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# The role of the public in the French nuclear sector: the case of “Local Information Commissions” (CLIs) for nuclear activities

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**Abstract** – This dissertation seeks to understand what role the public plays, through CLIs (Commission of Local Information), in the governance of nuclear safety. It presents an in-depth longitudinal case from the French nuclear sector and proposes a pragmatist framework to study the construction and maintenance of the public over time. The author analyzes the circumstances in which the people potentially impacted by nuclear activities can become active participants in the governance of such high-risk industries, and how they can organize themselves and build a common voice. The dissertation establishes that when CLIs play both the role of a “Generalized Other” representing the public’s voice, and the role of a civil provider of second opinions, able to discuss the complex subjects at stake, they become a powerful and legitimate stakeholder in nuclear safety governance. In such circumstances, CLIs should be able to conduct investigations that are both commonsensical and technical. These characteristics would make CLI-led investigations all the more rich and useful for the governance of nuclear safety. The technical aspect (with the help of experts and specialists) would reinforce the legitimacy of such investigations in the eyes of nuclear actors, and their commonsensical or “layman’s view” aspect would provide an alternative view of nuclear questions in the safety debate, potentially leading to creative ways of addressing the issues and situations at stake.

**Keywords:** CLIs / governance / stakeholder / accountability / pragmatism

## 1 Introduction: constructing the public of the French nuclear industry

Recent events such as the sub-prime crisis or the Fukushima nuclear accident have provided spectacular demonstrations that today’s crises can become “transboundary” in nature (Boin, 2009). Their extraordinary scope leads to “unthinkable” consequences for millions of people (Lagadec, 2007). Such transboundary crises impact large sections of the population, who are concretely affected by certain organizational and institutional decisions. Yet, these people are rarely involved as significant stakeholders in the governance of high-risk organizations (HRO), especially when decisions concern the orientations of techno-sciences (Callon and Rabeharisoa, 2008). For those decisions, the population affected should arguably play the role of a concerned public. In practice, they are often given no opportunity to express their opinion, or perhaps are not sufficiently organized to voice their opinion and make it heard.

The idea that organizations have stakeholders has become a prominent concept in both academic and corporate communities. Stakeholder theory’s central tenets (Freeman, 1984) hold that the activities of any given organization can potentially impact a range of stakeholders, either directly or indirectly. While stakeholders are usually considered by organizations as hindrances to their operations, some scholars have shown that good collaboration between stakeholders and organizations can be beneficial for both sides and this is particularly the case when the public is involved in each step of the techno-scientific debates (Callon *et al.*, 2001). Involving stakeholders in the governance of organizations by providing them with information is precisely the general idea of the “accountability” concept, which has attracted much attention in the study of organizations these past few decades (Garfinkel, 1967; Roberts and Scapens, 1985). One of the main purposes of accountability is to provide mechanisms through which all people and entities affected by an organization’s actions can ask its managers to account for those actions. There have been numerous calls recently for greater corporate accountability: as companies grow in size, power and influence, their impact on the environment and communities also increases (Adams, 2004). The idea is that as long as corporate actions can cause,

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complicate or exacerbate the world's misery, they must be accompanied by greater corporate accountability (Dawkins, 2014). Therefore, the rise in demand for corporate accountability is especially sharp for HRO. It is undoubtedly legitimate for people who could potentially be impacted by serious incidents to want more information on the governance of the industry's safety.

This work contributes to these debates by exploring the conditions in which people potentially impacted by nuclear activities can become active participants in the governance of such HRO, and how they can organize themselves and build a common voice. The present work explores the case of French CLIs (*Commissions Locales d'Information* or "Local Information Commissions"): these are institutionalized groups of civil society actors that were set up in the early 1980s in France for civil nuclear sites, in order to involve civil society actors in the governance of nuclear safety. The purpose of a CLI is to participate in the safety debate, a role likely to be facilitated by its pluralistic membership with different opinions and backgrounds (environmental associations, trade unions, elected representatives, scientific experts...). CLIs have acquired more power over time, constituting an established stakeholder in the governance of nuclear safety. The 2006 Nuclear Transparency Law requires a CLI for each civil nuclear site in France and defines its mission as monitoring, informing and discussing nuclear safety. Today, greater openness to society is a recognized objective of both the whole nuclear sector and the State. Some stakeholders argue that a well-informed population would be more resilient in the event of an accident and can contribute to the governance of nuclear safety.

