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Characteristics of a Trusted Nuclear Regulator

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The Characteristics of a Trusted Nuclear Regulator

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ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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The OECD Nuclear Energy Agency (NEA) was established on 1 February 1958. Current NEA membership consists of 34 countries: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Czechia, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, Romania, Russia (suspended), the Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Türkiye, the United Kingdom and the United States. The European Commission and the International Atomic Energy Agency also take part in the work of the Agency.

The mission of the NEA is:

- to assist its member countries in maintaining and further developing, through international co-operation, the scientific, technological and legal bases required for the safe, environmentally sound and economical use of nuclear energy for peaceful purposes.
- to provide authoritative assessments and to forge common understandings on key issues as input to government decisions on nuclear energy policy and to broader OECD analyses in areas such as energy and the sustainable development of low-carbon economies.

Specific areas of NEA competence include the safety and regulation of nuclear activities, radioactive waste management, radiological protection, nuclear science, economic and technical analyses of the nuclear fuel cycle, nuclear law and liability, and public information. The NEA Data Bank provides nuclear data and computer program services for participating countries.

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Foreword

The Nuclear Energy Agency (NEA) Committee on Nuclear Regulatory Activities (CNRA) is an international body made up of senior representatives from nuclear regulatory authorities. The committee guides the NEA programme concerning the regulation, licensing and inspection of nuclear installations to ensure safe operations. It acts as a forum for the exchange of information and experience, and for the review of developments that could affect regulatory requirements.

The CNRA has produced a series of regulatory guidance reports, commonly known as "green booklets", which are prepared and reviewed by senior regulators and provide a unique resource on key nuclear regulatory matters. The booklets examine various regulatory challenges and address the major elements and contemporary issues of a nuclear safety regime. This document is a companion piece to the green booklets *The Characteristics of an Effective Nuclear Regulator* (NEA, 2014), and *The Safety Culture of an Effective Nuclear Regulatory Body* (NEA, 2016).

At its June 2014 meeting, the CNRA reviewed and approved the green booklet *The Characteristics of an Effective Nuclear Regulator* (NEA, 2014) noting that credibility, trust and respect are universally seen to be desirable attributes that a regulator should possess. The CNRA therefore agreed that the topic of building trust was an important area for further work.

At a first NEA workshop on "Stakeholder Involvement in Nuclear Decision Making", held in January 2017, trust was highlighted as an essential component for conducting stakeholder dialogue and as a potential positive result of that dialogue. In advance of the second workshop, "Stakeholder Involvement: Risk Communication – Dialogue Towards a Shared Understanding of Radiological Risks", held in September 2019, a brief survey was conducted among participants to solicit views on the topic of risk and risk communication. Some 75% of the participants from 33 countries and regions responded that the "trustworthiness of the communicator" was the most important characteristic. At the third event, which was entitled "Stakeholder Involvement Workshop: Optimisation in Decision Making" and held in September 2023, trust was once again at the forefront of the discussions between civil society, non-governmental organisations and governmental representatives when it came to the fundamental tenets required for a more inclusive, holistic and sustainable decision-making approach.

This report is intended to provide a practical guide to explain the organisational characteristics, attributes and ways of thinking that can help a nuclear regulator build and maintain trust with stakeholders and the public. It offers examples of actions and activities that can be taken to demonstrate those characteristics in practice.

The NEA encourages and challenges all established regulatory bodies to use this report as a benchmark, so that they might continually enhance their effectiveness in fulfilling their mission to protect people and society. It is important that each regulatory body develop its own frame of reference, using this report as a basis against which it can carry out its own self-assessment. While this guidance is primarily written to inform how regulators interact with the public, the characteristics described are also relevant to how the regulators work with licensees and nuclear operators. Regulators may therefore wish to consider how these characteristics can be adopted more widely in their stakeholder engagement approaches.

Although the audience for this report is primarily nuclear regulatory bodies, the information and ideas herein are also expected to be of interest to all stakeholders involved in the nuclear industry. The NEA believes the report could be of special interest to countries that are looking to begin a nuclear energy programme and have yet to develop well-established regulatory regimes, and to nuclear power plant operators to guide their communication and engagement activities with the communities they work with.

The conversations around trust and the characteristics outlined in this report are neither exhaustive nor culture-specific; rather, they are intended to complement other work being carried out by the NEA, for example through the Working Group on Human and Organisational Factors (WGHOF) and the Working Group on Leadership and Safety Culture (WGLSC).

Moreover, because of the rising importance of building and maintaining trust, the NEA established the High-Level Group on Stakeholder Engagement, Trust, Transparency, and Social Sciences (HLG-SET) in March 2023. The formation of this group reflects the NEA's overarching objective of prioritising stakeholder and public engagement to advance trust building. The HLG-SET will engage with political and social scientists, scholars in the field of humanities, non-governmental organisation representatives and practitioners of the nuclear sector as necessary. Looking ahead, the NEA aims to support and advance its member countries' efforts to improve the understanding and development of effective policy-level initiatives that strengthen the relationship between the nuclear sector and civil society.

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This report was approved by the CNRA on 1 September 2023 by the written procedure and prepared for publication by the NEA.

Methodology

This report draws from a range of research publications and sources. This includes members of the NEA EGPC as well as the outcomes and bibliographies from the first and second NEA workshops on stakeholder involvement in nuclear decision making, and a dedicated survey in 2020 on the views of stakeholders and the public about trust and the characteristics that should be demonstrated through actions to gain trust. The quotes from regulators cited in the text are, for the most part, taken from interviews conducted for this report. A full list of those interviewed is set out in Appendix 1. Key research that formed a literature review was also taken from a wide array of international sources, academia and documents produced by the NEA, its member countries and other international organisations.

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List of abbreviations and acronyms

CNRA	Committee on Nuclear Regulatory Activities (NEA)
CSSCF	Country-Specific Safety Culture Forum
EGPC	Expert Group on Public Communication of Nuclear Regulatory Organisations (NEA)
ENSREG	European Nuclear Safety Regulators Group
HLG-SET	High-Level Group on Stakeholder Engagement, Trust, Transparency, and Social Sciences (NEA)
IAEA	International Atomic Energy Agency
INRA	International Nuclear Regulators' Association
IRRS	Integrated Regulatory Review Service
NEA	Nuclear Energy Agency
WANO	World Association of Nuclear Operators
WENRA	Western European Nuclear Regulators' Association
WGHOF	Working Group on Human and Organisational Factors (NEA)
WGLSC	Working Group on Leadership and Safety Culture (NEA)

Chapter 1. **Context and definitions**

The fundamental objective of all nuclear safety regulatory bodies is to ensure that activities related to the peaceful use of nuclear energy in their countries are carried out in a safe manner, in accordance with international safety principles and with full respect of the environment. This is reflected in the mission statements of regulators around the world, which generally promote their roles in protecting workers, patients, the public and the environment (NEA, 2014). It is also important to emphasise that, although the mission of the regulatory body is to provide oversight on nuclear safety, the prime responsibility for the safety of a nuclear installation remains with the licensee or plant operator (NEA, 2016). Thus, the regulatory body's role is to ensure that the licensee or operator meets its primary safety responsibilities, while it is the responsibility of national governments to set nuclear energy policy.

