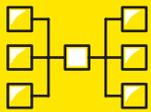


Edition 2018

# Nuclear Safety Charter





**ORGANIZATIONAL PRINCIPLES**

P.4



**ACTION PRINCIPLES**

P.8



**TRANSPARENCY AND REPORTING**

P.12



**GLOSSARY**

P.14

# NUCLEAR SAFETY: AN ABSOLUTE REQUIREMENT

Maintaining the highest level of nuclear safety has always been an absolute imperative for Orano: this applies to the safety of our products, to the safety of the solutions we develop for the benefit of our customers, and to the safety of operations.

The purpose of this Nuclear Safety Charter is to set out the Group's commitments in the fields of nuclear safety and radiation protection. It applies to all phases of the life cycle of facilities and to all associated operations carried out by Orano as a nuclear operator, industrial operator or service provider.

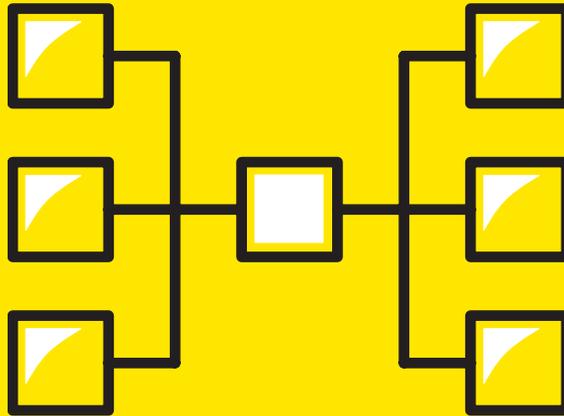
This charter should enable each of us, in carrying out our duties, to commit to this imperative personally, for the company, and for all stakeholders.



**These commitments are anchored in principles of organization, action and transparency. They build on a safety culture shared by all personnel and maintained by periodic refresher training. They are implemented through the Group's management systems.**

The purpose of these commitments, beyond strict compliance with the laws and regulations in force in countries in which we operate, is to foster a continuous improvement initiative aimed at continually enhancing our overall performance as a Group.

# ORGANIZATIONAL PRINCIPLES



RESPONSIBILITY

SKILLS

CONTROL



## Responsibility of the group's executive management and subsidiaries

The Executive Management of Orano and each of its subsidiaries establish an organizational structure consistent with the legal provisions of the relevant country and based on the principles described hereunder.

## Prime responsibility of the operator

In the field of nuclear safety and radiation protection, the prime responsibility of the nuclear operator is the fundamental principle on which our Group's organizational system is based. As such, Orano is committed to ensuring the highest level of safety in its facilities and for its nuclear activities, in order to protect the health of workers, public health and property, and to protect the environment.

Orano is also committed to helping achieve a high level of nuclear safety and radiation protection for activities performed in its capacity as industrial operator of facilities

where the Group is not the operator proper, or in its capacity as service provider.

The different entities engaged in a nuclear activity organize themselves to put the provisions of this Charter in place in accordance with the Orano Code of Ethics and the values promoted by Orano, and in compliance with the legal and regulatory requirements applicable to them. Notably, they implement organizational provisions to guard against the risk of fraud or falsification. The head of each such entity is accountable to Orano Executive Management for ensuring that this is done for all activities under their responsibility and reports on measures taken to that effect.

## A system of clearly defined responsibilities

The lines for delegation of authority for nuclear safety within Orano and its subsidiaries are the same as the operational chain of command for industrial operations: authority assumed at level (n) is necessarily the result of explicit delegation of authority

by level (n +1), within the limits of its own authority.

When delegating authority under this organization, the person delegating the authority must ensure that each person so delegated:

- has the skills required to exercise the responsibility vested in them,
- has sufficient authority, i.e. effective command over employees assigned to the action for which they are responsible, and the ability to exercise the authority delegated to them alone, without the need to consult with their management before each decision,
- has the necessary technical, financial and human resources for this mission.

Each entity manager (see Glossary section for definition), within the scope of the responsibilities vested in them, is accountable for nuclear safety and radiation protection within their entity. The entity manager puts in place a suitable organization so that legal and regulatory requirements on all aspects of nuclear safety, radiation protection and transport security are applied for all relevant units and facilities.



