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An Additional Burden or a Support to the Industry?

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Abstract

The nuclear industry in Europe is generally viewed as mature, successful, sustainable and responsible. Its development was influenced and accompanied by the implementation of the Euratom Treaty that provided early on a legal and regional framework. Through an analysis of the main chapters of the Euratom Treaty and its own development, this paper highlights some provisions that have had and still have a practical effect on the European nuclear industry. In doing so, the author hopes to highlight some of the advantages and shortcomings that might accompany the creation of new regional regulatory agencies dealing with nuclear industries in other parts of the world. Even though it would not be wise nor efficient to try and replicate the model nowadays, the Euratom approach can be inspiring to other regions and some of its tools could be very relevant to support the development of nuclear energy, and create a sense of community on a regional basis for instance in the Middle East.

Keywords

Euratom, nuclear industry, safeguards, Middle East.

Introduction

The founders of the European Union had a clear vision of the special role that nuclear energy could or should play in the future: they shared the belief that nuclear energy should participate in the making of a global European Community, and to crystalize this vision, they wrote and signed the Euratom Treaty (1957) which was one of the three Treaties that founded the European Union. Unlike the Treaty instituting the Community of Coal and Steel, the other energy dedicated Treaty, Euratom was conceived as an open ended Treaty without any termination date, and it has not been significantly modified since 1957 (except for the fusion of the institutions -European Parliament, Council, Commission and ECOSOC- that occurred in 1967). Moreover, the provisions were sometimes very precise and set up a number of rules and “requirements” that mostly Member States but also “persons or undertakings” were to comply with. Today, the Euratom Treaty only represents the basis for a broad and complex set of “secondary law” that has developed overtime, allowing an adaptation and evolution of the constraints and practices.

Still, the relationship with Member States and industry has continuously evolved, with the growth of the use of nuclear energy in Europe, with the successive enlargements of the EU and also in reaction to nuclear accidents. It is regrettable that almost no research documents this evolution, as the assessment of the Euratom Treaty is widely contrasted, depending on who is speaking. For instance, in the late 1980s and 1990s, the Chernobyl accident gave rise to strong anti nuclear feelings and movements, and the Euratom Treaty was criticized for its lack of democracy given the relatively light impact of the European Parliament in the decision making process, and it was also attacked as being too supportive of nuclear energy and too favourable to the industry. However, at the exact same time, the perception of the nuclear industry was that this Treaty was not a support of their activity but rather, that it might be used to impose more constraints and delays, might serve the ideas of anti nuclear minorities and at best represented another source of useless administrative burden.

To fill this gap, this seeks to analyse the main chapters of the Treaty from the industry’s point of view. In doing so, this paper hopes to highlight some of the advantages and shortcomings that might accompany the creation of new regional regulatory agencies dealing with nuclear industries in other parts of the world. Of course, the problems and opportunities associated with the evolution of Euratom were dependent on the historical evolution in Europe, but some of the legal provisions in the treaty itself should be studied for the effect they had on the development of the industry. This paper surveys successively the main advantages that the treaty brought to the development of a sustainable and ecologically responsible industry in Europe.

I. The Euratom Treaty’s constraints are real but benefit the industry

These constraints are mainly directed to the Member States and may result in indirect additional burden for the private sector while some provisions directly affect the “persons undertakings”.

1. Radiation protection (Chapter 3)

Chapter 3 covers the health protection and, more broadly, the protection of the environment. Member States have to ensure a permanent surveillance of the radiation level of the air, waters and soils under their jurisdiction and must establish appropriate monitoring equipment. Although Art 35 provides for the verification of such equipment, (belonging to the State Authorities) in practice this “right of control” is also exercised on the operators’ equipment and devices, and an access to the operators’ measurements and records is nowadays usually asked by the Commission. Of course, these records may provide commercially sensitive information like indications on the actual production programme. But this practice can be beneficial to the operators whose equipment and records are recognized to be

excellent. In some instances, the operators may refer to a satisfactory visit of the Commission services to advocate the quality of their controls and the absence of illegal releases.