> ***Today, if regulators aren't actively interacting with the public, they cannot do their job.***
>
> Susan Copeland, Canadian Nuclear Safety Commission, as quoted in NEA, 2001

In fulfilling their mandate, regulators must prioritise efforts to establish and strengthen trust – both internally and with the public they serve. A regulatory body with a healthy safety culture provides a respectful, collaborative working environment which is supportive of open, honest and free dialogue, and where staff are able to raise concerns – and are encouraged to do so. Such an environment enables the regulator to make better-informed safety decisions by empowering its employees to speak freely.

> ***The core value of a strong safety culture is to be trusted by our employees and society in general, by showing a clear prioritisation of safety in every decision we make, acting as a unique body that shows competence in its performance.***
>
> Pilar Lucio, Commissioner, Spanish Nuclear Safety Council

Effective communication with all stakeholders builds trust and confidence both within and outside of an organisation. Clear, consistent and timely communications in plain language, along with engagement, ensure the necessary preconditions for a fruitful two-way dialogue and help to mitigate the dangers associated with infodemics (i.e. "a situation in which a lot of false information is being spread in a way that is harmful" [Cambridge Dictionary, n.d.]). The regulator should have programmes to help staff and the public understand that too much information or misinformation can obscure clarity and transparency, as well as to recognise the value that diverse views and opinions bring to assessments and decisions about safety.

Regulators engage effectively by keeping the public informed of regulatory matters, consulting widely, listening to concerns and explaining how the regulatory process works – including the scope of regulatory powers. Regulators must demonstrate how the inputs

from engagement and consultation activities are used to inform their work because the role of the regulator requires trust that they will act in the interests of workers, the public and environmental safety, making risk-informed decisions.

Definitions of key terms

"Trust" is conventionally defined as "a person's belief that another person or institution will act consistently with their expectations of positive behaviour" (OECD, 2017). It is a broad concept concerning the expectations between the trustor and trustee. There will be culturally specific interpretations of trust which cannot be fully covered in this report. Thus, the focus is on common points and general interpretation, but it is important to remember in applying the practices set out to consider the potential implications, cultural differences and cross-border impacts.

For the purposes of this report, the term "public trust" has been adopted to better define the concept of trust with respect to the regulator. It is intended to be inclusive and cover not only the "general public", but also the various stakeholders and interest groups that need to have trust in the regulator, such as communities around nuclear power plant sites and non-governmental organisations. For certain countries, this also includes Indigenous Nations and communities. The concept of "the public" can be adapted as appropriate to the circumstances for each country and regulator.

The term "stakeholder" is used to refer to those with a specific or vested interest in nuclear energy and the work of the regulator, whereas "general public" refers to the public that regulators serve and work to protect regardless of their proximity to or interest in nuclear energy. As noted, the idea of public trust includes both stakeholders and the general public, but at times the idea of stakeholder trust (or in particular, engagement) and how to build or maintain it, must be more specific or nuanced, in order to distinguish it from that of the general public.

Definitions of other key terms can be found in the glossary in Appendix 2.

Chapter 2. Why is trust important to a nuclear regulator?

Nuclear regulators require the confidence of the public they serve. They do not need to seek acceptance of nuclear activities per se but to build trust that the regulator is acting in the best interests of safety for the public and the environment. Confidence among all stakeholders and the general public is a prerequisite for successful nuclear regulation.

Trust is fundamental to public safety and is a requirement for successful nuclear energy regulation

Seeking and maintaining public trust is a requirement and integral to the governance, values and ways of working of a regulator, from the most senior leader(s) through to every team and individual in the organisation.

For the public to give this trust, they need to see and experience trustworthy regulatory practices and engagement. Building trust in the regulator's independence, ability and processes needs to be a priority for the regulator and treated as such. This will ensure nuclear workers and the public know and believe that the regulator is acting in their best interest and is always prioritising safety above all else. Regulators cannot expect trust to be automatically granted simply because of their authority and role. Trust must be earned.

> ***Maintaining stakeholder and public confidence in the nuclear regulatory body is essential for effective nuclear regulation. Public trust is of equal importance as technical competence, independence, and adequate resources.***
>
> Jukka Laaksonen, Radiation and Nuclear Safety Authority, as quoted in NEA, 2001

> ***A regulator's goal isn't just to increase safety, but to increase and enhance the subjective sense or feeling of safety.***
>
> Verena Ehold, former Director, Division of Radiation Protection – V/8, BMK, Austria

As the nuclear sector continues to evolve, regulators must consider how they will engage with and inform both host and potential host communities, as well as the public, on the regulation of new nuclear technologies and other types of nuclear installations such as waste storage facilities or final repositories, as just two examples. Rather than limit engagement and information-sharing with those directly impacted, it is important that regulators identify who is interested or affected regardless of location, and ensure they are informed and engaged. This includes new communities that may not have had contact with nuclear technology before. Recognising interests enables the regulator to take deliberate action towards building trust.

Communication via mutually agreed channels to the public of neighbouring countries (where there may be cross-boundary impacts) is also vital to fostering mutual understanding and trust, while being aware of and respecting different cultures, traditions and attitudes.

Building trust can lower barriers to effective communication

The rapid spread of information and the challenges of misinformation have led to greater mistrust in public authorities and, at times, the integrity of those in public office. As the world experiences more frequent infodemics, it becomes even more challenging for regulators to maintain and strengthen public trust. Few other industries attract the high level of public interest and media coverage that nuclear energy does due to the potential for a severe impact on a global scale when something goes wrong.

Trust can help regulators lower or remove barriers to effective communication, including efforts to manage dissenting and differing views, and addressing misinformation when necessary. In this way, effective communication allows for effective regulation.

Nuclear regulators need to be able to rely on an established, credible reputation in times of crisis

Building a reputation as a trusted regulator takes time and requires action. This is work that needs to happen during "normal" or "routine" times, and on an ongoing basis. A strong reputation includes trust and will allow the regulator to rely upon and use the trust that they have earned in the event of an accident or emergency. Confidence and trust are also very easy to lose. Thus, regulatory bodies must continuously earn and strengthen trust through their conduct and everyday work, including when making significant and/or potentially controversial regulatory decisions.

