

## About NuPoC

The Nuclear Power Plant and Reactor Exporters' Principles of Conduct are an industry code of conduct resulting from a three-year initiative to develop norms of corporate self-management in the exportation of nuclear power plants. In developing and adopting the PoC, the world's leading nuclear power plant vendors have articulated and consolidated a set of principles that reaffirm and enhance national and international governance and oversight, and incorporate recommended best practices in the areas of safety, security, environmental protection and spent fuel management, nonproliferation, business ethics and internationally recognized systems for compensation in the unlikely event of nuclear related damage.

A number of nations are continuing to expand their nuclear energy programs and/or extend the lives of their existing nuclear power plants in pursuit of a reliable supply of electricity amid concerns about climate change and energy security. Other nations are seeking to develop nuclear power for the first time. New vendors of nuclear power plants are entering the market while established vendors are reinvigorating their teams and supply chains to meet expected demand. New technologies are emerging that offer even safer, more efficient and proliferation-resistant designs as well as lower levels of waste.

Looking ahead, it is widely expected that nuclear energy will continue to develop throughout the world. The nuclear industry will continue to evaluate and incorporate the lessons to be learned from the nuclear accident at Fukushima, as well as the experiences of over half a century of commercial nuclear energy across the globe in preparing for the future development of nuclear power.

Although nuclear energy is already among the most well-regulated industries in the world, the PoC are inspired by the conviction that a global common high standard is necessary to help minimize both the occurrence and harmful consequences of serious incidents involving nuclear materials and technology. The PoC also represent a recognition that new global norms and requirements are emerging, such as the growing global awareness of the need for environmental sustainability, energy security and enhanced nuclear security. Continuing improvements in nuclear power plants enable existing norms to be updated as well.

Facilitated by the Carnegie Endowment for International Peace, these six principles incorporate decades of cumulative experience with nuclear technology among the participating global nuclear power plant vendors. The PoC were developed in consultation with leading experts in each field and from the input of the World Association of Nuclear Operators (WANO), drawing where appropriate on International Atomic Energy Agency (IAEA) and related norms.

All the leading nuclear power plant vendors have taken part in the development of these voluntary Principles. NuPoC will guide their independent approaches to designing their products and interacting with operators and customer states.

No such voluntary, comprehensive, export-oriented set of norms has been published previously in the nuclear industry.

Although the burden of responsibly applying nuclear power is shared by many actors—including plant operators, governments and regulators in exporting and recipient states—nuclear power plant vendors in particular have a strong interest in maintaining and enhancing confidence that nuclear energy will be applied responsibly. Vendors possess the unique expertise and experience to encourage and promote sound practices through their own work and their interactions with customers, regulators and operators.

The PoC intend to promote free and fair competition in the market for nuclear power plants and to enhance the likelihood that the global development of nuclear energy will proceed safely, securely and in an environmentally sustainable manner. They are designed to inform the practices of current and future vendors operating in this domain and to encourage other nuclear stakeholders, including market entrants (both suppliers and customers), to uphold these important standards in the public interest. The PoC help assure the global public and key industry stakeholders alike that the vibrant competition within the nuclear industry is channeled at upholding high standards of practice in the areas addressed by the PoC.

Although the PoC are not legally binding, the companies have undertaken, at the highest levels, to implement the PoC in the course of their business activities. Each vendor will apply its own internal implementation mechanisms, and to buttress public confidence in the PoC's thorough implementation, they engage in periodic implementation review meetings (NuPoC).

Through NuPoC, the companies also refine the PoC as warranted and engage new exporters and explore outreach to other nuclear industry stakeholders about the further development of the PoC.

Each company has informed its employees about the adoption of the PoC to further integrate the PoC into its business activities. The companies will also inform their customers, suppliers and other participants in the nuclear power industry about the PoC and NuPoC, and welcome their participation in advancing the PoC's goals.

## History

In October 2008, the Carnegie Endowment for International Peace convened a meeting of the world's major civilian nuclear power plant vendors and a group of world-class nuclear experts (see below) with the goal of developing a common understanding of the parameters that should guide the exporters of nuclear power plants. What resulted is a voluntary industry code of conduct that complements and often exceeds national laws and regulations, thus raising the bar globally on the standards of responsible nuclear conduct. The endeavor was inspired by the conviction that nuclear power could have an important role to play in meeting the future energy requirements of many countries, provided it is handled responsibly, and that nuclear power plant exporters share a common interest to that effect.