Another constraint according to article 37, relates to the need for Member State to provide the Commission the general data relating to any project of “release of radioactive effluents” so that the Commission may give its advice within 6 months. Some industry representatives may contend that this provision may impose an additional delay and additional specific paperwork (in addition to the paperwork asked by the national regulator, in case similar requirements exist at the national level) to the operator who wishes to file an authorization to start a new facility or an extension of a facility or a modification of a process that may involve additional releases. Indeed, although the advice of the Commission should only concern the likelihood of such project adversely affecting another Member State territory, and although the responsibility of providing and explaining the project and information rests with the State’s Authority, the operator is to prepare the paperwork and may be asked, eventually to modify its project. However, here again, the operators may be willing to have a positive advice of the Commission on their project to argue against possible negative opinions, in particular from neighbouring countries.

These provisions may be of particular interest to other regions which wish to institutionalize regulatory frameworks as they are the least controversial from the industry’s point of view, the most helpful to ensure the growth of a sustainable and ecologically responsible industry, and the most useful to ensure the safety of the citizens of the region.

2. Safeguards

Chapter 7 of the Euratom Treaty complemented with specific regulation provides for a Euratom safeguards system on ore, material and fissile material that is very similar to the IAEA safeguards system in its implementation. A specific Euratom inspectorate is in charge of the verification on the declared material and facilities.

A few specificities must however be outlined:

- The Euratom safeguards aims at verifying the conformity of the effective use of such materials with the declared uses, it is not as such a verification of non-proliferation. (Finality/conformity controls). From this point of view, the Euratom safeguards directly impose obligations on the operators even though it also provides for some role for the Member State.
- The Euratom safeguards also aim at verifying that the specific obligations accepted through a supply agreement are being complied with. This involves a follow up by the Euratom Safeguards of so called “flags” on the materials and a sometimes very cumbersome, time and resource consuming management of flag swaps in order to facilitate or even be compatible with the industrial processes and commercial contracts. This is a very specific task that the IAEA does not undertake.
- The Euratom safeguards system cover all peaceful activities within the Community that is also all peaceful material in the Nuclear Weapon States.
- Sanctions may be decided against the operators (persons or undertakings). These sanctions range from a simple warning, to the withdrawal of nuclear material, and include the possibility of a “tutorship” of the operator (“placing of the undertaking for a period not exceeding four months under the administration of a person or board appointed by common accord of the Commission and the State having jurisdiction over the undertaking »)

As described above, the safeguards provisions of the Euratom Treaty involve a number of specific obligations, including to facilities that are located in the NWS. In the Member States where a national control and accountancy system exist, it results in an additional burden even though Euratom inspections are often carried out as joint teams with the IAEA inspections. In the Member States where there is no NMCA, Euratom safeguards play the role of the NMCA and it can be argued that

there is no additional burden to the operator. The sanction mechanism is certainly a specific tool that may negatively affect the image of the facility/industry concerned but it should be stressed it has very seldom been applied (less than in ten occasions), and it can be of interest to other regions that may establish regional regulatory authorities for the purpose of ensuring the peaceful character of their nuclear growth.

Again, although some significant resources are needed from the operator to prepare and accompany the inspectorate, to carry out paperwork involving sometimes time-consuming exchanges to inform, or explain some discrepancies to the Euratom Safeguards Office, some benefits may be found to it. Indeed the existence of regular Euratom inspections and the verification of the accountancy may act as a quality control check and play an incentive role to the operator.

3. Investments (chapter 4)

Article 41 of the Euratom Treaty complemented with other regulatory and advisory texts, requires that persons and undertakings planning to build new facilities or replace and transform older facilities, provide a rather detailed information about their project at least 3 months before signing the first contracts. In addition they should be ready to discuss all aspects of the projects at the request of the Commission. On this basis, the Commission may publish its position on the project provided the undertaking and its Member State agree.

This process is certainly an additional burden to the industry and may be seen as an unnecessary and preliminary exposure to public opposition from other countries. But here again, a positive opinion by the Commission on a specific investment can be useful to get financial or political support to their project.

