

Regulatory Culture and its Role in Radiation Protection

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REGULATORY CULTURE AND ITS ROLE IN RADIATION PROTECTION

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ABSTRACT

Many organizations have expressed great interest in radiation protection culture and more recently in security culture. These are important areas of development for the global radiation protection profession. But is this the whole picture? It is proposed that “regulatory culture” also deserves attention as it is, or should be an intrinsic part of the wider radiation protection culture. This paper explores the definition, objective and scope of regulatory culture as it could apply to radiation protection and explains its relevance to the various levels of the profession both inside and outside of Regulatory Bodies, considering aspects such as regulatory approach, top management commitment, benchmarking, self-assessment and training of individual regulators. In addition, the approach that the regulatory authorities could adopt to support the regulated organizations on the promotion of safety culture will be addressed.

KEYWORDS: *regulatory culture; radiation protection; regulatory bodies.*

1 INTRODUCTION

We define “**regulatory culture**” as the attitudes and beliefs of all those involved in the regulatory control of radiation generators and radioactive sources towards the role of the regulatory body and the legal function of regulation.

It includes, but is not limited to such ideas as safety culture and security culture but extends also to regulator attitudes towards the regulated, the attitudes of the regulated to the regulators, compliance assessment and enforcement by all stakeholders in regulation.

We also believe that the idea of regulatory culture can be applied to all levels: from government through regulatory bodies and managers within them, to individual regulators and the regulated, as well as the wider radiation protection community.

Our objectives are:

- to rehearse some thinking on the significance and role of regulation in radiation protection
- to stimulate discussion, and
- to propose what we believe to be some new ideas about how regulation is viewed by employers and radiation protection professionals

Finally, what we describe in this paper is a model; an ideal. It may be so far away from achievement in a given State that it could be dismissed. But we urge that instead this paper is used to stimulate thinking and to strive towards making regulatory culture an intrinsic part of radiation regulation – to whatever extent is possible.

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2 REGULATORY CULTURE ISSUES

We propose that regulatory culture includes safety and security culture but is wider than those – it is about the way the governments and the judiciary look upon their Regulatory Body; the way that Directors of Regulatory Bodies configure and manage their organisations; the way that managers influence their staff and the way that regulators behave towards the regulated community. But we also see it as including the way that the regulated community relates to the regulator.

We are convinced by arguments that the establishment and sustainability of safety and security cultures depends on effective leadership, and we consider that the same applies to regulatory culture. For this reason, the following sections take a “top down” approach to these cultural issues.

2.1 Regulatory culture issues for governments and the judiciary

Regulatory bodies provide a civic service in whatever field they operate and are part of the governance of society. Even though the Regulatory Body could be part of the governmental structure, it should be broadly independent of governments but it cannot function without governmental support – resources, powers, funding etc. Equally, it is important that the judiciary respects the role and the operational capabilities of the Regulatory Body. Enforcement action should not be the ultimate objective of regulatory bodies. It is necessary to have a Sanctions Regime, but it should apply in the last resort. Otherwise courts are likely to question the judgement of the Regulatory Body in taking enforcement action.

Governments (by which we mean at least relevant Ministers) need to understand the service that the Regulatory Body provides and its social value as an enabler of often safety critical processes in industry and of course in medicine and elsewhere. The education of governments (and the judiciary) in this regard is difficult to achieve, but we suggest is most likely to succeed by the establishment of an ethical relationship with the relevant Minister. This demands pro-activity on the part of the Regulatory Body. Ministers can be invited to visit sites and Regulatory Body premises. The aim is to ensure that the government understands its role as the customer for the regulatory bodies service: an agent of social governance. In particular, governments will benefit from an understanding of the benefits of aspects of radiation protection to the State in such fields as:

- emergency preparedness and risk management
- emergency response (especially with respect to support available from overseas)
- commerce, especially energy production
- counter-terrorism
- border-control
- safe use of ionising radiation in medicine and industry
- good preservation of population health, environment and future generations.

If such a programme is not undertaken by the Regulatory Body, there is a danger that the only time that “government” is really aware of its Regulatory Body is in the aftermath of a major incident or accident. At such times, the Regulatory Body rarely emerges as the heroic body.