Over three years and seven rounds of discussion (in Brussels, Tokyo, Washington, D.C., Paris, Toronto, Seoul, and once again in Brussels), representatives from eleven companies worked alongside industry experts to craft consensus on the text of each of the six Principles.

Development of the Principles of Conduct had concluded by the fall of 2010, and a public announcement was planned for the early spring of 2011. But the public announcement was delayed in the immediate aftermath of the earthquake and tsunami affecting Japan. The participating vendors used the intervening period to reflect on the initial lessons learned from the Fukushima nuclear accident and incorporate these, as well as new safety norms that have come into existence over the past year, into the Principles of Conduct text. The participating vendors will continue to review the Principles periodically to incorporate new insights from the Fukushima nuclear accident, as well as any other best practices and updated norms that are developed in the coming months and years.

The companies involved in the drafting of the Principles of Conduct were:

- AREVA
- Atomic Energy of Canada Limited
- Atomstroyexport
- China National Nuclear Corporation (CNNC)
- Doosan Heavy Industries
- GE-Hitachi Nuclear Energy
- Hitachi-GE Nuclear Energy
- Korea Electric Power Company (KEPCO)
- Mitsubishi Heavy Industries
- Toshiba
- Westinghouse Electric Company

The diversity of experience, language and culture represented in this group made the undertaking both exceptionally worthwhile and challenging. All participants

learned a great deal from the exchanges. The initiative's experts and senior executives from the companies dedicated a significant amount of time and attention to the endeavor. All found it necessary to adjust preferred approaches and language in search of consensus. The resulting Principles reflect this unprecedented process of mutual learning and compromise, as well as an understanding that the Principles may be updated in the future as experience warrants.

The participation of the industry's leading companies highlighted the importance of ensuring that competition laws and regulations were respected. Special guidelines were developed and implemented to ensure that discussions centered on subjects relating to the broad public interest and did not involve commercially sensitive information. Legal counsel participated in all exchanges between the vendors to ensure compliance with competition laws.

All of the current exporters of nuclear power plants participated actively and intensively in the drafting of the Principles.

The following companies have adopted the Principles of Conduct:

- AREVA (Note 1)
- ATMEA (an AREVA-Mitsubishi joint venture)
- Atomstroyexport
- Candu Energy (the successor company to Atomic Energy of Canada Limited.)
- GE Hitachi Nuclear Energy
- Hitachi-GE Nuclear Energy
- Korea Electric Power Company (KEPCO)
- Mitsubishi Heavy Industries  
(including Mitsubishi Nuclear Energy Systems, a subsidiary)
- Toshiba
- Westinghouse Electric Company

Note 1 :Currently Framatome

Adoption of the Principles of Conduct is open to other vendor companies; through a review process there is a means for new entrants into the export market to adopt the Principles.

The experts that have volunteered their service to Carnegie Endowment to support the development of the Principles of Conduct and subsequently its review process include:

- Omer F. Brown, II, Attorney-at-Law, Omer F. Brown, II Law Office;
- Jacques Bouchard, Adviser to the Chairman, CEA (Commissariat à l'énergie atomique); former Chairman, Generation IV International Forum; Chairman, IAEA Standing Advisory Group for Nuclear Energy (SAGNE);
- KunMo Chung, former Minister of Science and Technology, South-Korea; co-founder

of the International Risk Governance Council; fellow of the American Nuclear Society and the Korean Academy of Science and Technology; distinguished research Professor, George Mason University and Ajou University;

·Pierre Goldschmidt, Nonresident Senior Associate, Carnegie Endowment; former Deputy Director General–Safeguards, IAEA;

·Jukka Laaksonen (until January 2012), Director General, STUK (Finnish Radiation and Nuclear Safety Authority); Chairman, Western European Nuclear Regulators Association (WENRA); Vice Chairman, IAEA International Nuclear Safety Group (INSAG);

·André–Claude Lacoste, former Chairman of the Autorité de Sûreté Nucléaire; former Chairman, Multinational Design Evaluation Program Policy Group, OECD/NEA; Chairman of the Commission on Safety Standards, IAEA; President of the 6th Review Meeting of the Convention on Nuclear Safety;

·Richard Meserve, President, Carnegie Institution of Science; former Chairman, Nuclear Regulatory Commission; Commissioner, Energy Department’s Blue Ribbon Committee on America’s Nuclear Future; Chairman, IAEA INSAG;

·Nathalie Horbach, Independent Nuclear Law Consultant, Dundee University;

·Irving Rotter, Partner, Sidley Austin, LLP;

·Frank Saunders, Vice President–Nuclear Oversight and Regulatory Affairs, Bruce Power; and

·Gare Smith, Partner, Foley Hoag LLP.