4. Supply (chapter 6)

In the context of a nascent industry and taking into account the scarcity of resources especially in fissile material, the fathers of the Treaty created a regime of Community ownership (Chap 8) on which the provisions relating to the supply of material were based. This explains why the most complex chapter of the treaty (chapter 6) is devoted to the supply of nuclear material and the establishment of a system based on the principle of equal access to resources, and supporting a common supply policy.

The system placed under the responsibility of the EURATOM Supply Agency (ESA) acting as a central agent gathering the needs of users and offers of producers and allocating scarce supplies, has been periodically criticized and the interpretation of specific provisions has been challenged and brought to the Court of Justice (namely the definition of enrichment as a service or as a production).

Without entering into a detailed description of the legal complexity of the system, and at the risk of oversimplification, it is sufficient to underline a few characteristics that seem particularly burdensome to the operators.

- The ESA's right of option on materials produced in the Community as well as the exclusive right to conclude supply contracts even if applied in a flexible way (concurrence of signature, simple communication of major elements of the contract but without prices) is viewed as a burden and an additional risk that commercial information would be unveiled to competitors. If applied literally, the negotiation by the supply Agency of supply contracts would not allow the EU companies to freely negotiate with their foreign counterparts in the same fair and flexible manner as their non-EU competitors.
- The requirement to notify all "processing" contracts creates an administrative burden that non-EU countries do not have to bear.
- The possibility of the ESA opposing a contract in the benefit of its supply policy is certainly seen as an unfair lack of predictability and as a burden to the company directly involved.

However, this is to be seen as a protection of the market conditions and in the long-term interest of the member States. Besides, fortunately the implementation of this chapter 6 has evolved and has been clarified over time (even at the price of legal confrontations). Although from the point of view of the industry, the administrative workload involved by these rules are still seen as a burden, there is a better acceptance of the compromise reached about their implementation and their overall justification.

II. EURATOM as a support to the industry; to what extent?

Different provisions may be seen as having supported the development of the nuclear industry in the EU. However today the effective and direct support may be questioned.

1. R&D (Chapter 1)

It is obvious from the title 2 of the Euratom Treaty, “provisions for the encouragement of progress in the field of nuclear energy nuclear” which really represents the core of the Treaty, and in particular from Chapter one dedicated to the promotion of science, that the intent of the founding fathers was to promote nuclear development and industry in Europe. This policy was developed through a coordinated approach to R&D with the financial support of its member-states, the establishment of Euratom Framework programmes, and very creatively through the establishment of the Nuclear Joint Research Centre, with dedicated specialized centres and facilities. This certainly contributed to a global European approach to nuclear R&D and to the development of a European research community.

The Euratom Framework Programme has served as a model for the other fields of the EU research and overtime the Euratom budget has relatively decreased while the EU research budget has constantly increased. (The Euratom budget represented 11% of the total R&D budget for FP 4 and only roughly represents 7,5 % of FP7)

In addition, the largest portion of the budget is dedicated to fusion and the fission part (which amounts to less than 15% of the Fusion budget), which mainly finances waste management and radiation protection while no direct support goes to nuclear energy developments like new generation reactors.

In parallel, the JRC, which was once only dedicated to nuclear research, is increasingly a tool for the other fields of the EU research.

Therefore although there is still some activity under the Euratom budget, it can hardly be argued that it directly benefits the industry.

2. Joint Enterprises (Chapter 5)

The concept of Joint Enterprise was, like the JRC a rather innovative idea that was to facilitate the establishment of a European, multinational based industry that was deemed important for the development of nuclear energy.

Apart of some financial support, there was some tax advantages like tax exemptions attached to it.