> *In a crisis you can have a deficit of trust, so you need to build that balance sheet during normal operating times.*
>
> Dan Dorman, Executive Director for Operations
> US Nuclear Regulatory Commission

During times of normal operation, regulators and licensees/operators must take time and devote energy to sensitising their communities to existing risk mitigation measures. It is essential that both regulators and operators are transparent with respect to hazard analysis and mitigation measures as a lack of communication in this area can lead to public distrust if viewed as a failure to acknowledge hazards appropriately. They must acknowledge the nature of a spectrum of potential hazards and provide evidence that the appropriate efforts are being made and appropriate attention is being given to these potential hazards. In the event of an emergency, it is critical to communicate early, continuously and effectively to all audiences. Regulators must also ensure that licensees communicate effectively to help provide the public with credible, timely and reliable information. This will help prevent a communications vacuum from occurring as any gap in communications will quickly be filled and the risk of misinformation gaining traction is real.

Earning and maintaining public trust will increase the likelihood that the public will accept and will comply with protective actions and other response actions recommended by the authorities in an emergency. The public needs to trust the information they are receiving or have access to, so that they act on the advice and direction to keep them safe and keep society functioning whatever the crisis and in the face of any fear that they may harbour.

Trust is necessary for robust international collaboration

As nuclear activities can have international implications, there is a shared interest in information regarding nuclear activities in all countries. The public and regulator need to trust that regulators from neighbouring countries are fulfilling their role in an effective way – both in normal circumstances and during emergencies. Transparency, openness and sharing of information between countries, where possible, help to mitigate mistrust stemming from the work of others or different thresholds for assessing and addressing common areas of concern.

> *Trust has no boundaries. The digital age we are living in has reduced borders even further and the information we share can – and will – be accessed by many.*
>
> Rumina Velshi, President and CEO, Canadian Nuclear Safety Commission

International groups such as the International Nuclear Regulators' Association (INRA), the Western European Nuclear Regulators Association (WENRA), and the European Nuclear Safety Regulators Group (ENSREG) as well as the NEA Committee on Nuclear Regulatory Activities (CNRA) and others provide regulators with formalised engagement and collaboration opportunities. Co-ordination to amplify messaging where applicable, while respecting different governments, mandates and accountabilities, can also help increase exposure to credible sources of information and help clarify responsibilities. Moreover, bilateral and multilateral agreements between regulators are an important tool to help establish and enhance trust by outlining terms for collaboration on issues of common interest, such as nuclear safety and radiation protection, while being aware of and respecting different traditions and attitudes. Such agreements and formalised collaboration and communication help to strengthen trust among national stakeholders and the public while enhancing international co-operation.

Regulators can also increase their credibility with the public by participating in peer reviews or similar programmes offered by agencies such as the International Atomic Energy Agency (IAEA) and the NEA. Conducting a peer review can help to identify gaps or opportunities in a regulator's processes and to give confidence that "the regulator is being regulated". Participating in reviews or forums hosted by other countries also offers regulators an opportunity to observe and learn. Sharing the results of these reviews early and inviting public comment, when possible, can also aid in building trust.

A regulator's safety culture is integral to fulfilling its mandate

To ensure and promote nuclear safety externally, the regulatory body must foster effective co-operation, internal engagement and transparency within its own organisation. Without a healthy safety culture, there cannot be internal trust, which is critical for organisational success in building and maintaining trust with stakeholders and the public. Successful organisations are open and transparent, working to ensure inclusive, two-way communications both internally and externally. A healthy safety culture is supported by staff who are aligned and engaged towards the same safety objectives. Such awareness contributes to the development of a respectful environment that supports open, honest and free dialogue and leaves room for fearless advice when required. As a result, safety remains the priority. An organisation that has trust within can respond quickly when needed. What happens inside the regulator is projected outside in how it works with the public and stakeholders and supports sound safety decisions.

To build trust and confidence, the regulatory body should communicate and consult in an open and transparent manner. The scope and nature of these activities should be such that it is clear how the regulatory body's mandate is being discharged, and why and in what manner decisions are made. Regulators must act outside their organisations in the way same way that they behave inside (Dorman, 2022). If a regulator does not have strong internal trust, or, in other words, integrity, it will not be able to successfully establish external trust.

Nuclear regulators rely on public engagement and feedback to build trust

A regulator that works to build trust will have access to information through effective engagement. Consultation can help the regulator be more effective, but such engagement must be authentic and requires the regulator to take the time to actively listen. Open and transparent engagement enables two-way communication and information-sharing between the regulator and those it consults. Deliberate engagement and exchanges of information with stakeholders and the public can provide greater diversity of perspective and opinion. In an overview of key stakeholder engagement activities Marcia DiStaso maintains that it is essential to "…engage with more than who you know" (DiStaso, 2015). It also allows the regulator to clarify what is or is not within the regulator's power to change or address. By establishing a consistent exchange of information, the regulator can more easily demonstrate its integrity and how the feedback from engagement is used to inform decisions. At a 2021 event on youth engagement, then-PhD student John Lindberg also advocated for embracing more diversity in the industry, noting that "…diversity makes the entire nuclear sector more flexible and dynamic, and, at the end of the day, more successful. It helps us to avoid the well-known dangers of groupthink and of getting stuck in 'echo chambers', where groups only hear the same perspectives and opinions repeatedly." He added, "Public engagement is one area, where additional diversity of thought is crucial, as it would encourage new and innovative methods for engaging with the public on the benefits of nuclear energy" (Harvey, 2021).

When necessary, it is also important that the regulator explain why it disagrees with a point of view. Increasing understanding among stakeholders and the public helps the regulator to increase trust and acceptance of its regulatory decisions.

While the regulator may not always be able to gain the support of all stakeholders or the public for its decisions, trust can help with the acceptance of regulatory decisions.

Feedback can also come through research efforts. Public opinion research that focuses on one specific topic or covers a range of issues, can provide the regulator with information and data leading to a better understanding of how different audiences perceive the subject at hand and where there may be information gaps. Research methods can include surveys targeted to specific audiences or of the general population, surveys following engagement activities, or focus groups, etc. Regulators should also periodically survey internally and/or perform self-assessments to identify where there may be employee knowledge gaps to create opportunities to address these. Regardless of the feedback mechanism a regulator employs, it is important to identify opportunities to seek input regularly, use the information gathered to assess priorities and programmes and share the feedback received publicly and with its staff while outlining how it will be addressed.

Chapter 3. Characteristics of a trusted regulator

Trusted regulators possess specific sets of characteristics that contribute to building public trust. Regulators who work in an open and transparent manner and engage early to ensure inclusive, two-way communications encourage diversity of thought and insight. This diversity of thinking can help identify risks and opportunities that may inform regulatory decision making in the interest of public safety. The regulator should be seen by the public as a competent, professional, engaged, impartial and independent body that makes timely decisions, communicates in an open and honest way, and ensures the required level of safety and protection of the environment.

