrative dates

Declaration of public utility	28/03/80
Beginning of earthworks	14/04/80
Beginning of Unit 1	1981
Beginning of Unit 2	1982
Beginning civil works Unit 1	Jan. 81
Beginning civil works Unit 2	Jan. 81
Construction authorization decree	28/09/82
Erection of first electro-mechanical items	Feb./Sept. 85
Signature of water intake decree	26/06/87
Signature of water release decree	4/09/87
Signature of radioactive liquid and gas waste decree	25/08/87
First overall tests (tank flushing)	October 1986 and 1987

**Commissioning dates**

	<b>Tranche 1</b>	<b>Tranche 2</b>
Fuel delivery	03/87	04/88
Loading	07/87	08/88
Divergence	12/09/87	04/10/88
Connection	21/10/87	14/12/88
Full power	01/88	02/89
Industrial startup	24/02/88	01/05/89
First refuel ing outage and complete inspection	22/04/89 to 25/02/90	05/05/90 to 10/08/90
Summer 90 drought outage	13/08/90 to 03/09/90	
SG inspection intermediate outage	03/11/90 to 10/12/90	
Refuel ing outage and partial inspection	09/03/91 to 14/05/91	29/07/91 For 8 weeks
Outage for replacement of cooling tower cooling modules	27/07/91 For 5 weeks	
Refuel ing and partial inspection outage	25/04/92 to 25/07/92	29/08/92 to 04/11/92

**D - KEY FIGURES****II - NOGENT, ... SO CLOSE TO PARIS****A - A POWER PLANT 95 KM FROM NOTRE DAME CATHEDRAL****(1) - In France, all roads lead to Paris**

Paris is the capital of France and therefore most administrations, Universities, and major schools are located in the capital. All governmental departments and leading companies have their head offices there.

This explains why France is governed from Paris, and why all decisions are made there.

Furthermore, it should not be forgotten that nearly 20 % of the French population lives in the Ile de France region. When EDF began the earthworks in 1980, it was Paris that was receiving a nuclear power plant located on the banks of the Seine, a more 95 km from Notre Dame Cathedral.

**(2) - However it is far from being a unique case**

The Nogent plant is not the only one to be situated close to a city:

- **In Europe** : one plant is located within 100 km of London (Sizewell), and there are three less than 50 km from Hambourg (e.g. the Krümmel plant, a boiling water reactor, is 30 km from Hamburg),

- **In the United States** : three plants are within 100 km of New-York (e.g. the Indian Point PWR on the Hudson River is 55 km from Central Park), and five are located around Chicago and Philadelphia,

- **In Japan** : five plants are within 100 km of Kyoto.

**(3) - A power plant on the banks of the river supplying Paris with drinking water**

Well before the power plant was built, several works had been designed to improve the water supply in the Paris region.

The water producers had to face the growing demand, but also the increasing clamour for higher quality at a time when industrial pollution was on the rise.

Their problem was therefore to ensure a continuous water supply in terms of both quantity and quality. The water contained in their reservoirs gives an independent supply of at least a day. To cover a possible incident in one of their water treatment stations, or pollution of one of the rivers (Seine, Marne or Oise), their supply resources are varied :

- treatment plants for the Seine, Marne, Oise river water,
- aqueducts bringing in spring water,
- pumping from the water table,

and the possibility of interconnection combined with the use of stored reserves are solutions to the problems.

Of the three main dams located upstream on the Seine, which provide *relief* during low-water periods on the Seine, two help EDF meet the minimum river flow requirements : the Aube reservoir dam, and the Seine reservoir dam.

This is why EDF helped finance them.

**(4) - An agreement of water quality in Paris**

Since 22nd March 1989, an agreement binds :

- the Nogent plant,
- the water producers :
  - l'Agence de l'Eau Seine Normandie
  - le Syndicat des Eaux de l'Ile de France (SEDIF)
  - La Lyonnaise des Eaux DUMEZ (LED)
  - La Société Anonyme de Gestion des Eaux de Paris (SAGEP),
- the Paris municipal authorities, represented by the mayor, on behalf of the Centre de Recherche et de Contrôle des Eaux (C.R.E.C.E.P.) (the water research and analyses laboratory).