## Skilled support

Each entity manager ensures that persons with delegation of authority for nuclear safety and radiation protection have the support necessary for the fulfillment of their duties.

If needed, and depending on the scale of the entity in question, the entity manager puts functional support in place reporting to them and charged with ensuring consistent deployment of nuclear safety and radiation protection programs within their entity.

## An independent nuclear safety organization

An independent nuclear safety organization provides shared expertise and a level of control that is independent of the operational line.

The purpose of this independent safety organization (in French «FIS» - Filière Indépendante de Sûreté) is to assess the entity's performance in terms of nuclear safety, including quality whenever a deviation is found that is liable to impact nuclear safety, reliability of operations, or crisis management. This appraisal process has to be permanent and independent of the operational line of command.

## Independent internal control of operating personnel

Each entity manager or BU head has resources at their disposal to verify that the authority they have delegated as regards nuclear safety and radiation protection is effectively carried out and it is their responsibility to organize these resources.

They ensure that this internal control and appraisal is conducted independently from

the operating personnel to whom they have delegated authority.

**Group-level control independent of the operational organization**

The Inspector-General and the nuclear safety inspectors, who are independent of the operational organizations, are appointed by the CEO.

The inspection program is drawn up annually by Executive Management on the proposal of the Inspector-General. The program enables verification of the proper application of this charter, early detection of a potential deterioration in nuclear safety and radiation protection performance, and identification of improvements needed to ensure complete control thereof.

Relevant entity managers or directors receive the inspection results and ensure that these results are analyzed and translated into corrective actions that are incorporated into action plans.

When an inspector considers that important findings call for immediate measures, if need be the stopping of the operation or the shutdown of the facility involved, they shall inform the relevant entity manager without delay. They shall immediately report thereon to the Executive Management of the relevant subsidiary and to the CEO.

**The Safety-Environment Department: shared expertise**

At Group level, a Safety-Environment Department fulfills the following missions:

- defines, spearheads and coordinates nuclear safety and environment policy,
- ensures that skills are maintained and developed throughout the Orano

group in the nuclear safety and environmental professions,

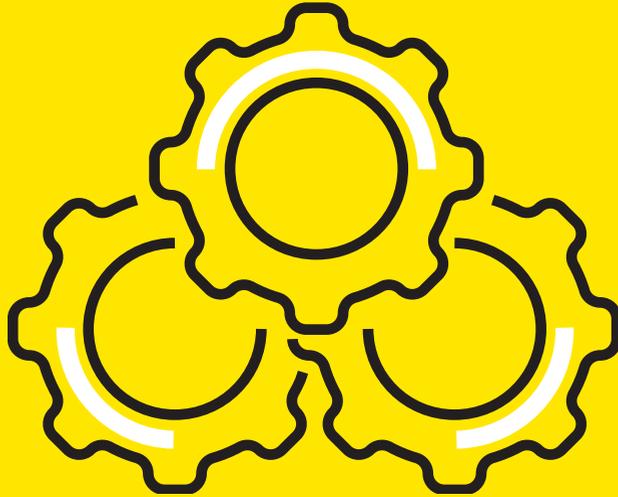
- reports on relevant achievements, best practices and events, and ensures that they are shared within the Orano group between all the subsidiaries and entities,
- coordinates regulatory monitoring in the fields of nuclear safety and the environment,
- facilitates the network of experts in the relevant fields.



**Crisis management organization**

Each operating entity sets up an organization to manage emergency situations as part of the Group's overall crisis organization. The implementation of this organization in each entity must provide for strong analytical and decision-making capability so all necessary measures can be taken in the event of an emergency or crisis situation to make safe facilities, mitigate the impact of the event and deliver information internally and externally. Drills are conducted on a regular basis to test the effectiveness of this organization.

# **ACTION** PRINCIPLES



RISK ANALYSES IN ADVANCE  
VOLUNTARY APPROACH  
INVOLVEMENT OF ALL ACTORS  
KNOW-HOW  
CONTINUOUS IMPROVEMENT



### **Nuclear safety applicable to every stage in the life cycle of facilities**

Nuclear safety applies to every stage of design, construction, operations, shutdown and decommissioning. Orano entities conduct periodic nuclear safety reviews to reassess their facilities in terms of achieving the general nuclear objectives required by regulations.