> ***Effective public communications and engagement are fundamental functions for a nuclear regulator. It is critical, as regulators, that we commit resources to continue building, retaining and enhancing trust with the communities and public we are here to protect. Our success will always depend on their confidence in us.***
>
> Mark Foy, Chief Executive and Chief Nuclear Inspector, Office for Nuclear Regulation, United Kingdom

The following five sets of characteristics form the basis upon which a regulator can build trust. Together, they constitute a framework for establishing and enhancing confidence and trust in the nuclear regulatory body. While each characteristic is deemed necessary, no one is sufficient on its own. It is the combination of these attributes that supports trust in the regulator. These characteristics have been identified through extensive research, including a literature review, a survey of regulators and stakeholders followed by interviews and consultation. The aim is to ensure alignment despite differences in culture, language or regulatory responsibilities.

Independent and objective

Being **independent** is staying free from external control or influence of any kind, including from pressure groups, government or industry. It means not being subject to another's authority and must be clearly established in law and demonstrated by visible actions and decisions.

Being **objective** is ensuring that decisions are not unduly influenced, for example by personal feelings, political views or other opinions in considering and representing facts.

Regulators need to be independent from undue influence in decision making, which includes political independence, financial independence and technical independence. Independence is fundamental to ensuring that the regulatory body is able to perform its functions to ensure safety and that it has sufficient authority to avoid any conflicts of interest regardless of the regulator's functional separation from government or parts of the

government. Such independence enables a regulator to take, when appropriate, strong decisions, such as requiring the closing of an unsafe facility (NEA, 2014).

To build and strengthen public trust, regulators must also demonstrate – in law, actions, accountabilities, governance and decisions – how they perform their role objectively and carefully balance risks, without undue bias or favouritism in their judgements.

Independence does not mean working in isolation – the regulator must have frequent and open discussions with stakeholders and remain accountable to the public. Regulators must be committed to understanding societal concerns and responding to them as appropriate, and must manage the public's concerns by bringing solid risk communication principles into their regulatory work. Regulators must balance such engagement by ensuring their decisions are based on the best available science and an understanding of the risks involved. While all perspectives should be heard as a part of the regulatory process, the regulator must remain objective throughout the process and demonstrate independence from those interested in nuclear energy, including the industry, government, energy policy makers and non-governmental organisations.

Competent and credible

Being **competent** is demonstrating the necessary abilities, knowledge and skills to carry out the assigned work.

Being **credible** is demonstrating the knowledge, experience, qualifications and expertise in relevant areas while also communicating in a way to earn trust.

Since the oversight of the regulatory body covers many subjects, it is critical that the regulatory body develop and maintain its technical independence by ensuring that its staff are fully competent in all relevant technical areas (NEA, 2016) and articulate how this informs its decision making, including where external research and expert advice has been utilised. As outlined in *The Characteristics of an Effective Nuclear Regulator* (2014), core technical competence and experience are the basis of an effective regulatory body, and thus directly impact the trust of the public they serve. Competence and expertise are the foundation of many of the other characteristics of an effective and trusted regulator, supporting attributes such as independence, transparency and credibility. Credibility, much like the trust it supports, can quickly be damaged and is reliant on the regulator demonstrating its effectiveness through actions and decision making.

The public's trust in the regulator is dependent on its confidence that the regulator is competent and able to fulfil the role it is required to perform, and that it is viewed as a credible source of information. The regulator must demonstrate it possesses or has access to the knowledge and expertise in relevant areas so that the public knows that the information it shares – be it during times of normal operation or during a crisis – is both credible and can be trusted. Such credibility is dependent on the regulator being able to explain its requirements and expectations to licensees and stakeholders in a clear and concise manner, while also ensuring appropriate stakeholder involvement within decision-making processes. Such involvement provides the opportunity to bring a broader perspective and understanding to decision-making, which can also in turn contribute to improved credibility.

The regulator must be able to independently justify or verify technical, regulatory and legal information when there is a need in order to be viewed as both competent and credible. Thus, it is important to highlight the competence and technical expertise of staff. The regulator should demonstrate their expertise, qualifications and experience, and be ready to draw from other knowledgeable staff and external experts, such as academia and professional bodies, across the range of disciplines necessary to regulate the nuclear industry effectively.

Formal peer review programmes, such as the IAEA Integrated Regulatory Review Service (IRRS) missions, for example, can provide a forum for accountability where trained experts can help regulators assess their performance against international standards, which in turn can help build trust both nationally and on the international stage. Reviews offer regulators an opportunity to benchmark and learn from international counterparts, while helping to build credibility with the public they serve when such reviews confirm sound regulatory practices are in place.

Open and transparent

Being **open** is operating in a way which does not conceal thoughts or information and supports ongoing communication. It means being receptive to a free exchange of information, communications, change and new ideas and ensuring access through stakeholder engagement.

Being **transparent** is proactively disclosing relevant, accessible and accurate information about the regulatory process and decisions.

Regulators must establish, and show through actions, a culture of openness and transparency. The nuclear regulatory body must be open and transparent by adopting a policy of disclosure of information and of stakeholder involvement to ensure that the public is informed about the regulatory process. The regulator should share clear and coherent information promptly with the public it serves, communicating about its role, responsibilities, activities and decisions in a way that can be readily understood and accessed. This also means calling attention to issues and concerns identified by stakeholders when they arise, and being open and responsive to questions, criticism and feedback.

Openness and transparency must be integrated in all aspects of the regulator's programmes, policies, services and enabling technologies. From inception, consideration should be given to what information will be publicly released and how. Regulators must be clear with the public on what information can be shared and what cannot. Given the highly sensitive nature of some information, it is recognised that regulators cannot release everything to the public. However, the regulatory body must be open and transparent with the public on where there are restrictions to the dissemination of information, so as to ensure that questions do not arise due to assumptions or speculation that the regulator is 'protecting' a licensee.

To ensure transparency, it is important for the regulator to consider accessibility and take a user-centric approach to disseminating information. The regulator needs to provide context to increase understanding and ensure information that is relevant, accessible and accurate is shared proactively. However, overwhelming the public with too much

information and not enough context is not being transparent. Regulators must take a strategic approach to the dissemination of information to best serve transparency efforts. Availability of information, the transparency of regulatory activities and providing clear, plain language reasons for regulatory decisions can lead to increased public confidence that regulatory activities are underpinned by robust criteria and processes.

Honest and impartial

Being **honest** is presenting information in a truthful and sincere way, free of deception.

Being **impartial** is treating all information, participants and actions within the regulatory process in a balanced and unbiased manner.