The purpose of this agreement was to define the services of the analyses laboratory (C.R.E.C.E.P.), the means of financing the equipment required and the procedures for distributing the results among the various partners.

This clearly shows the connection with and the direct interest by the Paris municipality in what happens in the Nogent plant.

**(5) - Close to Paris ... and at the heart of a French Department**

If it is clear that the Paris municipality is going to monitor what happens at the Nogent-sur-Seine nuclear power plant, it is even clearer that our activities directly concern the department and the Conseil Général, but also the public authorities represented by the Aube Prefect and the Nogent Sub-Prefect.

Thus an information agreement binds us to the Aube Prefecture, and again it is the Aube Prefect who signs part of the waste release decrees concerning us.

In the event of an accident at the plant, it is he who decides to initiate the Emergency Plan.

The Chairman of the Conseil Général is not unconcerned by our nuclear power plant. The Local Information Committee's bill provides for these committee being created at his initiative.

**As with all French nuclear sites, the Nogent-sur-Seine nuclear power plant is at the heart of its Department. It must however be pointed out that its operation concerns not only the Department, but also the seat of power in Paris.**

The same ambivalence can be found in our relationship with the press. Information released by the plant is often only covered in the local Nogent-sur-Seine editions, although it concerns more than just the Department. Here again, our geographical position, on the border with Ile-de-France, leads to interest from a certain press close to Paris, and we are often on the receiving end from papers such as "Le Parisien" a popular high-circulation newspaper with catchy headlines, and its Ile de France branch in Provins or Melun... in particular if something has gone wrong somewhere in a French nuclear plant !

The Champagne Ardenne regional agency of the FRANCE 3 national TV station concerns itself with our activities. It is quickly replaced by national crews from Paris if anything happens somewhere in a French nuclear plant.

To summarize, our plant has a geographical location whose political and media implications are Parisian, and thus national.

## **B - THE FRENCH NUCLEAR SHOWCASE**

### **(1) - A public information centre**

Living with and operating a nuclear power plant on the doorstep of Paris thus creates a number of constraints : the potability of the Seine riverwater is one, and the above mentioned ambivalence is another.

But the proximity and prestige of the capital also offers certain opportunities. That, among others, of being able to welcome the knowledge-*thirsty* Ile-de-France public, and being able to welcome a number of important personalities.

Our plant was therefore equipped with a public information centre which opened on 1st January 1988, and which in general receives some 20 000 visitors annually.

It is located outside the controlled areas of the plant and access is free to all visitors. It gives a permanent exhibition on nuclear power and our plant. Its auditorium can seat 120 for conferences and films on all subjects concerning nuclear power.

The construction of the Information Centre cost 6 MF, installation of the conference room and various areas 1,9 MF, the models 0,6 MF, the furniture and video infrastructures 0,15 MF. The total cost was therefore 8,65 MF.

**(2) - The visitors**

These mainly come from the Paris region : many teachers bring their classes to find out about our installations.

The EDF Divisions bring us many notable visitors : foreign ministers, captains of industry, and any foreign nuclear company on an information visit to France.

The statistics prepared on the visitors cover on the one hand those to the information centre alone, representing 50 % of the total, while the rest of the visitors, who also visit the installations are broken down as follows :

- 54 % in education, including schoolchildren and students,
- 33.5 % general public,
- 8 % public with a technical background,
- 3% from industry,
- 4.5% representatives of the public or political authorities.

**C - OPPOSITION TO NOGENT - MAINLY FROM PARIS**

Political ecology was born in May 1968. The Parisian bicycle demonstrations reflected the refusal of the demonstrators to accept the consumer society, the desire for a return to the land, pacifism, etc...