In addition, the law firms of Sidley Austin LLP and Foley Hoag LLP, as well as Bruce Power, have all made generous contributions of their expertise and services in support of the process, with the law firm of Foley Hoag LLP serving as antitrust/competition law counsel to the process and attending all meetings of the vendors.

The project was funded by the Carnegie Endowment’s own resources as well as generous support from the William and Flora Hewlett Foundation and the Alfred P. Sloan Foundation. Each vendor company paid for its own expenses incurred in the course of participation in the process.

## NuPoC as Corporate Responsibility

The Principles of Conduct reflect a recent trend in the management of global challenges. Leading industries, including those in the oil and gas, apparel and pharmaceutical sectors, increasingly have recognized the value of their reputations as socially responsible actors to their long-term business success. Growing awareness of the business risks that can arise when global companies do not meet society's expectations regarding their environmental and social performance led these major industries to establish shared norms of self-regulation. These industries have committed to apply such norms even when not legally required to do so, because the industry participants do well by doing the right thing.

Voluntary self-governance by participants in an industry, often developed in consultation with (but without the direct participation of) national governments, fuses economic self-interest with social responsibility. This is beneficial for the corporations themselves as well as the people and places in states where these corporations conduct business. Such industry efforts acknowledge the sovereignty of governments and are consistent with national laws, but build on these minimal requirements to do more for the public good and the long-term well-being of the industries they serve.

Although such norms of Corporate Social Responsibility have largely been national in scope, in recent years they have grown considerably both in importance and reach as the machinery of inter-governmental arrangements lags farther behind an increasingly globalized business environment and an increasingly interdependent world.

The Principles of Conduct represent the first such initiative to develop norms of corporate self-management to govern the exportation of nuclear power plants. Assisted by a team of leading international experts, this unique initiative places companies from six countries on three continents within a single framework of corporate social responsibility.

The nuclear industry is much more heavily and effectively regulated by states than many other industries. The IAEA also produces invaluable recommendations and guidelines for nuclear energy development. Yet at their core, these guidelines and regulations, as well as those that govern the exportation of nuclear power plants are implemented through national legislation and regulation, while the implications of nuclear power can be more far-reaching. Moreover, current state-based and inter-governmental norms and regulations governing the exportation of nuclear technology have been previously focused mainly on preventing the proliferation of nuclear weapons. (Although commercial nuclear power plants of the types exported by the participating vendors are not sources of nuclear weapons

proliferation, the Principles of Conduct emphasize the participating vendors' continuing vigilance over the application of international nonproliferation safeguards.)

By adopting the Principles, the participating vendor companies commit to also apply less well-known norms related to the exportation of nuclear power plants, such as safety, nuclear security, and environmental protection. With interest in nuclear energy spreading rapidly, new vendors and buyers are contemplating entering the marketplace, some of whom have limited to no previous experience with nuclear power.

The participants in this initiative recognized the opportunity and value of a voluntary initiative informed by world-class expertise to collect, identify and widely promote global norms and practices that encourage the socially responsible expansion of nuclear power. The Principles of Conduct demonstrate how a global non-governmental organization such as the Carnegie Endowment, top experts in various aspects of the nuclear industry and key companies with global reach could partner to develop norms of corporate self-management in a globalizing world. Every participant in the Principles has committed voluntarily to fulfill these obligations and to periodically update this document in response to changing circumstances, new norms and technological change.

Although the Principles of Conduct are not legally binding, the companies adopting the Principles have independently committed to implementing them in word and deed. All of the elements of these Principles conform to national laws and international rules, guidelines and norms. But the companies adhering to the Principles recognize that the social and economic value of nuclear power is maximized by voluntarily adhering to norms that exceed legal and regulatory requirements, such as those set forth in these Principles.