Regulators should strive to present all information, such as facts, evidence and processes, in an unbiased and factual manner. They should look to be honest and upfront by clarifying where there is uncertainty or gaps in knowledge and explain why it matters and what the regulator is doing to address such uncertainty or gaps. More specifically, the regulator should be open about potential weaknesses in the regulatory programmes or shortcomings in knowledge and be clear that incidents and accidents cannot be absolutely eliminated – it is vital that the regulator is honest and clear when communicating about risk to the public. Information should be balanced and accurate and provided in a clear and impartial way so that it reliably informs the public.

It is important that the regulator behave and communicate in a way that assures the public that its focus is safety. The regulatory body should not be biased or appear to be in favour of, or against, the use of nuclear energy, radiation technologies or any other interests. Regulators should keep adequate distance from stakeholders involved in energy policy – government, industry and pressure groups. While engagement, including consultation, where appropriate, with various groups, is necessary as a part of the regulatory process, it should be conducted in a manner that is consistent and does not call into question the regulator's independence. It is incumbent on the regulator to treat all participants in the regulatory process in a balanced manner to ensure they can contribute in a meaningful and effective way. Regulatory bodies should be upfront about such engagement to ensure they are being honest about how they conduct their affairs and mitigate accusations of impartiality due to lack of information or transparency.

Fair and engaged

Being fair is operating in a manner that is in accordance with the rules or standards and is balanced in approach to avoid providing an unjust advantage.

Being engaged is being open to and encouraging two-way dialogue and conversation with stakeholders and the public and establishing structures and processes to engage.

In order to earn and maintain the trust of the public they serve, regulators must be proactive and seek diverse views and input. They must demonstrate an understanding that they are making decisions that affect the public and society, and that they are committed to integrating societal concerns into their risk assessments. An engaged regulator helps to ensure that the public has confidence that it is actively listening and duly considering all inputs. Co-operation and dialogue with other regulators, government departments, international organisations and non-governmental organisations also helps to ensure that the regulator is engaged and knowledgeable. A regulator's ability to engage is key to creating and strengthening trust as it takes emotional and social intelligence to understand stakeholders and how best to work with them. Regulators need to be compassionate and authentic in order to build a rapport with the public and enable a psychologically safe environment to share views. When engaging with stakeholders and the public, the regulator must demonstrate active listening and empathy towards their concerns, even if there is no consensus in thinking or view.

Stakeholder involvement in decision making provides the opportunity to increase public awareness, understanding and acceptance of decisions in the nuclear domain. Incorporating societal input into decisions in a fair and balanced way can help achieve better-informed and more sustainable choices. It is an important part of building public confidence, not least because citizens expect to voice their concerns and preferences, and to be able to influence decisions of significance to their communities and the environment.

Making sound regulatory decisions requires listening to and considering the input from those affected by the decisions. Nevertheless, without a certain degree of trust in the regulator and the process, there is a risk that individuals and groups may not participate fully. This, in turn, could weaken and call into question the legitimacy of the regulatory process. Engagement with stakeholders and the general public is essential, and regulators must take action – in line with the suggested tactics in the next chapter – to ensure it is secured effectively. At the same time, engagement should not impose unnecessary burdens on the regulatory process and should be managed in such a way as to avoid consultation fatigue.

Chapter 4. Trust in practice – tactics to build and maintain public trust

Availability of information, effective communication and two-way dialogue can help to build and maintain trust with stakeholders and the public. To be effective, it is imperative that the regulator demonstrate leadership and ownership in this area. While the focus of this report is on providing the regulatory body with the necessary tools and information to actively build trust, the regulator must also consider how to assess its effectiveness by monitoring performance as a part of its trust-building programme.

The following ten tactics constitute guidance for regulators to establish and maintain the characteristics set out earlier to strengthen and build public trust in a nuclear regulatory body.

1. Ensure building public trust is a fundamental part of the regulatory programme

- Allocate budgeted resources, dedicated staff (public engagement and trained communication officers) and outline relevant frameworks and strategies to support effective engagement as a part of the regulatory programme.
- Establish trust building as one of the regulator's strategic priorities and a common goal for every employee. This includes establishing the right organisational values, such as acting with integrity and operating independently, which drive such behaviours. These must be modelled and enabled by senior leadership.
- Inform the public on the role of the regulator and what is within the regulator's control. Informing the public on the role of the regulator versus the role of other stakeholders (e.g. licensees) can help instil trust in the regulator's actions.
- Ensure communications are timely, even if they cannot be complete. It is better to communicate partial information immediately and commit to providing regular updates rather than wait for confirmation of all details and risk a communications vacuum occurring.
- Have and implement a strong policy on conflict of interest to ensure that the regulator remains truly independent despite the small community that is the nuclear sector. This will support public perception when expertise moves from one area of the sector to another.

2. **Establish and maintain a trustworthy decision-making process**

- Actively inform the public on the decision-making process so that they understand what is involved. While some will disagree with outcomes, they are more likely to understand and accept decisions if they understand the process and accept it as credible, timely, independent and objective.
- Acknowledge and explain in plain language that regulatory decisions are evidence-based and will include risk-informed judgements. Clear explanations and discussions about how those judgements were made (the evidence and factors considered, and the guidance/regulations applied) can help build trust and understanding between people and the organisations that serve them.
- Actively consider how to ensure parity between industry, stakeholders and the public wherever possible, including interactions, and access to regulatory staff. Clarify roles, responsibilities and rules for engagement to ensure that everyone can be heard and feels that they can speak up.
- Hold discussions about shared or common values as they can help build trust and understanding between the public and regulators acting on their behalf, and can form an agreed way to work together with mutual respect.

3. **Continuously strengthen safety culture**

- Maintain "safety first" as the guiding principle of the regulatory body and demonstrate leadership for safety at all levels. The prioritisation of safety over other competing requirements should be ingrained in the culture of the regulator.
- Foster co-operation within the organisation.
- Provide a respectful, collaborative and inclusive working environment which supports open, honest and free dialogue that welcomes diversity of thought and views – because what happens inside an organisation will set the precedent for how it engages with those outside of it.
- Encourage staff and stakeholders to freely raise concerns through the various mechanisms available.
- Outline expectations with respect to safety culture for all stakeholders so that they too operate in a manner that builds internal trust within their organisation.
- Operate in an open and transparent manner that is inclusive and relies on two-way communications both internally and externally.
- Externally, ensure that this two-way communication facilitates the creation of a shared safety culture where stakeholders feel psychologically safe to speak up.
- Operate with integrity. The regulator's external actions should reflect internal behaviours and values, and vice versa.

4. **Establish a known identity**

- Develop an identity that reflects organisational values and that will be recognised through communication channels and in how regulatory body staff engage. If done in a consistent manner, it can build recognition and understanding, which will have a direct impact on a regulator's reputation. During a crisis it will ensure the public turns to the regulator as a trusted and credible source of information.