However it should be noted that only a very small number of Joint enterprises have been constituted (they entail a complex process of approval by the EU Council). Among the main Joint enterprises, the German based HTR gmbh (High temperature reactor) in 1974, the Jet in UK (Joint European Torus in) in 1978 and the last one, ITER, in France (fusion) in 2007. It is worth noting that the large industries like Urenco and Eurodif have developed as multinationals but have not applied to be granted the Joint Enterprise status. Thus, even though the status of joint enterprise exists, it has not been used to incorporate critical facilities in the nuclear fuel cycle, and therefore, Euratom’s history

does not present a rich precedent for other regions which might want to draw lessons for the multilateralization of their nuclear fuel cycle.

3. Euratom Loans

The Euratom loans are based on article 172.4 of the Euratom Treaty and were implemented through Council decisions. The first decision was adopted in 1977 and helped finance a number of projects within the Euratom countries, ranging from NPP to enrichment plant and also the UK reprocessing facility, for a total of 2,876 billion euros. After 1987 no Euratom loans was granted to a Member State and it must be noted that all past loans granted to EU member States have been fully repaid.

After the Chernobyl accident it was decided in 1994 to open the possibility of Euratom loans to finance mainly safety or dismantlement related projects in the neighbouring Eastern Europe countries.

Nowadays, although there is still 626 million euros available in principle, (the total Euratom loan envelope was capped at 4 billion euros) the possibility of Euratom loans being granted for a new NPP for instance in Poland seems highly unlikely, mainly for political reasons.

While it could be argued that the Euratom Treaty has directly benefited the industry, this is no more the case given the lack of resources and of political consensus to use it.

4. Cooperation agreements

Cooperation agreements are now often needed to access to an import of technology, equipment or material. If the main nuclear countries usually do have such agreements or are ready to negotiate new ones if needed EU countries with limited or inexistent nuclear projects may not be prepared to do so, or may not be as successful in the negotiation process and their industry may be negatively impacted.

The benefit of umbrella agreements negotiated in the name and implemented through or with the support of the 27 Member States of the EU is certainly something that may be a support for nuclear industry in smaller or even non-nuclear countries of the EU.

Conclusion

One could have long-lasting discussions about the responsibility and success of the Euratom Treaty in today's situation in the EU regarding nuclear energy and nuclear industry.

Many provisions may seem obsolete and not effective in Europe. Some provisions could potentially be revived but would involve too much of a political consensus and healthy overall economic situation. They could also inspire other parts of the world who wish to set up a regional regulatory agency, as their relevance might be higher there than in Europe (for instance, sanctions against violations of safeguards agreements, or the multi-lateralization of the nuclear fuel cycle through the status of 'joint enterprise'). But before one talks about exporting the Euratom Treaty approach to other regions, one should not just stick to the analysis of the letter or of the spirit of the Treaty but should have a broader assessment of the reality of its implementation. With this in mind, the constraints brought by the Treaty namely in the field of safeguards and supply, but also in the field of radiation protection, which some industry representatives may have seen as disproportionate, can also have served a positive role for the European nuclear industry in that they have contributed to build a real community: they levelled the playing field in safeguards and accountancy, radiation protection norms and even safety assurances. In doing so, they have contributed to comforting a reliable image of the European nuclear actors and allowed the EU countries to support IAEA initiatives and role in these fields. In turn, what is usually criticized by nuclear opponents as covert "subsidies" has been reduced over the years and do not represent today a real support.

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This being said, the Euratom Treaty may still generate new initiatives in favour of a global approach to nuclear development within the EU through a dedicated very long- term financial mechanism taking into account the need for large investments with a longer term of return on investments.

Short Biography

Caroline Jorant, graduated from the Political Science Institute in Paris and from the Institute for Eastern languages civilization (Chinese). Then she obtained a Master of Arts degree at SAIS, Johns Hopkins. Since 1980, she has always been involved in nuclear affairs, in the international sector. First, she joined CEA and was particularly in charge of the relationship with Europe (both with EURATOM and with European Countries). Then, she was appointed as a Nuclear Advisor at the French Representation to the European Union where she served for 5 years before joining the industry, COGEMA and then AREVA. Caroline Jorant was formerly the Director of Non-Proliferation and International Institutions at AREVA, and a member of the Standing Advisory Group of Safeguards Implementation to the IAEA Director General.