2.2 Regulatory culture issues for Directors of Regulatory Bodies

The governing Board of a Regulatory Body must understand its responsibilities and roles. It should be composed of professionals with interdisciplinary expertise in technical issues and the legal and administrative aspects of regulation.

We would also encourage associations of regulatory bodies (such as HERCA¹ in Europe and FORO² in South America) to make time for sharing insights and experience of regulation – not just for the more familiar techno-legal issues.

In addition to appreciating the value of building a relationship with government as described above, the leadership needs to set the operational tone of the organisation and modulate between the two extremes of soft ineffective bureaucracy at one extreme and abuse of power at the other. They need to understand the operational difficulties of the job, and set the ethical code for the organisation. An accessible complaints mechanism is part of this and demonstrably responding to complaints gives credibility. And adequate training budgets both for new intakes and “refreshers” for established staff are essential. These may be expended by making constructive use of generic training opportunities in radiation protection, but we would also urge that careful consideration is given to the development of regulatory skills.

Regulatory skills include not just developing competence in legal and technical matters, but attitudinal and behavioural issues. We have identified only one Regulatory Body that has tried to address the latter [1] and yet it ought to be common place. Without suggesting there is a direct comparison of the required skills sets, how many police forces would send officers out without developing their investigation and communications skills, and briefing them on expected levels of integrity and professionalism?

We urge that time is allotted for Boards of Directors to learn about their roles as regulators, as well as their individual areas of expertise and responsibility. One tool for achieving this is to establish a “Business Intelligence” function. Whilst primarily existing to support front line regulation and policy making, this could also identify and capture lessons learned from regulatory incidents (safety, environment, emergency preparedness and response, counter-terrorism), both nationally and internationally. Quarterly briefings on such issues would inform and enrich the development of a suitable regulatory culture. It could sit alongside other more general aspects of performance management.

An example case study would be the Pilgrim Nuclear Power Station (USA). Operators posted workers on fire watch in October 2015 after realizing the plant never addressed a 1992 federal advisory regarding remote reactor shutdown. A key lesson has to be that the regulator needs effective action tracking systems to support meaningful audit.

In that advisory, federal regulators warned operators at all U.S. nuclear power plants that a fire in the control room could cause short-circuits in systems that power valves needed for such a shutdown.

At Pilgrim, operators were reviewing the plant’s fire emergency shutdown plan in October 2015 when they discovered that issue had never been addressed [2]. Like the Fukushima events, this reflects not only on the operator, but also on the regulators and reputational damage is likely to ensue. Directors will wish to protect themselves and the reputation of their organisation by proactively seeking information of this kind. So action management and audit skills need to be developed and cannot just be assumed to exist.

Another important issue to address by Directors is the concept of continuous improvement, which should be established as a Quality Policy of the regulatory bodies, assuming the commitment to protect the society and the environment based on a system focused in raising consciousness about the value of safety and security achieved through the continuous improvement of the efficacy of the Quality Management System, the processes and resources management.

¹ HERCA: Heads of the European Radiological protection Competent Authorities

² FORO: Ibero-American Forum of Radiological and Nuclear Regulatory Agencies

2.3 Regulatory culture issues for Managers

Managers cascade the policy framework set by the Board. But they need also to listen to their staff to collect intelligence on how the job is going. In providing development for staff they should, but we suspect rarely do, allow time for Inspectors to explore their professional ethos. Some excellent Inspector training programmes exist [1] but these too are the exception rather than the rule. And they do not address the philosophy of regulation within which the ethos of the Regulatory Body sits. Managers should establish suitable training opportunities that include exploration of “what a good radiation regulator looks like”. This can be augmented by an expectation of some reflective statements in inspection reports, suitable periodic peer review (accompanied visits), professional seminars and Inspector performance reviews by managers.