- Establish a consistent visual identity and voice on communication channels, including an official website, social media channels and other publications. This should carry through to active participation in exhibitions and conferences through booths and materials.
- Underpin the identity with effective stakeholder engagement activities. This engagement, done correctly, can help a regulator move from simply being recognised to being trusted.
- Build an identity through proactive and accessible information and visibility; this should be implemented through a long-term strategy for public communication and engagement and requires efficient and effective communication through a variety of channels.
- Foster a sound relationship with the media by, for example, leveraging news releases/conferences, collaborative articles, and providing regulatory experts as spokespeople. For most, traditional and social media are important channels for information to reach the public; and establishing strong relationships with different outlets and across different channels will help to increase awareness and build the regulator's identity.
- Use contacts and partnerships, especially with people and organisations that have credibility with the public, to advocate or at least share information on behalf of the regulator. Partnerships with authorities working in other domains of public safety or environmental protection may help increase awareness of the regulator and its role. Working with institutions providing public education, and in particular the scientific community, as well as the media, non-governmental organisations and other stakeholders, can also help.

5. **Make information available**

- Make information on regulatory activities and decisions readily available through appropriate regulator and/or governmental channels, including official websites and social media. Traditional media should also be considered and used as appropriate. More detail should be provided through correspondence or face-to-face meetings, as required.
- Know the audience. Identify what they need to know, what they are interested in knowing, and tailor communications and information to reach them.
- Ensure details of public hearings, citizen panels and other open forums are announced well in advance and communicated about in a manner that ensures stakeholders can participate.
- Ensure information on regulations, regulatory guidance and related consultation efforts, is clear and readily available to the public. Where appropriate, make simplified guides available.
- Consider having a public registry or other central repository that includes information on regulatory activities, decisions, interactions and meetings so the public can easily see the breadth and nature of the regulator's work.
- Be clear in explaining why some information cannot be made available in the public domain and actively communicate this.

- Be mindful that posting everything without a strategic purpose may have the effect of obscuring transparency. Share relevant information in an accessible, clear and well-organised manner that provides enough context for understanding and is presented with the end-user or audience in mind.
- Be proactive in addressing misinformation and inaccuracies. Dealing effectively with questions and uncertainty as well as employing a strategy of "detect and correct" will ensure that accurate information is available to the public in a timely manner. Without this, trust and credibility will erode.

6. **Put in place regular engagement and consultation activities**

- Keep people informed about regulatory matters, listen to their concerns, and explain how regulatory processes work, including the boundaries of regulatory powers and what issues are the responsibility of others.
- Actively encourage public involvement in regulatory activities – use a range of communications and engagement channels to support the needs of different audiences and ensure accessibility is front of mind (including digital and face-to-face).
- Engage and exchange information with policymakers and legislators, where appropriate, to facilitate alignment and support ongoing engagement activities. Independent regulators must still be collaborative to ensure they are informed and to in turn gain trust.
- Identify ways to make it easier for stakeholders to provide their input while also ensuring it does not impose unnecessary burdens or barriers to effective regulation.
- Show how the inputs from engagement are used – stakeholders need to know their views, concerns and opinions matter and can make a difference.
- Explain that reasoned arguments carry more weight with regulators than simple statements of objections.
- Exchange information and communication with other regulators, as well as stakeholders and the public of neighbouring countries (where there may be cross-boundary impacts), to foster mutual understanding and trust, while being aware of and respecting different traditions and attitudes – remember trust has no boundaries.
- Consider how to keep engagement interesting and relevant to the targeted audience. Take note of digital trends, for example, and adapt to keep engagement efforts current.

7. **Communicate in plain language**

- Communicate in clear, succinct and plain language. Avoid technical jargon – use simple explanations for complex issues so that the public understands what regulators are saying and what their decisions mean for them. When providing information in plain language, avoid oversimplification that could lead to inaccuracies or misunderstanding.
- Be consistent in the language used and recognise where terms change over time and why.

- Consider the impact of using nuclear sector expressions when communicating with the public about safety. Some expressions, such as "passive systems" and "ageing management", may require further explanation. If a member of the public is not familiar with these expressions, it is possible they could interpret them negatively.
- Identify and address knowledge gaps with the public. Acknowledge what the regulator does not know (when applicable) but outline what actions it is taking to seek the relevant information.
- Use alternative methods of communication when appropriate and feasible. For example, visuals such as diagrams, infographics, photos and video help increase understanding and enhance the written word, making information more accessible. However, these should be used strategically so as not to impact their success through overuse.
- Use language that aligns with the regulator's independent role. For example, when referring to the nuclear industry avoid using "we". When speaking about nuclear energy in the broader sense, use "sector" to encompass all aspects and provide separation from "industry".
- Consider using comparisons to help explain and increase understanding. Comparisons that are intended to put radiological health hazards and radiation exposure in perspective should be as clear and comprehensible as possible. Comparisons should be appropriate to the national and social context and should be relevant to the audience (e.g. compare to background radiation levels, or those used in medical procedures).

8. **Encourage staff training in risk communication, engagement and consultation**

- Build internal expertise on effective engagement with stakeholders and the public and how it can be carried out effectively.
- Ensure subject matter experts are equipped to provide information in a clear and concise way. They need to speak and answer questions in plain language, avoiding technical jargon, without diminishing their expertise on the subject. Media training should be provided as appropriate.
- Help staff to understand the importance of active listening and how it can be carried out effectively.
- Help staff build and maintain direct contact with key stakeholders because people tend to trust individuals more than organisations. If they can put a face or name to the regulator, it will help build trust and common understanding.
- Ensure staff are aware of the various relationships and collaborative partnerships the organisation has. Provide relevant details on how to operate within that context, including specific nuances or sensitivities in order to avoid inadvertent damage to existing or new relationships.

9. **Seek and enable feedback and welcome peer review**

- Ask people what they think of the regulator through various mechanisms (e.g. feedback forms during outreach activities and surveys) and consider more formal mechanisms for feedback such as public opinion research. This includes the public and any other groups or organisations the regulator works with, such as government departments and licensees.

- Seek input regularly on what the regulator does well and how it can improve – this will help inform the targeting of stakeholder engagement priorities and programmes.
- Share the feedback the regulator receives publicly and outline how it will act on it.
- Use formal peer review programmes, such as the IAEA's Integrated Regulatory Review Service (IRRS) missions to improve and benchmark communications and stakeholder engagement against international standards and best practices. The Country-Specific Safety Culture Forum (CSSCF) is another programme offered by the NEA and the World Association of Nuclear Operators (WANO) that helps expand a regulator's understanding of the country and culture in which it operates and helps to inform how it works and makes safety decisions.
- Look internally and conduct self-assessments to identify gaps and opportunities to address.
- Be sensitive to differences in not just professional expertise, but capacity, availability and potential constraints. Regulators are funded and staffed in contrast to some stakeholder groups whose members engage on their personal time and often have limited resources.
- Be open to new or unexpected information. Remember that communities can have unique local knowledge and experience to contribute.
- If possible, consider providing participant funding (such as expenses to attend) to those who wish to engage with the regulator, as a way to seek and enable feedback.

