



ETHICS IN THE NUCLEAR SECTOR

Ethical issues in practice

Radiation protection ethics at EDF

Bernard Le Guen MD , PhD

Radiation Protection and Industrial Safety Vice President
EDF - Nuclear Power Generation (DPN)
IRPA Executive Officer

Second European Workshop on the Ethical Dimensions of the RP System
Madrid, 4-6 February 2015



THE EDF GROUP COMMITMENT IS TO:



THE EDF GROUP ETHICS CHARTER

In all circumstances, corporate responsibility involves the sharing of ethical values and commitments inspiring and guiding the actions of every member of EDF Group personnel.



GUARANTEE HEALTH AND SAFETY

Guarantee health and safety of the persons concerned by its activity and plant and structure safety



PREVENT DISCRIMINATION AND HARASSMENT

Prevent and handle any unfair or discriminatory conditions and any situation of constraint, violence and harassment arising in working life



BE RECEPTIVE TO OTHERS

Be receptive to its stakeholders: personnel, customers; shareholders, associations and public authorities and provide them with the information that is their due



PROTECT THE ENVIRONMENT

Protect the environment by managing the risks and reducing the impacts of the activity on Man and nature



ACT IN AN ETHICAL MANNER

Do not impose on personnel an objective that goes against the grain of the Group ethical values and commitments



GUARANTEE THE RIGHT TO ALERT

Guarantee to every employee faced with a situation going against the grain of Group ethical values and commitments their right to alert their management or the dedicated point of contact in the company in complete confidentiality without fear of reprisal, or if need be, as a last resort, the Group professional conduct and ethics committee



Fostering performance in keeping with the requirement of integrity, the EDF Group is built on three values:

Respect

Solidarity

Responsibility





EVERY GROUP
EMPLOYEE IS
COMMITTED TO:



ACTING WITH INTEGRITY

- Pratiquer la tolérance zéro à l'égard de la fraude et de la corruption sous toutes leurs formes
- Se conformer aux limitations et règlements de sa société concernant les cadeaux et invitations, donnés ou reçus
- Déclarer, selon une procédure respectant la vie privée, à sa hiérarchie ou à un interlocuteur dédié de sa société ou à la Commission éthique et déontologie du Groupe tout risque d'opposition entre son intérêt personnel (ou celui de ses proches) et l'intérêt du Groupe ou d'une de ses sociétés
- S'abstenir d'utiliser des informations privilégiées obtenues du fait de son activité professionnelle à des fins personnelles



RESPECTING OTHERS

- Respecter les personnes et leurs droits, et s'interdire tout comportement d'intolérance, de discrimination ou de violence physique ou morale
- Fonder ses relations professionnelles sur l'écoute, le dialogue, la confiance et l'esprit d'équipe
- Travailler en se conformant aux règles de sécurité et de protection de la santé
- Respecter et protéger la vie privée de ses collègues, des clients ou des tiers et suivre les procédures de protection des données personnelles établies conformément à la réglementation du pays où il travaille
- User de sa liberté d'expression dans l'entreprise sans porter atteinte aux valeurs, à la sécurité et à l'activité du Groupe ou d'une de ses sociétés

Ethics issues are not only a responsibility of the company, Each employee has a role to play an ethical behavior



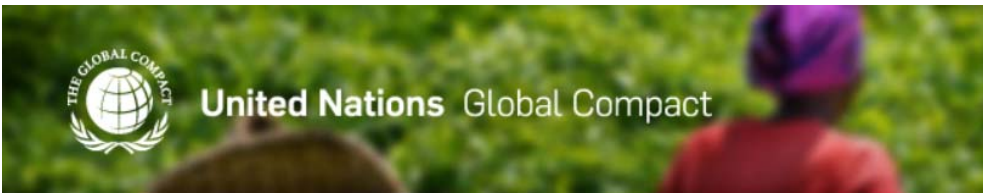
RESPECTING GROUP STAKEHOLDERS

- À l'égard des clients, agir avec honnêteté et équité, en répondant à leurs besoins, en s'assurant de la qualité et de la sécurité du produit ou du service vendu et en respectant le droit des consommateurs
- À l'égard des fournisseurs et prestataires, agir avec honnêteté et impartialité et dans le cadre de leur contrat, veiller au respect partagé des valeurs et des engagements du Groupe, notamment des dix principes du Pacte mondial des Nations Unies
- À l'égard des autorités publiques, exercer de façon loyale et responsable toute action d'information et d'influence (lobbying) en excluant toute pratique assimilable à de la corruption et en se conformant aux règles des organisations concernées



