Drafting a national nuclear law: the example of a country with a Nuclear Power Programme

The French Nuclear Law

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1. The premise: the nuclear profile of France
   - Nuclear facilities
   - Transport, industrial and medical activities

2. The making of
   - The genesis
   - The drafting
   - The consultations

3. The content
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   - The main chapters and key elements

4. The follow-up
   - Implementing regulations
   - A performance-based legal system
I
The nuclear profile of France

Nuclear Facilities

Fuel cycle (enrichment, fabrication, reprocessing)
Waste disposal sites
Research centers
Laboratories

<table>
<thead>
<tr>
<th>SI - 1PWR</th>
<th>58 + 1PWR</th>
<th>Graphite</th>
<th>Gas</th>
<th>Eau lourde</th>
<th>FNR</th>
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<td>58</td>
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<tr>
<td>300 MWe</td>
<td>1600 MWe</td>
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<td>900 MWe</td>
<td>1300 MWe</td>
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<td>1450 MWe</td>
<td>58 + 1PWR Graphite</td>
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</table>
## Transport, medical and industrial activities

### Transports
- ~16,000 certified containers
- ~90 types of qualified packages
- ~900,000 transported packages

### Medical Facilities
- ~33,000 devices for dental examinations
- ~16,000 devices for classical radiology
- ~850 scanners
- ~500 radiotherapy facilities

### Industrial plants
- ~37,000 sealed sources
- ~6,000 authorizations for the use of sealed sources
- ~1,000 authorizations for unsealed sources

## II

The making of
### The making of - The genesis (1)

- **Until 2006:**
  - nuclear activities in France only regulated by decrees and ministerial orders
  - national regulator under the supervision of the minister of industry

- Parliamentary report of 1998 *The long road towards transparency and independence*  

- Several attempts to make a law:
  - 1st Draft in 1999
  - 2nd and 3rd draft in 2001 and 2002: submitted to the Parliament but not discussed

### The making of - The genesis (2)

- Formal announcement by the French President in January 2006

- 4th draft in February 2006 with new provision on the creation of an independent regulator

- Enactment of the “Act on transparency and security in the Nuclear Field” on 13 June 2006
The making of - The drafting

- 1st draft prepared by the minister mainly concerned (Minister of environment)
  
  based on:
  - International conventions (CNS)
  - IAEA safety fundamentals
  - existing legal regime on non-nuclear facilities and public consultation procedures
  
  NB : European directive on nuclear safety not yet in place

- Consultation of other relevant ministers
  - Minister in charge of industry (responsible for nuclear safety along with Minister of environment)
  - Ministers of Health, Labor (responsible for radiation protection)

- Informal consultation of stakeholders

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The making of – Consultative bodies

- Council of State
  Legal advisory body to the Government

- Economic and Social Council
  Representatives of employers, trade unions, civil society

- Other bodies
  Council of overseas territories...

In the Council of State (“Conseil d’Etat”)
**The making of – Final stage**

- Submission to Parliament and Vote

- Entry into force of some provisions delayed
  - the regulator would formally exist as soon as its Commission meets for the first time
  - provisions on nuclear liability suspended to entry into force of international protocol

*The Act is now codified in the Code of Environment*

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**III**

*The content*
The content – The scope of the law

- Nuclear safety, radiation protection and transparency (concerning nuclear installations, small-scale activities and transport)
- Nuclear liability (updating a 1968 Act)
- Revision under way to add provisions on security of radioactive sources

NB: the Act does not deal with safeguards

When a nuclear legal system is set up from scratch, it is advised to include in the law “3 S” aspects (Safety, Security and Safeguards)

The content – The chapters

- I/General principles
  - Justification, Optimization, Dose limitation
  - Polluter pays
- II/ASN (regulator)
  - Organization and missions
- III/Information of the public as regards nuclear safety
- IV/Nuclear installations and the transport of radioactive substances
  - General rules for licensing and operating
  - Inspection and enforcement
  - Sanctions
  - Provisions applying in the event of an accident
The content – Key elements

- **Regulator**: Independent public body for the control of nuclear safety and radiation protection and for public information in these fields
- **Integrated control regime** (safety and environment) and wide definition of protected interests (security, public health, protection of nature and the environment)
- **Procedures for installations supervision at all steps**
  - creation authorization, prescriptions definition, commissioning authorization, shutdown and decommissioning authorization, measures in case of risk
- **Obligation of periodic safety reviews**
  - taking into account the best international practices and the evolution of knowledge
- **Obligation to declare accidents and incidents** to the authorities
- **Public information** and participation

IV
The follow-up
The follow-up - Implementing regulations

- Implementing regulations
- ASN guidelines
- ASN decisions
- Decrees
- Orders

Executive power
Parliament
ASN

Legally binding
Non-legally binding

Law

TSN Act, 13 June 2006

Decrees
Ministerial Orders
Associated ASN regulatory decisions
Associated ASN guidelines
The follow-up – Implementing regulations

15 decrees published (from 2007 to 2011) including:

- Organization of the regulatory procedures
  - decree on definition of a nuclear installations
  - decree about designation of inspectors
  - decree setting up licensing procedures or other authorisation process, November 2007

- Establishment of information committees

- Public health
  - protection of workers against radiation
  - protection of people against radiation

The follow-up – Implementing Regulations

- TSN Act, 13 June 2006
- Decrees
- Ministerial Orders
- Associated ASN regulatory decisions
- Associated ASN guidelines
The follow-up – Implementing regulations

Ministerial Order of February 2012

<table>
<thead>
<tr>
<th>Safety policy and Management</th>
<th>Nuclear safety</th>
<th>Nuclear Pressure Equipments</th>
<th>Environmental impact</th>
<th>Waste Management and Disposal</th>
<th>Emergency Situations</th>
<th>Public information</th>
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</table>

- SPM Guidelines
- Fire Hazard
- NPE Guidelines
- Conformity Assessment Guidelines
- PWR Design
- PWR Operation
- PWR outages and startups
- PWR Fuel
- Flooding hazard guidelines

Implementing reference levels

Drafting and implementing regulations: a performance-based system

- Defines the general objectives for nuclear safety and radiation protection
- Proposes procedures and methods to reach these objectives
- Makes sure that these proposals are appropriate to reach the specified objectives / Authorizes
- Implements the method approved
- Verifies the implementation through regulatory assessments and inspections. Informs the public

ASN

Nuclear installations licence holders: EDF, CEA, AREVA, ANDRA, ...

Ionizing radiations users
## Conclusions

An integrated, comprehensive, coherent and structured corpus of regulatory texts progressively built along time with the aim of continuously improving nuclear safety

A performance-based legal system associated with a close monitoring in the implementation of obligations