10. **Establish and maintain sound crisis communication practices**

- During a crisis, event or radiological emergency, information should be readily available through appropriate channels, including official websites and social media and as it aligns with national protocols. Traditional media should also be considered and used as appropriate. It is essential to communicate early and often to gain public trust at the outset of a crisis.
- Recognise that a crisis includes a threat to public trust, but is an opportunity as well. A good communication strategy that is clear, honest and educational, and which includes regular and consistent messages, contributes to improving trustworthiness.
- Be ready to act quickly. As the regulator, communicate what is known, when it is known. Strive to communicate quickly and provide frequent updates. It is not necessary to wait until an incident is fully understood to start communicating and providing updates.
- Carry out preparatory work. This should include developing pre-approved messaging and language to draw on, creating templates and shared resources, processes and protocols, and identifying roles and responsibilities.
- Build good relationships with stakeholders and the media to facilitate access during a crisis. This can serve as an advocacy network and help to avoid misinformation circulating.
- Following a crisis, consider an open and transparent review of the management of the situation and success of communication during the event. Consider surveying the public on how they perceived communications during the event in order to identify gaps and opportunities to improve.

Chapter 5. **Conclusions**

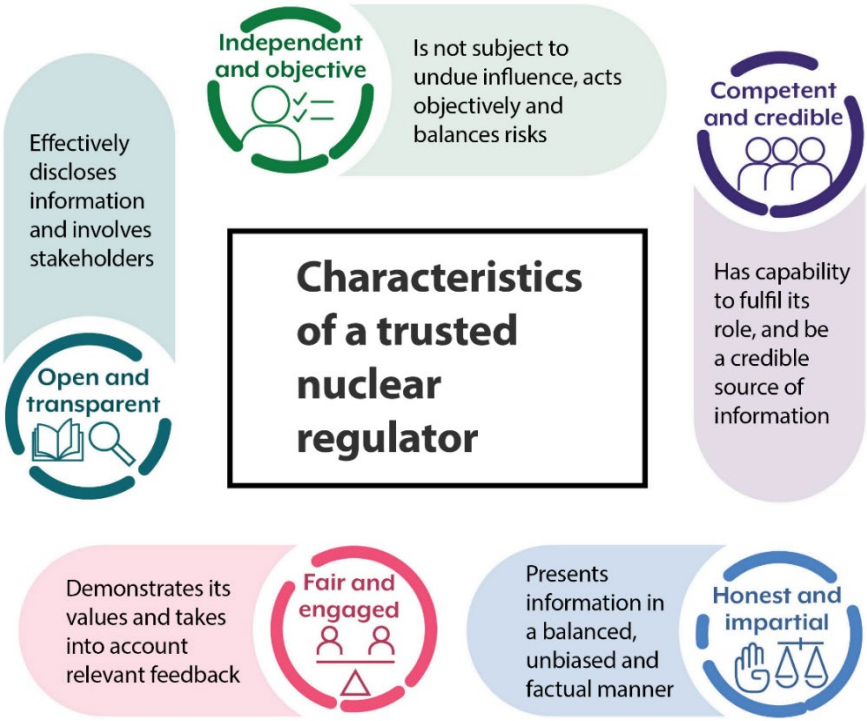
Trust is essential for a regulatory body to succeed in fulfilling its mission. As the Edelman Trust Barometer, a global online survey that "seeks to understand why the general population holds the views they do", underlines: "Trust remains the most important currency in lasting relationships […] and their various stakeholders" (Edelman, 2021). The fundamental objective of nuclear regulators is to ensure the safety of people and the environment. Regulators cannot achieve this without the trust of the people they serve. The role of the regulator to protect society requires trust that the regulator will always act in the interests of worker, public and environmental safety, using its expertise to appropriately assess and balance risk.

> ***The importance of trust cannot be overstated. An effective regulator works to build and maintain trust every day by acting independently, competently, and impartially. Any loss of the public's trust damages our ability to do our job effectively.***
>
> Christopher T. Hanson, Chair,
> US Nuclear Regulatory Commission

Some may question how much trust is enough, or how to gauge success in attaining trust. Regulators who invest in trust, and possess the attributes necessary to gain, strengthen and maintain it, will be successful in fulfilling their mandate. Each of the characteristics outlined in this report are a necessary feature of a trusted nuclear regulatory body, but no one characteristic is sufficient on its own. It is the combination of these attributes, and how they complement and interact with each other that leads to trust in the regulator. It is also how they are demonstrated through the culture, behaviour and activities of the regulatory body during times of normal operations that will create trust. To be successful, these efforts must be led by the most senior leaders in the regulatory body, and then reflected and reinforced at all levels.

The global nuclear energy sector continues to change and evolve. It is facing new challenges, new entrants and new technologies. The sector continues to prepare for the global deployment of small modular reactors and to consider how they will impact existing and new host communities, even national borders. Other technological developments and major disruptive global events, including armed conflicts and global pandemics, all continue to create new challenges. With evolution and change, regulators' stakeholder activities and relationships with the public become exponentially more important. Embodying the combination of characteristics described in this report, and applying the suggested tactics, can help regulatory bodies build and maintain trust in the regulatory process. Different contexts and cultures will determine the level of investment in trust building and regulators need to recognise that their national context, as well as the global context, will continue to evolve. Whether because of major disruptive global events or changing domestic needs, it will be critical to embrace a continuous focus on trust building and maintenance. The regulatory body should, through its internal safety culture and ways of working, demonstrate these characteristics on an ongoing basis.

Figure 1. **Characteristics of a trusted nuclear regulator**



- **Independent and objective** – Regulators need to be independent from undue influence in decision making and must also demonstrate how they perform their role objectively without undue bias or favouritism in their judgements, while carefully balancing risk.
- **Competent and credible** – Public trust in the regulator depends on the public viewing the regulator as competent and a credible source of information.
- **Open and transparent** – Regulators must establish, and show through actions, a culture of openness and transparency. They must adopt a policy of disclosure of information and of stakeholder involvement and ensure that the public are informed about the regulatory process.
- **Honest and impartial** – Regulators should present information including evidence and processes, in a balanced, unbiased and factual manner so that it is shared in an impartial way. They must also be honest and upfront when there is uncertainty or gaps in knowledge.
- **Fair and engaged** – An engaged regulator helps to ensure that the public has confidence that the regulator is listening with intent and duly considering all inputs. Incorporating societal input into decisions in a fair and balanced fashion helps achieve better-informed and more sustainable choices.

