INTERNATIONAL WORKSHOP ON ADVANCED REACTOR SYSTEMS AND FUTURE ENERGY MARKET NEEDS

The environmental and regulatory issues of new reactors

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THE ENVIRONMENTAL AND REGULATORY ISSUES OF NEW REACTORS

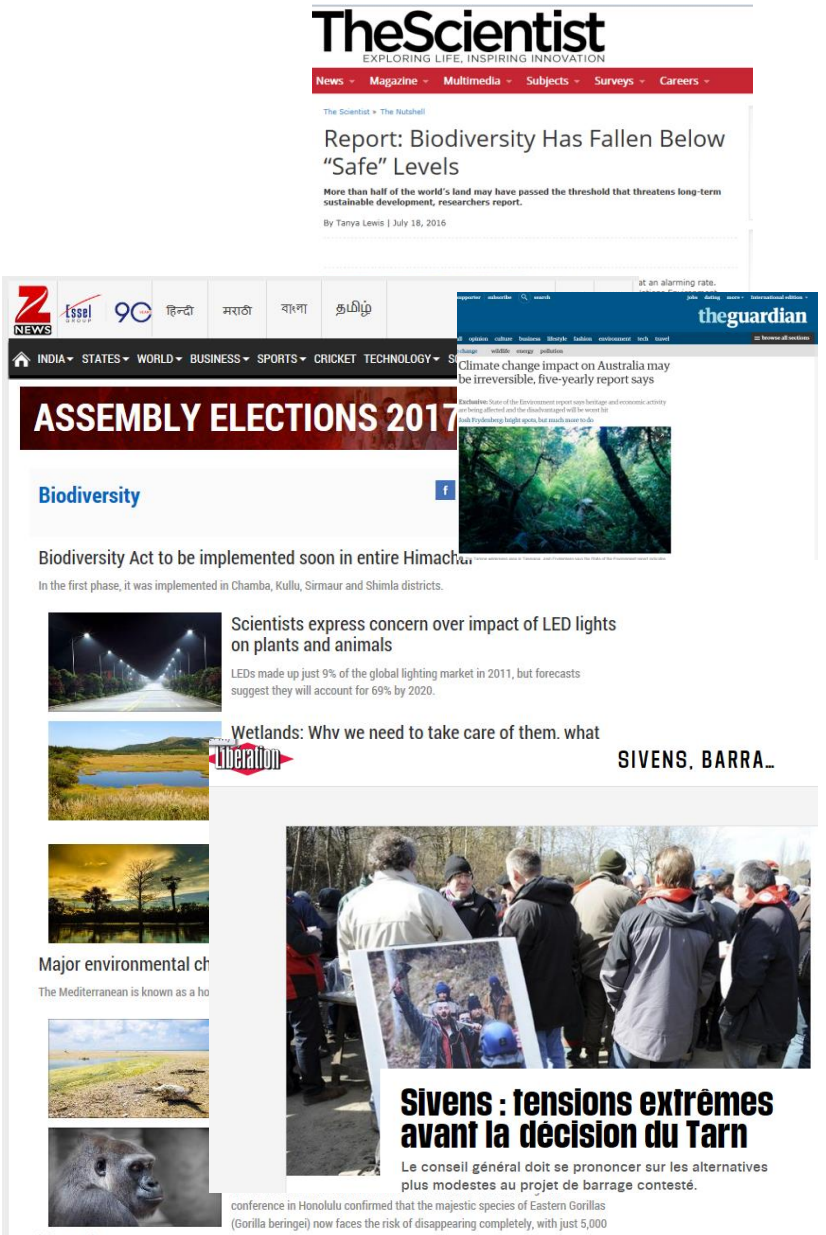
SUMMARY

- **THE ENVIRONMENT, A SOCIETAL CONCERN**
- **TOPICS REFLECTED IN THE REGULATIONS**
- **ANTICIPATE TO WIN**
- **LISTENING, EXPLAINING AND INTERACTING**

THE ENVIRONMENT, A SOCIETAL CONCERN

- The media, political (Paris Climate Convention) and legislative news are rich of entries relatives to:
  - The climate change
  - The preservation of biodiversity
  - Economies of natural resources
  - The Dialogue and consultation around the equipment

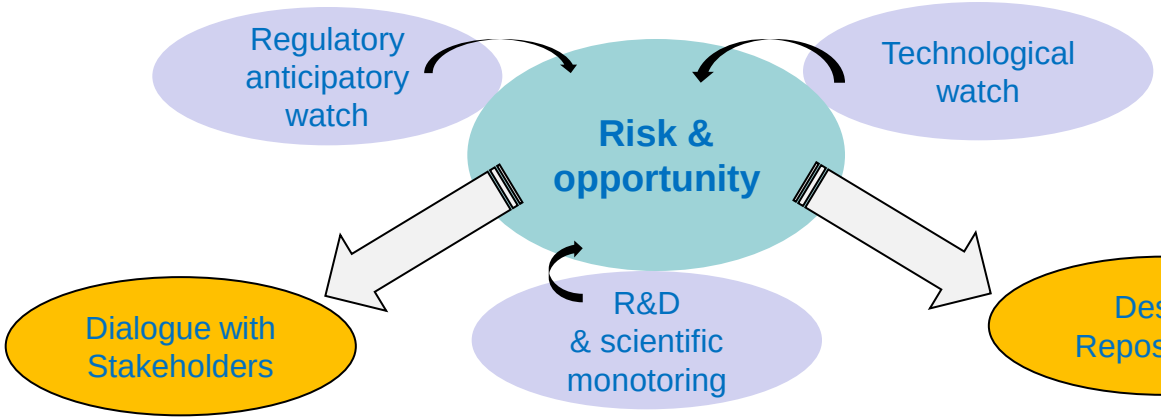
- Topics include:
  - In legislation, regulations, standards
  - In the corporate responsibility objectives (expectations of the financial markets, insurance companies, rating agencies, financial partnership for new projects)
  - In the framework for the design and operation of nuclear installations
  - By penalties increased (criminal, ecological damage, refusal of authorization ...)