**(1) - Historical recap on anti-nuclear protest**

The first politicians of an ecological hue appeared in 1973 with Mr Poujade as the first Nature and Environment minister.

In 1974, at the same time as EDF was launching its nuclear electric power program, the first ecological candidate, Mr Dumont was attempting to win a *seat* in the supreme court.

The green light was given to the French nuclear program under President Pompidou, as well as to the anti-nuclear fight !

The first large anti-nuclear demonstration took place in Paris on 26th April 1975, and attracted some 10 000 participants. At that time, the population as a whole was little concerned (except in Plogoff) and certainly somewhat disturbed by the splits within the left regarding the problem.

After Mitterand was elected president in 1981, the socialist party confirmed its intention to continue with construction of the French nuclear electric plant program, and the protestors seemed isolated within French society (the right was favourable to the programme in 1974, and the French communist party was firmly pro-nuclear).

To connect these overall French considerations to the opposition around the nuclear sites, it would appear that the sites most exposed to ecologist demonstrations, often taken over by far-loft movements, are Cattenom, Chooz, Fessenheim and Crey-Malville. It should be noted that these demonstrations are most often held jointly with foreign movements, particularly German.

## **(2) - Opposition to the Nogent-sur-Seine plant**

For its part, Nogent has mainly experienced Parisian opposition with the creation in 1979 of a Committee for nuclear alternatives called STOP-NOGENT !

A few facts :

### **a) Before the site began**

- In an article in March, the Parisian daily "Le Monde" asked questions about the drinking water supply to Paris, in the event of a major accident at Nogent.
- Various ecology associations appealed to the Conseil d'Etat against the plant in June.
- The Aube communists changed their position and declared themselves favourable to the construction of the plant in October. The Amis de la Terre association protested.
- A meeting of local opponents was held in December : disappointment, Nogent will never be Plogoff !

**This ambivalence between the "Parisian/national" and the purely local reactions can again be seen.**

### **b) At the time the decision to authorize construction was made**

- President Mitterand declared in May 1981 : "any plant currently under construction will be completed"
- The appeal made against the Nogent plant is rejected by the Tribunal Administratif : it requested cancellation of the building permit (see "Pays Briard" article July 1981).

- The announcement was made on 31st July : the plant will be built.
- On 22nd September, opponents to construction of the plant appeared on the Antenne 2 station during a programme recorded at Nogent, led by a star of the ecologist movement : Brice Lalonde. Other ecologists were prevented from entering the site and a lively altercation between representatives of the 2 movements ensued (Libération Champagne - 23.09.81)

**During this period of "administrative" startup of the plant, the most active protagonists are locals.**

#### **c) During construction**

- In February, the EDF offices are spattered with red paint : nobody claimed responsibility
- In March, a strike completely shut down the site
- On 20th April, the Local Information Committee met. It was set up by the Ministry of Energy and comprises local elected representatives, union leaders and various associations (but no ecologists).
- On 22nd June, work resumed at the plant after a 61 day strike
- On 1st October, a decree of 28.09.82 was published in the Journal Officiel of 30.09.82. EDF were given authorization to create units 1 and 2 on the Nogent site.

**1982, 1983, 1984 and 1985 were marked by strong action and local disputes, reported in the press (sabotage, cancellation of a ministerial decree which had promised preferential rates for the localities in which the plants were situated, etc...). The flames were fanned by the soil subsidence under the reactor building. Chernobyl in April 1986 aroused the Parisian movements still further.**

#### **d) Startup**

In 1987, the approaching official date triggered yet more discord in Paris, this time encouraged by the ecologists of the Nogent region. The chairman of provins-Ecologie, Mr Carrouet, brought together the Nogent-sur-Seine ecologists to find solutions to the forthcoming startup of the plant : an international anti nuclear day was declared in Paris on 15th February.