### **Prior analysis of risks as the basis of our group's safety culture**

Beyond the preventive measures taken during design, any change in operating conditions or work conducted in nuclear facilities is subject to prior analysis of the risks involved. Operators are trained and prepared to detect signs of an off-normal

situation and to have the ability to react to it appropriately and promptly.

### **Group commitment to a voluntary radiation protection initiative**

Orano is committed to keeping personnel exposure to ionizing radiation in its facilities as low as reasonably achievable in application of the ALARA principle (As Low As Reasonably Achievable), and has adopted a continuous improvement program to that effect.

Within this framework, Orano is committed to reducing the maximum individual dose to workers exposed to ionizing radiation in its facilities to 20 mSv/man/yr in countries with less stringent legislation, based on ICRP (International Commission on Radiological Protection) recommendations.

Orano also aims to comply with this limit in the context of service activities performed at our nuclear customers' sites. Group entities are working with those customers on the details of implementation.

### A sustained effort to reduce waste from operations

As part of a continuous improvement initiative, Orano fosters sustained efforts to reduce the generation of operating waste. This same continuous improvement initiative applies to the management of liquid and gaseous effluents, in order to control and reduce environmental impacts.

### Empowering employees to improve nuclear safety

As part of their professional activities, Orano employees all have an objective of excellence in terms of nuclear safety culture. In particular, they must display integrity and a questioning attitude at all times. They have a duty to alert and to report weak signals up the management line.

Management must create conditions conducive to employee participation in the practical implementation of preventive actions, by ensuring that:

- employees are fully informed of the risks associated with their work,
- their direct supervisor is receptive to their recommendations for improving nuclear and occupational safety in the workplace.

Anyone who observes an obvious malfunction or a breach of a legal or regulatory obligation or a breach of the standards covering the activity shall have the reflex and the duty to alert their direct supervisor or the next level

of management immediately and without fear of harassment.

### Identical prevention provisions for employees and subcontractors

Entity managers or their delegates shall ensure that every person working in their facilities is informed of the risks that they incur and of measures to mitigate and control these risks, and that they have received the necessary training. They also ensure that subcontractor personnel receive the same protection as regards those risks as do employees of the Orano group.

### Strong involvement of subcontractors in safety and radiation protection goals

Orano's choices in terms of subcontracting activities take the Group's commitments



in the field of nuclear safety and radiation protection into account. It is a requirement that external providers should adhere to the principles of this charter.

Orano requires of its subcontractors that they follow the same nuclear safety rules that it has adopted for itself, and verifies that these rules are applied accordingly.

### High level of know-how supported by training and skills maintenance

The very nature of the group's various fields of expertise implies a high level of knowledge and know-how and special vigilance as regards safety and radiation protection. Suitable training is developed and delivered on a regular basis so as to attain, maintain and improve upon that high level of performance. Management practices include verification that the required level of skill has been achieved.



### Lessons learned analyzed and capitalized through continuous improvement

The HSE Department organizes the dissemination and use of lessons learned so that the entire Orano group benefits from them and to develop an experience-sharing network for each field of expertise.