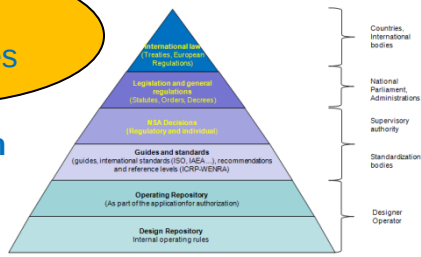


TOPICS REFLECTED IN THE REGULATIONS

- The desire of the society for **independence for the authorities** (Nuclear Safety Authority, Environmental Authority) with **pluralistic expertise** (technical support, local information commission, associations), more **listening and consultation with the public**: local information commission, Aarhus, consultation, internet , Impact and risk prevention studies …
- **Large-scale regulations**: *for example in Europe* : Biocides, FGAS, REACH and the reversal of the burden of proof for the impact of substances with the need to demonstrate, for a product at risk, that:
  - no substitute (BAT) was found,
  - the process can not be modified to dispense with the product (BAT),
  - all the measures were taken to limit the impact. The **Best Available Techniques** (BAT) at **economically acceptable cost**: **you have to know them and let you know**, it is the basis of an authorization file
- **Environmental directives** not dedicated but applying to nuclear activities: *for example in Europe* : **Water**, **sea**, **SEVESO**, **industrial emissions**, **Circular economy**, with international conventions that serve as a basis for European regulation: **Aarhus**, **OSPAR** in addition to the **Euratom** Directives: **safety**, **waste**, **basic standards**
- National regulations: *for example new french regulation* : TECV, biodiversity, risks, participatory democracy laws...**With an increasingly risk-averse society**

ANTICIPATE TO WIN





- **Regulatory and normative anticipation**: **to be present as far upstream as possible from regulation**
  - At the **international level** : Eurelectric, ENISS, standardization bodies, etc...
  - At the **national level** : inter-operator coordination
  - Focus our resources on the regulatory targets at stake: the strategic substances and equipment associated with substitution studies, necessary compensation according to the logic: avoid, reduce, compensate. Zero-defect on objects at stake is required
- **Technological watch**: capturing innovations, anticipating substitution needs (ex HFC), biocide ...), know the practices recognized by other stakeholders (industrialists, NGOs ...)
- **R & D and scientific monitoring**: **update knowledge on phenomena** (such as consequences of climate change, chemical products substitution
- **Risks & opportunities**: **early identification of issues in a context of cost control** (imperative of competitiveness)
- **Design repositories**: Integrate regulations / standards from the design stage and follow developments at all stages until commissioning
- **Dialogue with Stakeholders:**
  - Have a scientific and rigorous approach to the construction, study and analysis of texts by further strengthening technical control
  - To have a recognition of the peers and the stakeholders: internal scientific rigor in the experimental works, studies and modeling - Presence and solicitations of our experts in the scientific councils and external bodies - Partnership and scientific co-publications
  - Eco-design approach: *for example embedded when opening on EPR NM*

LISTENING, EXPLAINING AND INTERACTING

Environment and Society

- Various very recent ordinances reinforcing "environmental procedures" ...
  - a Charter of Public Participation
  - A reinforced consultation upstream of the projects ... at a stage of their development where they can more easily evolve to take into account the observations of the public
  - Provision of an impact study by the operator electronically on a national platform and the possibility of making observations via the Internet

➢ Our Issues:

- **Reinforce the territorial anchorage** and the opening during the exploitation to ensure the success of the future appointments.
- **Preparing for future consultative phases**: debates and public inquiry planned

➢ Our actions:

- Make our arguments accessible to common sense. We are no longer between "technicians" only; The "experts" selected (GP, CLI, ...) have a different profile. The public wants to be associated
- Know how to explain and dialogue:
  - ✓In writing: books or in popular newspapers,
  - ✓Oral: Participate in the application, in support of meetings open to stakeholders Integrate civil society more upstream in designing a project to facilitate its acceptance

CONCLUSION

For EDF, an **integrated approach** combining the professions of production (engineering, operators, builder), R & D, legal forces **to anticipate** the constraints of tomorrow ...

... to address the two key issues of the future of nuclear power: **competitiveness** and **acceptability**

THANK FOR YOUR ATTENTION

TOPICS REFLECTED IN THE REGULATIONS

- **The protection of nature and the environment is one of the interests protected by Article L.593-1 of the Environmental Code (former TSN) with public safety, health and sanitation**

The operator must protect these interests against:

- Disadvantages [water withdrawals and consumption, discharges, waste, nuisances (noise, microorganisms) in normal or degraded operation];
- And risks [incidents and accidents of any kind, radiological or not] ... presented by NBI (reactors), ... giving priority to nuclear safety and radiation protection

The **designer** must demonstrate that the technical or organizational arrangements adopted or envisaged and the general principles proposed for operating and decommissioning are such as to prevent or sufficiently limit the risks or disadvantages that the installation presents for the interests