Nuclear safety in France is traditionally governed by nuclear operators, and French public authorities: the Nuclear Safety Authority (ASN<sup>1</sup>), with its technical support the Radioprotection and Nuclear Safety Institute (IRSN<sup>2</sup>). Those stakeholders also have the responsibility to handle relations with CLIs. The present work analyses to what extent a collection of civil society actors, progressively institutionalized as an organized group (here, a CLI) can exert influence in the governance of nuclear safety. It enriches our understanding of this question by asking whether accountability is really effective in this context. Do different nuclear stakeholders actually want to arrive at a shared understanding of the situations under scrutiny? Thus, the main research question of this work can be expressed as follows: *What is the role of the public, via the CLIs, in the governance of nuclear safety?*

The question of constructing the public was actually raised in the early 20th century, when famous American intellectuals explored the ability of democratic practices to address highly complex issues. Mary Parker Follett (1918), Walter Lippmann (2009), and John Dewey (1925) made particularly significant contributions to this question. Central to the debate was the question of the definition and emergence of diverse publics, that can be described as communities of actors potentially directly or indirectly impacted by certain decisions or organizational activities. These publics organize themselves

into active entities to collectively limit potential harmful consequences, or to profit from potential benefits. The concept of the public as adopted in this work – drawn from the pragmatist authors previously cited – is very close to the concept of the stakeholder (Freeman, 1984, 1994) with a slight difference: the public encompasses not only individuals but also larger, organized social groups. The present work proposes that stakeholders who have succeeded in organizing themselves into social groups form a public. As such, a public implies an active status for its participants: they take an interest in particular concerns that affect them, and sometimes put them at risk. To limit such a risk, they decide to take action, and such publics have the power to bring about change.

It is argued in this work that the process of "constructing" the public grows even more crucial as the issues at stake concern a larger part of the population and can only be understood by people with specific skills. The field research was performed in the nuclear industry, examining a process of constructing the public through a case study of the CLIs in Nord-Cotentin in North-west France. The key originality of this research project lies in its rich data collection, drawn from a specific context where data are quite hard to obtain. This empirical framework is indeed particularly interesting as it offers an excellent environment to study the emergence of new forms of individual and collective relations, between pro- and anti-nuclear activists, and also between specialists and "lay persons". Also, the French nuclear sector is traditionally controlled by the government and large industrial companies. As a result, the first attempts at constructing a public had many obstacles to overcome, and it is still a considerable challenge for a CLI to carve out a role as a vital partner for nuclear safety.

In order to grasp the dynamics and mechanisms of the process of constructing a public, a pragmatist epistemology (Dewey, 1938; Peirce, 1958) is adopted. The aim was to explain the factors contributing to the emergence and maintenance of a public over time, and to describe how its members' practices evolved, and its impact on the governance of a specific sector. The investigation conducted during the three years of data collection for this present work thus included several sources of data: observations, but also participation in employee trainings, meetings (in Nord-Cotentin and Paris), reviews of archival data, the study of recordings of general meetings, and formal and informal interviews with people of very diverse profiles. The study also included informal meetings such as lunches, and visits to nuclear sites with CLI members, reviews of the CLI's newsletter and emails. This resulted in in-depth empirical knowledge of what happens when civil society actors, institutionalized in a CLI, seek to participate in the governance of nuclear safety.

## 2 Does the public really exist? Opening the black box of its construction process

The objective of this part is twofold. Firstly, it seeks to understand how a social group that is concerned by a given question deliberately constructs itself over time as a major actor, despite its heterogeneity, acquiring strong skills and the ability to relevantly participate in the governance of complex

<sup>1</sup> ASN is an independent French public body which regulates nuclear safety and radioprotection on behalf of the State.

<sup>2</sup> IRSN is France's public expert body on nuclear and radiological risks.

activities. Secondly, it explores the conditions under which, once constructed, such a public can continue its existence (be “maintained”). The analysis points to the actors’ responsibility to become structured participants in debates. It also identifies a need to create such a setting for interaction, and highlights the importance of Follett, Lippmann and Dewey’s contributions to studying its organization.