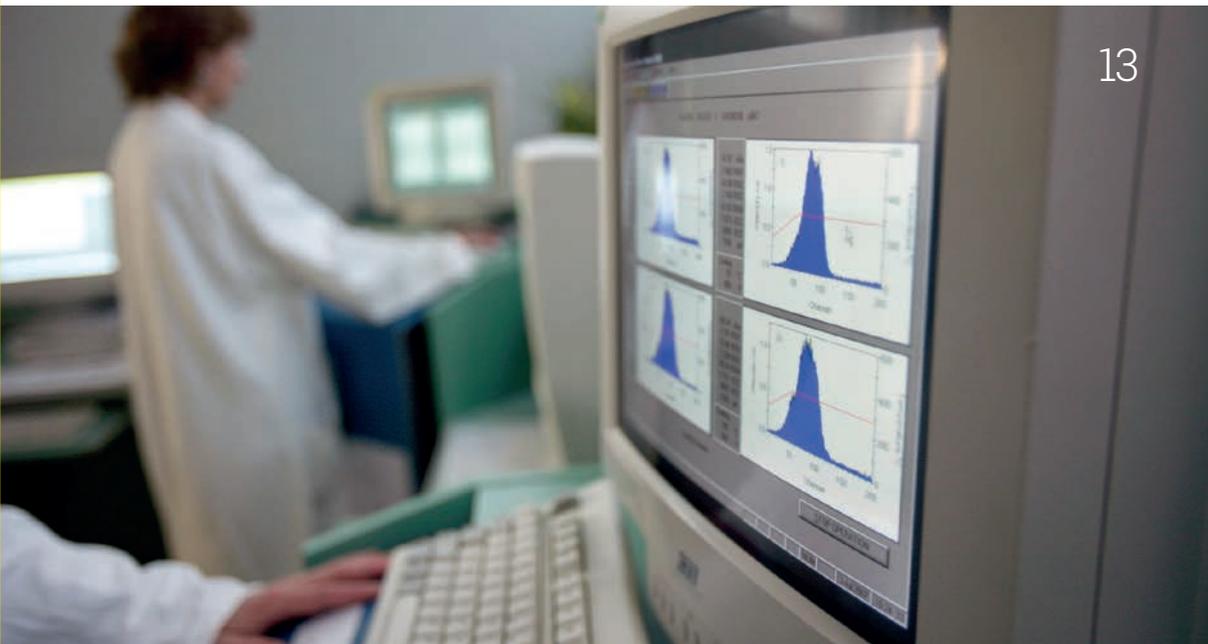
Results of inspections, both internal and external, are capitalized upon as lessons learned and analyzed as part of a continuous performance improvement initiative relating to nuclear safety and radiation protection.

This systematic analysis organized by Management contributes to lessons learned and continuous improvement.

# TRANSPARENCY AND REPORTING



EVENTS REPORTING  
ANNUAL REPORTING



## Orano endeavors to provide reliable and relevant information enabling objective assessment of the status of nuclear safety in its facilities.

### Incident reporting

Nuclear events are evaluated in accordance with the International Nuclear Event Scale (INES) at all of the group's facilities, even when this is not a regulatory requirement in the local country. Level 1 or higher events are put on record.

### Annual report of the general inspectorate

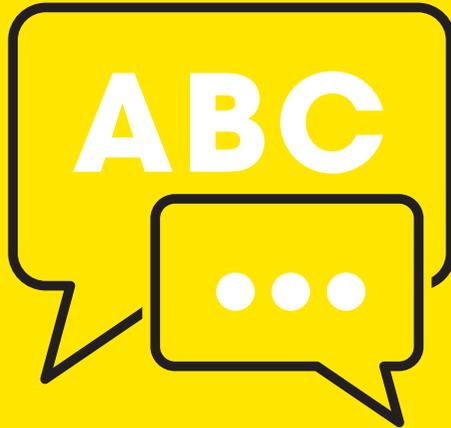
Every year, the General Inspectorate draws up a report on the status of nuclear safety in the group's operations and facilities, as recorded, in particular, through the inspection program and the analysis of events. This report is presented to the Orano Executive Board. It is put on record