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Appendix 1. List of interviews and correspondence

The following are formal interviews conducted by Katie Day and Rhonda Walker-Sisttie, facilitated by the NEA:

1. Rumina Velshi, President and CEO, Canadian Nuclear Safety Commission (CNSC) and Adrienne Kelbie, Chief Executive, UK Office for Nuclear Regulation (ONR), 31 March 2021.
2. Rumina Velshi, President and CEO, Canadian Nuclear Safety Commission, 13 December 2021.
3. Verena Ehold, Director, Division of Radiation Protection – V/8, Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK), Austria, 21 December 2021.
4. Jean-Rene Jubin, Irena Chatzis, Jeffrey Robert Donovan, Tina Tigerstadt, IAEA, 14 January 2022.
5. William D. Magwood, IV, Director General, OECD Nuclear Energy Agency, 15 November 2021.
6. Jussi Heinonen, Director in Strategic Development in Oversight, Radiation and Nuclear Safety Authority (STUK), 13 January 2022.
7. Dan Dorman, Executive Director for Operations, US Nuclear Regulatory Commission (NRC), 11 January 2022.

Quotes in the text are taken from the following correspondence:

1. Foy, Mark, 2022, Email to the author, 30 September 2022.
2. Hanson, Christopher T., 2022, Email to the author, 14 October 2022.
3. Lucio, Pilar, 2022, Email to the author, 31 October 2022.
4. Velshi, Rumina, 2022, Email to the author, 31 October 2022.

Appendix 2. **Glossary of key terms**

Accessibility has been considered as many countries have specific laws and requirements for making information accessible. Everyone, including people with disabilities, can expect access to information and to participate in activities without barriers. Accessibility helps to support trust building as it ensures that those who may otherwise be excluded, whether it is due to a visible or invisible disability, are included. For the purposes of this report, this refers to the idea that barriers to access (particularly in communication and engagement activities) should be removed, and emphasises the need to communicate in plain, concise language to facilitate understanding and access.

Disinformation is defined as "false information spread in order to deceive people" (Cambridge Dictionary, n.d.).

Infodemic is used to describe the excessive amount of information available. The Cambridge Dictionary (n.d.) defines it as "a situation in which a lot of false information is being spread in a way that is harmful"". Infodemics can spread misinformation, disinformation and rumours and hamper an effective response by creating confusion and distrust.

Misinformation is defined as "wrong information, or the fact that people are misinformed" (Cambridge Dictionary, n.d.).

Public confidence is trust bestowed by the public based on the behaviours of regulators. As the NEA publication *Stakeholder Confidence in Radioactive Waste Management: An Annotated Glossary of Key Terms* sets out "**Confidence** is related to process dependability, based on evidence that can be provided through transparency" (NEA, 2022).

Regulatory independence is a key component to trust, and the regulatory body must remain neutral in its communications. For example, the term "industry" should only be used to refer to those who operate within the nuclear energy fuel cycle (such as. licensees) – the nuclear industry consists of a mixture of private sector firms and public sector organisations and covers the entire nuclear energy fuel cycle from research and development, uranium mining, and fuel fabrication to nuclear reactor design, nuclear plant construction, maintenance, waste management and decommissioning (Natural Resources Canada, n.d.). Any references to the broader nuclear energy community or how industry and others work together should use the term **sector** for clarity and to distinguish between the two.

Risk communication refers to how the regulator communicates risk to the public and is an ongoing form of communication during times of crisis (non-radiological), radiological emergencies and periods of normal operation. Risk is a constant, and so the regulator out of necessity must communicate risk to the public.

The use of and reference to **evidence-based** and **risk-informed** decisions are intended to explain how regulatory decisions are made. In its decision-making process, the regulatory body should apply a conservative approach, by considering the short and long-term potential outcomes. This requires a healthy respect for the consequences of all actions and decisions. When there are competing requirements and pressures, safety should always be the priority (NEA, 2016).

Appendix 3. **Complete list of the NEA series of regulatory guidance reports (green booklets)**

1	1999	*The Role of the Regulator in Promoting and Evaluating Safety Culture*
2	2000	*Regulatory Response Strategies for Safety Culture Problems*
3	2001	*Nuclear Regulatory Challenges Arising from Competition in Electricity Markets*
4	2001	*Improving Nuclear Regulatory Effectiveness*
5	2002	*The Nuclear Regulatory Challenges in Judging Safety Backfits*
6	2002	*Improving versus Maintaining Nuclear Safety*
7	2003	*The Regulatory Challenges of Decommissioning Nuclear Reactors*
8	2003	*Nuclear Regulatory Review of Licensee Self-assessment (LSA)*
9	2004	*Nuclear Regulatory Challenges Related to Human Performance*
10	2004	*Direct Indicators of Nuclear Regulatory Efficiency and Effectiveness: Pilot Project Results*
11	2005	*Nuclear Regulatory Decision Making*
12	2006	*Regulatory Challenges in Using Nuclear Operating Experience*
13	2008	*Regulatory Goal of Assuring Nuclear Safety*
14	2011	*The Nuclear Regulator`s Role in Assessing the Licensee Oversight of Vendor and Other Contracted Services*
15	2012	*Challenges in Long-term Operation of Nuclear Power Plants: Implications for Regulatory Bodies*
16	2014	*The Characteristics of an Effective Nuclear Regulator*
17	2016	*Implementation of Defence in Depth at Nuclear Power Plants: Lessons Learnt from the Fukushima Daiichi Accident*
18	2016	*The Safety Culture of an Effective Nuclear Regulatory Body*
19	2024	*The Characteristics of a Trusted Nuclear Regulator*

NEA PUBLICATIONS AND INFORMATION

The full catalogue of publications is available online at www.oecd-nea.org/pub.

In addition to basic information on the Agency and its work programme, the NEA website offers free downloads of hundreds of technical and policy-oriented reports. The professional journal of the Agency, *NEA News* – featuring articles on the latest nuclear energy issues – is available online at www.oecd-nea.org/nea-news.

An NEA monthly electronic bulletin is distributed free of charge to subscribers, providing updates of new results, events and publications. Sign up at www.oecd-nea.org/tools/mailinglist/register.

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Characteristics of a Trusted Nuclear Regulator

This report is intended to serve as a practical guide to explain the organisational characteristics, attributes and ways of thinking that can help a nuclear regulator build and maintain trust with interested stakeholders and the public. It offers examples of actions and activities that can be taken to demonstrate those characteristics in practice.

The NEA encourages and challenges all established regulatory bodies to use it as a benchmark so that they continually strive to enhance their effectiveness in fulfilling their mission to protect people and the environment. It aims to be a resource for countries with existing, mature regulators, but can also be used for training and developing staff in newcomer countries currently in the process of developing and maintaining a trusted nuclear safety regulator.

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