2.4 Regulatory culture issues for radiation regulators

Radiation regulators need to have a clear understanding of the ethos of their Regulatory Body and to be both confident in their competence in radiation protection and legal knowledge, as well as their regulatory behaviour. They need to be willing to accept challenge from the regulated while also being able to make a firm response to non-compliances. They need to be able to operate without fear or favour and base their actions on sound science and probity. They should be respectful but not subservient to those that they regulate. And this needs to be actively learned – few people will have brought this into the role intuitively. Finally they should recognise that participation in the development processes described above is an intrinsic part of their role, and take professional pride in it.

The establishment of safety culture and security culture is often driven (at least in part) by the regulator. So a sound understanding of these issues is essential for the front line staff with a regulatory locus. How many regulatory bodies provide training in safety and security culture in States where these are new ideas? Emerging ideas relevant to the work of regulators need more attention in the development of professionals because they are new and rapidly evolving.

2.5 Regulatory culture issues for RP practitioners

Radiation regulators are radiation protection practitioners. They have to have suitable levels of competence in radiation protection in order to be effective as the “policemen” of radiation protection (though the “conscience” might be a better term). And yet radiation regulators are often seen as “the enemy” by radiation protection practitioners. This is normally forgivable: regulators always carry with them a threat of enforcement action that may put the practitioner under scrutiny from their superiors for what is perceived to be “a failure”. (Whereas experience suggests compliance failures are usually management failures). And prosecution is especially feared. However, we suggest instead that the radiation protection professional should work with the regulator and recruit their influence in their own task of convincing managers to meet professional standards of radiation protection. They should see the regulator as an ally not an enemy, in a framework of mutual respect. In security terms, they may sometimes be seen as a threat. But better the regulator uncovers a vulnerability than the adversary. The safety analogy is surely self-evident.

Experience suggests that this will be difficult to achieve in any State. What we are describing is a regulatory culture in which the regulators are seen as allies, but both sides know that if the need arises, then the appropriate force of the law will be and should be applied. This sounds impossible – but it is what many police forces achieve: they are allies, responsible for public safety for example, during the incident phase of an event. But at the same time they may be evidence gathering so that in the event that a crime is identified, they are able to switch roles to that of the more traditional law enforcer.

In summary we could outline two roles of the regulatory body engendered not only in their own culture but in the wider radiation protection profession:

- 1) as **facilitator**: in the sense that the regulatory body helps the regulated to identify the risk situations and proposals of how to address them; further that the regulatory body then assesses compliance and highlights shortcomings so that all parties contribute to the achievement of the desired standards.
- 2) as **controller**: in order to verify that the practices are carried out according to the established requirements and standards, and in case of prolonged or deliberate or grossly negligent non-compliance, and when there is a threat to the radiological safety of a population, the agent of a Sanctions Regime based on a graded approach.

Current culture overwhelmingly recognises the second, not the first. If performance is what matters, (that is outcomes rather than enforcement statistics), then the culture of all parties needs to develop from the current status.

3 SUGGESTIONS FOR FURTHER WORK

We recognise that this think piece is not well supported with evidence. Further work to gather some would be appropriate and informative. It would be illuminating to undertake well designed surveys (or equivalent forms of study) to investigate the regulatory culture at all levels within regulatory bodies and also within regulated bodies. The idea of radiation protection practitioners seeing “call the regulator” as part of their professional duties: whistle blowing, may seem unrealistic. But what is the alternative? How many radiation protection professionals could not take some action if they identified an unmitigated risk? Could calling the regulator be seen as a viable, indeed essential professional action?

4 CONCLUSION

The professional radiation regulator has a set of skills that should be valued by society and by radiation protection practitioners in particular. What is not so widely recognised is how useful the radiation regulator can be to the radiation protection professional in terms of being a partner with influence on employer’s improvement decision making, prioritisation and budgets for safety, security and the like. The current tendency to see radiation regulators as a threat suggests a failure of regulatory culture. Radiation Protection professionals should normally see them as an ally, though their role as an agent of justice cannot be ignored.

Could not the radiation protection profession reflect on these issues and develop their thinking?