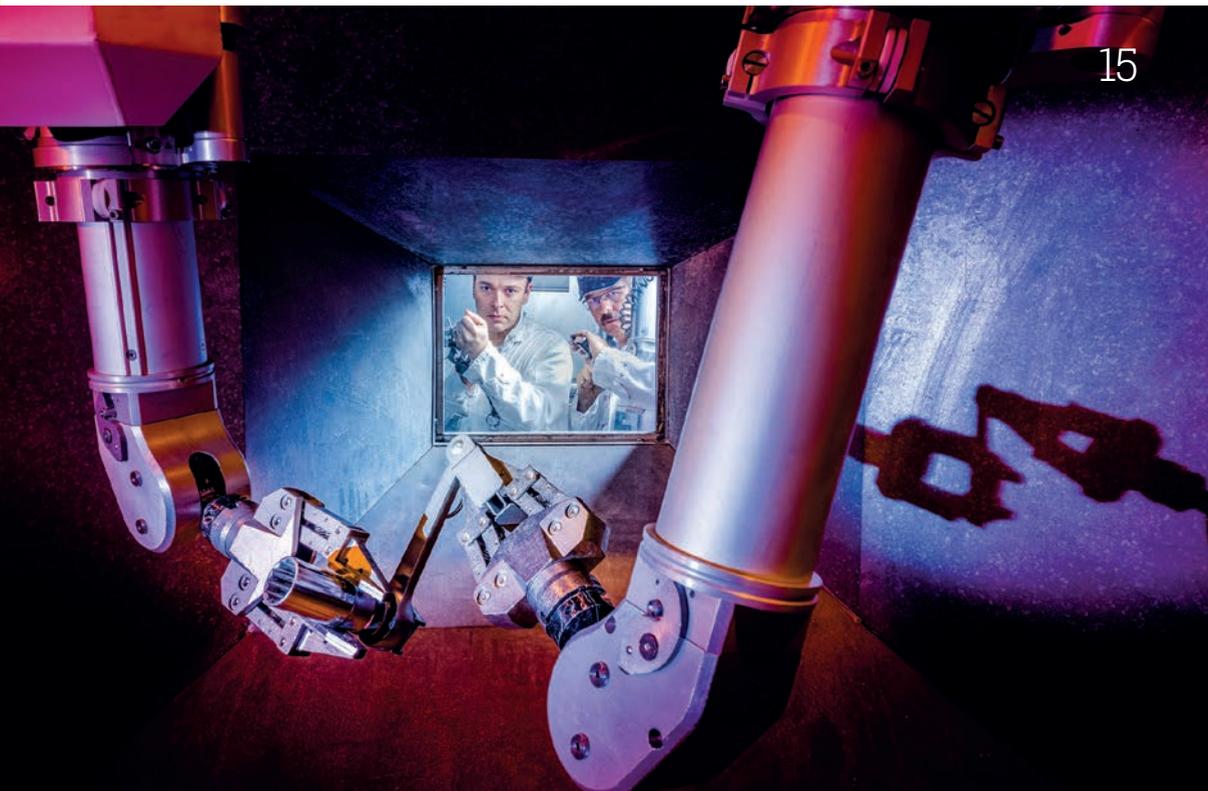
via the group's website and is provided to the relevant employee representation bodies.

### Annual reporting on occupational safety during nuclear facility operations

Each year, in accordance with Article L. 125-15 of the Environment Code, every French nuclear site draws up and publishes an annual report on nuclear safety and radiation protection. This report is provided to the local information commission (CLI) set up near the site as well as to the relevant employee representation bodies.

# GLOSSARY



**Entity manager:**

» For the purposes of this charter, the person responsible for nuclear safety and radiation protection within their entity. Depending on the type of activity and the organization in place, this responsibility may be exercised at the level of a nuclear site (site manager), a facility (facility or installation manager), or, in the case of services, a team or group of employees performing an activity in the nuclear field.

**Nuclear Operator:**

» Refers to the holder of the operating license, issued by the competent authorities in the country in question.

**Radiation protection:**

» Denotes the combination of rules, procedures, and means of prevention and monitoring, directed at preventing or mitigating the harmful effects of ionizing radiation on people, both direct and indirect, including those resulting from damage to the environment.

**Nuclear Safety (or “Safety”):**

» Refers to all of the technical provisions and organizational measures pertaining to this design, construction, operation, shutdown and dismantling of facilities containing a source of ionizing radiation, as well as to the transport of radioactive materials, and which are designed to prevent accidents and limit their consequences.

Orano transforms nuclear materials so that they can be used to support the development of society, first and foremost in the field of energy.

The group offers products and services with high added value throughout the entire nuclear fuel cycle, from raw materials to waste treatment. Its activities, from mining to dismantling, as well as in conversion, enrichment, recycling, logistics and engineering, contribute to the production of low-carbon electricity.

Orano and its 16,000 employees bring to bear their expertise and their mastery of cutting-edge technology, as well as their permanent search for innovation and unwavering dedication to safety, to serve their customers in France and abroad.

Orano, giving nuclear energy its full value.

Join us



[www.orano.group](http://www.orano.group)

Tour AREVA - 1, place Jean Millier  
92400 Courbevoie - France

Energy is our future, don't waste it!