CONTRIBUTING TO GROUP ETHICS

Contribute to Group ethics by acting as a role model concerning their behaviour and deliberately promoting Group ethics within the scope of their activity and their professional relations



**HUMAN RIGHTS
LABOUR
ENVIRONMENT
ANTI-CORRUPTION**

EDF has been a member of the United Nations Global Compact since 2001.

Human Rights

- Principle 1: Businesses should support and respect the protection of internationally proclaimed human rights; and
- Principle 2: make sure that they are not complicit in human rights abuses.

Labour

- Principle 3: Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- Principle 4: the elimination of all forms of forced and compulsory labour;
- Principle 5: the effective abolition of child labour; and
- Principle 6: the elimination of discrimination in respect of employment and occupation.

Environment

- Principle 7: Businesses should support a precautionary approach to environmental challenges;
- Principle 8: undertake initiatives to promote greater environmental responsibility; and
- Principle 9: encourage the development and diffusion of environmentally friendly technologies.

Anti-Corruption

- Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

What is the UN Global Compact?

"The Global Compact asks companies to embrace universal principles and to partner with the United Nations. It has grown to become a critical platform for the UN to engage effectively with enlightened global business."

– UN Secretary-General Ban Ki-moon

[Learn More](#) | [Apply Now](#)

The Ten Principles

The UN Global Compact's ten principles in the areas of human rights, labour, the environment and anti-corruption enjoy universal consensus and are derived from:

- The Universal Declaration of Human Rights
- The International Labour Organization's Declaration on Fundamental Principles and Rights at Work
- The Rio Declaration on Environment and Development
- The United Nations Convention Against Corruption



La charte éthique du groupe EDF est accessible à chacun, depuis son site Internet : <http://ethique.edf.com>

Alertez la Commission éthique et déontologie du groupe EDF : <http://alerte-ethique.edf.com>

Focus on radiation protection

Company values far exceeding the regulatory requirements

- Adaptation of the workstation for pregnant members of EDF personnel as soon as their pregnancy is declared and their authorisations are suspended (classified radworker) (**Dignity and respect for persons, more related to our culture than to the real risk for the foetus**)
- Value of **transparency** and reporting of events
- operations carried out on a voluntary basis, such as entry in the reactor building with the unit in operation (**Autonomy capacity to choose freely, self determination**)
- setting up of dose recording, right from the start, for cases of internal contamination lower than the recommendations laid down by the ICRP (0.5 mSv instead of 1 mSv) (risk of gamma exposure from activation and fission products easily measurable)

A practical example of an ethical process for contractors from 1997 to 2015 : From a charter to contractor specifications

- In order to achieve the safety and competitiveness aims for its fleet of nuclear power plants, EDF has been totally committed since 1991 to a policy of partnership with the contractor companies based on ethical resolve (**solidarity and dignity**).
- **1997**: A first charter was signed to formalise reciprocal commitments in the following fields:
 - **transparency** of deployment of contractors,
 - **development of worker professionalism** and long-term workload forecasts ,
 - **improvement of radiation protection**, industrial safety and work conditions (**notion of equity : same condition of works**)

Successive developments

- **2004:** EDF and the professional organisations representing nuclear contractors signed a new charter of progress.
 - It confirmed the guiding principles of the initial charter of 1997,
 - It strengthened EDF commitments to contractor companies to further **improve industrial safety and quality of work practices**. It also covers **environmental aspects**.
 - With 2 commitments:
 - A place of consultation with trade unions: inter-company workplace safety committee meetings (CIEST) or equivalent (**social acceptance and dialogue so respect and dignity values**)
 - Facilitated transmission of dose records (Transparency and EDF accountability)

- **2011:** An amendment specified new reciprocal commitments in the following fields:

- Competence and development of worker professionalism.