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Introduction

Organizations have expressed great interest in radiation protection (RP) culture and more recently in security culture. These are important areas of development for the global RP profession. Is this the whole picture? Surely "regulatory culture" also deserves attention as it is, or should be an intrinsic part of the wider RP culture? This paper explores the definition, objective and scope of regulatory culture as it could apply to RP and explains its relevance to the various levels of the profession. It considers those both inside and outside of Regulatory Bodies (RBs), on aspects such as *regulatory approach, top management commitment, benchmarking, self-assessment and training of individual regulators*. In addition, the *approach* that the regulatory authorities could adopt to support the regulated organizations on the promotion of safety culture will be addressed.

What is "regulatory culture"?

We define it as the *attitudes and beliefs* of all those involved in the regulatory control of radiation generators and radioactive sources towards the role of the regulatory body and the legal function of regulation.

It includes, but is not limited to such ideas as safety culture and security culture but extends also to attitudes towards the regulated, compliance assessment and enforcement by all stakeholders in regulation, as well as attitudes of the regulated

Objectives

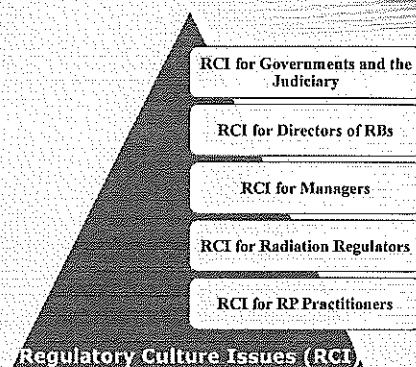
- To rehearse some thinking on the significance and role of regulation in radiation protection
- To stimulate discussion
- To propose what we believe to be some new ideas about how regulation is viewed by employers and radiation protection professionals
- To strive towards making regulatory culture an intrinsic part of radiation protection

Background

We propose that regulatory culture includes safety and security culture but is wider than those – it is about the way that **governments and the judiciary** look upon their RB; the way that **Directors of RBs** configure and manage their organisations; the way that **managers** influence their staff and the way that **regulators** behave towards the regulated community. But we also see it as including the way that the **regulated community** relates to the regulator.

Conclusions

- The professional radiation regulator has a set of skills that should be valued by society and by radiation protection practitioners. In particular, not so widely recognised is how useful the radiation regulator can be to the radiation protection professional as a partner with influence on employer's improvement decision-making, prioritisation and budgets for safety, security and the like. The current tendency to see radiation regulators as a threat suggests a failure of regulatory culture. RP professionals should normally see them as an ally, though their role as an agent of justice cannot be ignored.
- Could not the radiation protection profession reflect on these issues and develop their thinking?



Regulatory Culture Issues (RCI)

RCI for Governments and the Judiciary



- The RB should be broadly independent of governments but cannot function without governmental support.
- The judiciary should respect the role and the operational capabilities of the RB.
- The government should understand its role as the customer for the RBs service: an agent of social governance.

RCI for Directors of RBs



- Must understand its responsibilities and roles.
- Encourage associations of RBs (such as HERCA and FORO) to make time for sharing insights and experience of regulation.
- Set the ethical code and operational tone of the organisation and modulate between the two extremes of soft ineffective bureaucracy at one extreme and abuse of power at the other.
- Promote adequate training budgets in radiation protection and regulatory skills (not only in legal and technical matters, but also attitudinal and behavioural issues, investigation, communication and audit skills).
- Commit to continuous improvement.

RCI for Managers



- Cascade the policy framework set by the Board, but need also to listen to their staff to collect intelligence on how the job is going.
- Establish suitable training opportunities that include exploration of "what a good radiation regulator looks like" (reflective statements in inspection reports, suitable periodic peer review and inspector performance reviews).

RCI for Radiation Regulators



- Be confident in their competence in radiation protection, legal knowledge and regulatory behaviour.
- Be willing to accept challenge from the regulated while also being able to make a firm response to non-compliances.
- Be able to operate without fear or favour and base their actions on sound science and probity.
- Be respectful but not subservient to those that they regulate.

RCI for RP Practitioners



- Should work with the regulator and recruit their influence in their own task of convincing managers to meet professional standards of radiation protection.
- Should see the regulator as an ally not an enemy, in a framework of mutual respect.
- Consider both roles of the RB: as facilitator and controller.