The first part explores the initial conditions for the process of constructing the public. A detailed description of the context of the Nord-Cotentin CLI is provided: what could have been a sterile accumulation of irritated neighbors acting in isolation became a community with a strong identity, that has continued to exist over time thanks to the CLI members’ motivation and skills. Finally, the Nord-Cotentin CLI managed to “embody” the public at a certain point in time. Follett’s neighborhood groups (or community), Lippmann’s involvement of experts and Dewey’s inquiry logic can consist of complementary solutions in constructing the public as a strong entity, and ultimately those three dimensions enable us to understand *how a social group that is concerned in practice by a given question becomes a social group that is formally organized and able to express itself*.

Several factors indeed played a significant role in the creation of a **community** that actively committed itself to investigating nuclear site safety issues: first, the specific context of Nord-Cotentin meant there was already great public awareness of nuclear matters, and this gave the first attempts at constructing a public pioneering status, generating great energy and passion in the debates: the actors’ motivation was a significant driver, and they made important achievements on various issues. Other factors such as the pooling of resources between the area’s three CLIs and the financial resources poured into their operation made common action possible.

The inclusion of **experts** in the CLI from its inception, partly due to the area’s exceptional intellectual and scientific population in the area, gave a great impulse to the process of constructing the public. In particular, it is shown that CLI members acquired extensive skills throughout the years, mostly thanks to a few key, highly skilled individuals who had both national authority and professional legitimacy. With their help, the other less specialized or “lay” CLI members – nuclear site employees, or retired citizens – gradually built up another, highly valuable form of expertise through experience. Also, some CLI members have “insider” standpoints since most of them have worked on the nuclear sites at some point. Each type of individual expertise contributes to a greater collective expertise, which has enabled the CLI to gain legitimacy and challenge other stakeholders. CLI members were able to participate effectively in debates, as they could count on important input from leading scientific experts and help from experienced lay citizens able to process hundreds of reports and form an opinion on most of the questions examined. Moreover, they could explain the subjects investigated, to provide citizens with a pertinent standpoint and take well-informed decisions: CLI members’ expertise reinforces their inquiries, and their ability to challenge other stakeholders. This in turn leads to legitimization of the CLI in the eyes of the local population, the nuclear operator and the State, and has contributed to the feeling that CLI members belong to a credible committed community. Experts helped to make the important issues at

stake accessible for the population, which is undeniably important in making local people feel both acquainted with and involved in the issues at stake.

The involved community soon became a **community of inquiry** in which not only experts, but also other CLI members – who acquired specific skills over the years – became involved in several investigations. This inquiry dynamic was strongly supported by other entities linked with the CLI, such as the association ACRO<sup>3</sup>, or the creation of a register of all cancers in Nord-Cotentin for instance. Although the inquiries were sometimes inconclusive, there was generally a desire to submit each debate, each decision, and each action in the CLI to a process of inquiry. Most members consider that they have a duty to investigate all the procedures, activities and projects of nuclear sites as thoroughly as possible. In typical meetings, the experts are asked to give their opinion, then a discussion follows – sometimes lasting several months – with the aim of reaching a well-thought-out consensus. One of the founding values of the CLI was the desire to access information at a time when it was not easily accessible. Once access to information was granted, CLI members wanted to inquire and ask questions to examine several subjects in more depth, and sometimes request further information. Thanks to these inquiries, they were able to alert people to potential risks. The CLI thus conducted its own inquiries: for instance, after Fukushima, several members travelled to Japan to investigate the circumstances of the accident and learn from this experience. Upon their return to France, after several months of inquiry, they published a white paper on the lessons of Fukushima<sup>4</sup>, raising several questions for the nuclear operator, the state, and legal authorities in France.

Then, the first part shows that despite these achievements, maintaining this public’s motivation requires ongoing efforts involving various challenges. Indeed, it highlights that maintaining such an entity is not automatically guaranteed: it is an ongoing effort, and if a CLI loses its capacity to be the public’s voice, it risks losing its legitimacy and its *raison d’être*.

Firstly, it is shown that it is far from easy to keep a strong link between complex questions and people who have cohabited with nuclear sites for more than 60 years. Although the nuclear debate is still very vivid in France and some activists are continuing their struggle, the people of Nord-Cotentin who have been living alongside nuclear installations for the past 60 years seem to have gradually lost interest. Nuclear activities constitute the region’s major source of employment and have progressively become part of the landscape for most residents. Also, taking part in complex discussions about nuclear safety can be difficult for ordinary citizens.