The contractor company ensures that only employees covered by a **specific medical certificate and having passed the risk prevention training stipulated in the EDF baseline**, and refresher training where appropriate, can work in the RCA apart from exceptional duly justified situations. (**equity : same training courses**)

- Radiation Protection:

The amendment reconfirmed joint commitments in this field **by strengthening them:** the **role of Radiation Protection Officers, radiation protection certification of the contractor companies** (for example, CEFRI certification) depending on the activities carried out and analysis of deviations.



7

Ethical approach concerning the contractors: best bid culture

- The events occurring at Fukushima Daiichi nuclear power plant in Japan in March 2011 resulted in strengthening this attention.

- **2012:** It is no longer a charter but a contractual document, stipulating:

- Commitments from both parties (nuclear operator and contractor company), the honouring of which shall be tracked and checked on the same footing as technical and commercial commitments,

- It contains transparent rules common to all the participants in the nuclear power sector

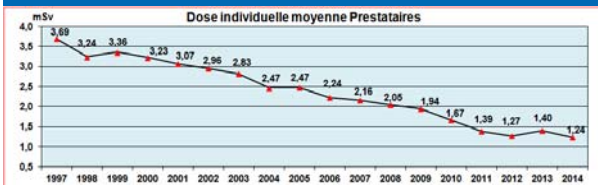
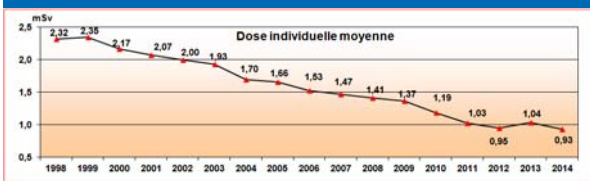
- Radiation protection innovation: Formalised arrangements in the event of the pre-alert threshold (dose constraint for the most exposed workers) of 14 mSv being reached

- (**Justice and equity**)



8

Common radiation protection practices EDF workers on an equal footing with contractor workers



Non-discrimination / justice

- Deliberate intent to decrease individual doses (doses halved in 10 years both for EDF and contractor personnel)
- Dose requirements for the most exposed specialisations: decrease over the past 6 years in the maximum number of workers with monthly dose breaching 14 mSv per year (max of 5 workers in a month > 14 mSv)

Year	Number of workers >14mSv/year
2009	70
2010	46
2011	24
2012	20
2013	8
2014	5



RP training : EDF workers on an equal footing with contractor workers

- **Non-discriminatory training: for everybody and of equal quality**
 - Identical documents that are accessible and **free of charge**: the radiation protection handbook for everybody
 - A common ALARA computer application (PREVAIR) for dose assessments (equity : to use the same tools)
- Setting up of the radiation protection club: an annual meeting attended by more than 350 RP professionals, with testimonials of good practices, round tables and joint EDF-contractor work sessions
- (**dialogue at the same level , cross cultural considerations**)



RP instruments and access to dose records

EDF workers on an equal footing with contractor workers

- principles of the right to know and access to information
 - Operational gamma and neutron dosimeters with **free access** to operational dosimetry (EDF and contractor personnel) **in real time**
 - Shared EDF and contractor computer application for worksite ALARA planning
- Effective RP equipment fulfilling the needs (fostering the advent of new products: large article monitors developed by EDF at the request of the contractors workers)



11

Conclusion

- In addition to the 3 principles of caution, non-discrimination and dignity, application of radiation protection ethics within a major company is based on receptiveness and anticipation of social demand so as to be able to take informed decisions not related to regulatory changes (**deontology**),
- Lastly, shared values foster the feeling of belonging to a group and adhesion to a contractor company and reinforce the notion of “living together”, well being and the trust (demonstrated by an annual survey performed among EDF and contractors workers).

BIENVENUE DANS LA COMMUNAUTÉ
DU GROUPE NATIONAL
EN SANTÉ AU TRAVAIL



12