**That year, the Parisians fervently supported the controversy reported by the local press and the Reims ecologists. The national press, and even Brigitte Bardot, threw themselves into the fight against "nuclear madness" : their actions were crowned by the appearance of the book "Chernobyl-on-Seine" !**

## OPERATION BEGINS

In 1988 and 1989, the plant Experienced a certain amount of teething trouble : minor technical adjustments, followed by a more serious problem with the steam generator tubes.

The local ecologists first of all tried to have it shutdown, and then set up an organization for technical monitoring of releases. This was to mark an important turning point in their strategy and their approach was to become more technical.

On 18th July 1989, the Local Information Committee met with STOP-NOGENT and CRIIRAD. For the first time, open dialogue was held between EDF and an independent laboratory, marking the beginning of transparency.

**In 1988, 1989 and 1990, the Paris press was to report some campaigns conducted from Paris by the green party "Les Verts".**

## TOWARDS MATURITY

Relations with the press, both local and national, gradually improved, thanks to the policy of transparency. Regular press meetings and the Local Information Committee played an important role in this change.

The excellent environmental results of 1991 even led STOP-NOGENT to declare in the middle of a Local Information Meeting : "It's hard for us to find fault with that".

To summarize, we can see that the abstract moments in the life and startup of the plant suffered from a more Parisien opposition of principle. The concrete moments in its construction and start up raised opposition from those more directly concerned : the local opponents. The most common arguments put forward by the various parties were :

- Seine river water, the fears regarding radioactive pollution for the Parisian population.
- Emergency organization in the event of an accident.
- The potential dangers of a technology said to be poorly understood.

**Again we clearly see the ambiguity linked to the geographical position of our plant.**

**D - TRANSPARENCY****1 - The material resources**

These mainly consist of :

- the daily opening of the Public Information Centre,
- the installation of a charge-free phone answering machine service (05.37.94.27),
- the publication of the annual information report, "Nogent-in-brief",
- the publication of the monthly environmental measurement result (available on teletel (number 3614, code MAGNUC),
- weekly communication of operating events to the members of the local information committee and the public authorities.

**2 - The relational resources**

- Press conferences for publication of the mid-year and end-of-year installation operating results
- Press releases on the various events linked to the life of our plant
- Agreement on information of the Prefect's office of any operational event or incident
- Agreement of exchange with the producers of drinking water for the Paris region. Mutual information in the event of an alert, or whenever an organization is questioned by the media or an association.

**3 - Achievements in 1991/1992**

Reorientation of the nuclear power plant towards environment/safety

- |   |   |   |
|---|---|---|
| 1) Elected representatives, public authorities, corporate leaders | } | Institutional brochure in French  |
| 2) Foreign visitors   | ) | Institutional brochure in English   |
| 3) Elected representatives, public authorities, corporate leaders | ) | 50 Billion kWh evening - Subject : Safe and Clean production : film, brochure, objects. |

- 4) General Public • Participation in Champagne Fair - Exhibition of Panels  
Subject : Safety - Environment
- Participation in the local St-Simon fair - Exhibition in the "Environment Tour" lorry + Panels  
Subject : the Seine, the earth, the air
- General Public + personnel • Participation in the lakes triathlon
- "Course des remparts" race in Seine-et-Marne
- Inter-EDF telethon.
- 5) Personnel } Creation of an internal newsletter  
Creation of a "Unit Strategic Plan" liaison sheet  
Management evening
- 6) Service providers ) Video film on outage : Safe and Clean Production
- 7) National education } Initiation classes  
Signing of an agreement
- 8) Economic partners } Jeune Chambre Economique  
Signing of an agreement
- 9) Ecologists } Nogent Nature Assoc. Signing of  
an agreement
- 10) Fishing clubs ) Organization of a fishing competition
- 11) Opinion carriers } Outage visit by Rotary, Lions,  
Doctors
- 12) Public authorities ) Outage visits by sub-prefects
- 13) International relations ) Twinning with Bohunice
- 14) Media } Beginning of year summary  
Mid-year summary  
Visit in the core during outage.