Moreover, the CLI’s progressive institutionalization has transformed initially informal organizations into formal entities, with some loss of room for maneuver. Some CLI members indeed get the impression that CLIs are sometimes

<sup>3</sup> Association pour le Contrôle de la Radioactivité, an association for control of radioactivity levels.

<sup>4</sup> This white paper was published under the name : *Le Livre Blanc sur la sûreté des installations nucléaires civiles de la Manche « Post Fukushima »*.

going backwards because they are now part of the government: for them, it is sometimes less easy to debate and there is less genuine enthusiasm. Such an institutionalization process particularly occurred when the TSN law was implemented in 2006, and when CLIs progressively became more formally organized, with articles of association, elections and rules. CLIs became more formally administrative and less personal than it was initially. CLIs are now compulsory by law and overseen by county councils. Putting county councils in charge of CLI administration and organization generated new problems: this task is not a priority for councils, and CLI members feel that sometimes the organizers are not sufficiently interested.

A conflict of interests also exists. As the county council receives amounts of money from the nuclear industry, it is hard for them to challenge nuclear operators. Although when first formed the Nord-Cotentin CLI attracted several members, with an interest in nuclear safety who were keen to investigate related issues, keeping such a community of inquiry as actively involved over time is a real challenge: the CLI is at risk of losing gradually its capacity to be an instigator of communities of inquiry. Moreover, other nuclear stakeholders have difficulties to recognize that CLI can be a significant stakeholder in the governance of nuclear safety and sometimes do not facilitate CLI's inquiries.

Finally, the case study presented in this part shows that the circumstances were right in the late 1970s in Nord-Cotentin for creation of a committed community, able to express itself and become a relevant participant in a highly complex debate. It is shown that the Nord-Cotentin CLI members were not just the nuclear sites' "angry neighbors": over several decades and in response to major events (Chernobyl, institutionalization of the CLIs, Fukushima, etc.), they have succeeded in building a strong community with real skills, able to play an important role in the governance of nuclear safety. It is also shown that this construction process loses its power whenever the public loses its capacity to generate communities of inquiry: all decisions and measures that are presented to CLIs need to be constantly questioned and kept in a state of perpetual evolution through dialogue with the different stakeholders. Only through such an ongoing dialogical process of inquiry can the stakeholders construct and maintain themselves as "a public".

### 3 Accountability in action: examination of an incident reporting process

The second part zooms in on a particular process for incident reporting to the CLI by one organization in charge of nuclear operations. It examines how accountability is practiced, focusing on the role played by incident reporting in the constitution of a community of inquiry to investigate the safety of nuclear activities. Actors in the French nuclear sector appear to share a desire to increase accountability to the public, and particularly to develop greater involvement by the public in the governance of nuclear activities: this has resulted in the institutionalization of CLIs in France, and more recent reinforcement of their powers. One indication of these aims is the fact that operators are now obliged to share incident feedback with CLI members. But incident reports do not always enable CLIs to conduct their own inquiries, which are necessary to grasp the problems at stake and play the role of an

"informed" public. The reporting process' examination takes the form of a pragmatic review of this organization's accountability practices, and the debates following the presentations and reports provided. The objective was to understand whether CLI members are fully able to understand the incident feedback provided by the operator; what instruments and techniques are used to provide this feedback; and what conditions are necessary to establish genuine dialogue in order for CLI members to grasp the situations at stake.

Feedback on incidents is vitally important, as it establishes a link between past, present and future, constituting a learning curve if the process is successful. The classification of incidents and accidents is indeed a sensitive subject for the whole nuclear community, as incidents often stir thoughts of major accidents such as Fukushima and Chernobyl: during the general meetings, members of the CLI generally ask a lot of questions on these subjects. In France, CLI members are informed whenever an incident occurs, and can ask questions about the handling of the incident and its ranking. Thus, the reporting process consists of a summary of the incident by the operator a few days after the incident, a written briefing on the incident by the Nuclear Safety Authority and preparation of the materials for the operator's oral presentation (with diagrams and pictures). It is primarily a communicational procedure, and concretely CLI members could just listen to the operators' accounts without reconsidering what is exposed to them, but in practice they try to analyse most incidents further. Indeed, such a reporting process has evolved through time into the starting point of inquiries.