## E - TWINNING WITH THE BOHUNICE PLANT IN SLOVAKIA

The Nogent-sur-Seine plant twinned with the Bohunice nuclear plant in Slovakia in September 1991. Many exchanges and reciprocal visits have already taken place.

**8 visits** have been made to Bohunice on the following main topics :

- |  |              |
|--|--------------|
| - plant organization   | September 91 |
| - unit outage organization   | November 91  |
| - chemical specifications - PUI  | December 91  |
| - pool leak repairs  | January 92   |
| - documentation - waste releases   | March 92     |
| - management seminar proposal  | April 92     |
| - local representatives meeting with the<br>Nogent mayor and Nogent director | June 92      |
| - firefighting - policy and prevention with<br>Nuclear Inspection Agency     | September 92 |

**6 delegations** have been received at Nogent :

- |   |              |
|---|--------------|
| - Welcome to the plant director for signing of<br>twinning protocol   | September 91 |
| - 3 engineers received for 10 days on chemistry-<br>waste-environment-maintenance   | September 91 |
| - Visit by 4 mayors of the Bohunice region public<br>information - economic impact - plant relations<br>with elected representatives and public authorities | November 91  |
| - Visit by the Slovak defense minister<br>Crises organization in France   | December 91  |
| - Visit by the Bohunice deputy director regarding<br>management and public information  | July 92      |
| - 2 engineers on "Plant outage organization"  | September 92 |

In addition, these exchanges gave rise to requests for information from our Slovak partners concerning specific fields or equipment, leading to the transmission of reports, documents and technical guides, such as :

- type and characteristics of inspection equipment for personnel leaving the controlled zone,
- plant decontamination methodology,
- special equipment and tools used in a nuclear power plant (light guns, video cameras, individual dosimeters, etc...),
- nature and type of clothing in controlled zone,
- nature and characteristics of lubricants used in the plant,
- external population communication policy,

- management of human resources (hiring, wages policy, career prospects, etc...),
- French legislation concerning firefighting equipment.

Commercial proposals were made :

- offer to sell complete EDF decontamination guide,
- offer to sell all chemical specifications for nuclear or conventional power plants,
- offer for detection, and then underwater repair, of storage pool leaks in the V1 plant,
- offer for assistance with a self-audit on the organization of the Bohunice plant, and a management training seminar.

The active twinning protocol between the 2 plants was carried over to 1993, and was signed in the Bohunice plant by the two directors on 12th January 1993.

## **F - THE COMMUNICATION POLICY**

### **1 - The communication objective**

"To strengthen our identity as an effective regional industrial partner, forming an integral part of a national public service fully aware of its responsibilities".

### **2 - Fields of communication**

- a) The environment
- b) Waste
- c) Safety
- d) The economy.

### **3 - Resources**

- a) Involving the personnel and the service providers in relations with the local fabric, regarding our various communication actions, to give a human face to contact with our local environment and enhance the climate of trust.
- b) Strengthen links with the press and the various media, by clearly and systematically providing information to encourage transparency.

.../

- c) Publish our results and actions to encourage safety, security and the protection of the environment, in order to make our performance and our responsibilities known.
- d) Involve the nuclear power plant in local and regional information and action to strengthen our identity as a regional partner.

#### 4 - The targets

- The personnel and our service providers
- The media
- The legislators
- The elected representatives and public authorities
- The national education system
- Economic and institutional partners.

#### 5 - Policy

To place emphasis on steady, in depth work rather than temporary flashy acts.

To implement the resources needed to ensure information to and cooperation by the largest number of staff and service providers in the various areas, actions and resources developed.

Not simply to address the general public, but implement resources for informing and developing cooperation with the opinion carriers regarding the various areas, actions and resources developed.

To dialogue with our regional representatives and ensure that the parisian environment is not disturbed and retains a sympathetic attitude to the plant.