A new understanding of the concept of accountability is proposed, thanks to the pragmatist concept of inquiry: the account to be given cannot be assumed to exist "naturally" and needs to be constructed through an inquiry. Through Dewey's concept of inquiry, a processual, dynamic and dialogical view of accountability can be adopted—which is traditionally considered in the literature as static. The instrument studied here – *i.e.* the incident reporting process – is an illustration of this processual accountability and helps to conceptualize the concept of inquiry.

In a nutshell, the results of this study show that under certain conditions the incident reporting process can constitute a trigger for members to launch their inquiries: they have some information at their disposal, and the inquiry process starts. A few CLI members are genuinely keen to start an inquiry dynamic and thus to discover, develop and maintain the CLI's identity as a community of inquiry that exists to serve civil society on matters of nuclear safety. Thus, there are numerous signs that accountability is increasing.

Yet, the different narratives exposed in this part show that despite most actors' declared intention to involve the public in the incident reporting process, such accountability practices sometimes hinder the dynamic of inquiries and may even help to uphold a certain form of opacity. First, the process does not give CLI members sufficient information to launch their inquiries, as it often omits certain major elements. In the three specific examples studied in depth for this part, it is indeed noted that each time, a major fact is omitted in the reporting process, which hinders the incident's understanding for CLI members. Secondly, questions about organizational factors are often eluded by nuclear operators, with the result that some

inquiries are confined to technical subjects far removed from the main issue. Finally, the process does not inform CLI members of what really happened, mainly because of internal censorship. In practice, when the inquiry concerns technical issues related to members' skills, the operator and the CLI conduct detailed inquiries. But when managerial issues are concerned, the inquiries do not come to successful conclusions. It is indeed shown that the incident reporting process is not the only reason why inquiries are inconclusive, and that several other factors contribute to such failures. Those factors include the internal blockages and censorship, the fact that other nuclear stakeholders do not consider CLIs to be a legitimate co-inquirer on incident feedbacks, the lack of some expertise and methodology by some CLI members, and so on.

Finally, CLI members fail to turn a "one-way" communicational process into a truly dialogical inquiry. Designing a process that provides members with a detailed account of the situation and underpins a kind of "constant vigilance" on incident feedback might help this group of people to continue to play their role as a community of inquiry.

#### **4 Control or stakeholder governance: making sense of the CLIs' roles in the governance of nuclear safety**

Encouraging public involvement in nuclear safety governance is a radical change of paradigm that has intensified in the past few years in France, with the introduction of several new regulations. Public involvement and transparency were indeed stepped up after the Fukushima accident and with the 2015 Energy Transition Law. But despite the recent evolutions in political discourses and regulations, civil society actors are still complaining of a lack of access to information, a lack of consideration from nuclear actors and lack of independence between actors. The third part studies such a transition process: from regulatory control (embodied by the controller/controlled relationship between nuclear regulator ASN with its technical support IRSN and operators) to a more pluralist practice of governance directly involving the public (embodied by the CLIs). It focuses on the controllers' activity changes in response to the way they make sense of the new governance. The aim of the third part is to study how reinforcement of the public's participation, *via* the CLIs, in the governance of nuclear safety has a concrete impact on the control activity performed by regulation-based controlling institutions and the professional identity of their members. Finally, it questions whether the existing control-based governance model for nuclear safety is compatible with the new multi-stakeholder governance model. To address these questions, the present work analyses the sensemaking process of safety inspectors concerning the CLI's roles in nuclear safety governance in this new regulatory context. It attempts to understand how, beyond political discourses and regulations, safety inspectors make sense of the CLIs' role in the governance of nuclear safety and how the political discourse of greater openness to the public is itself understood by actors in the field.

It is shown that in the safety inspectors' view, the agenda behind CLI involvement in nuclear safety governance remained ill-defined, ambiguous, and shifting. The analysis highlighted that the main source of ambiguity lay in both the

lack of a clear definition of roles by the authorities establishing CLIs as an institution, and political doublespeak creating something close to a double-bind situation: relations with civil society required transparency, but not too much transparency; the CLIs should be given more power, but not too much power. Above all, it was clear that such empowerment of CLIs was not underpinned by a real reflection on their roles in nuclear safety governance or the sorts of devices and tools that could help them. All these factors led to considerable ambiguity for the nuclear regulators who are being asked to empower CLIs in practice. The situation was accentuated with the 2015 Energy Transition Law which reaffirmed the CLI's roles.

The safety inspectors' professional identity was built on the model of regulation-based control of nuclear safety, founded on political power delegated by the State. The type of governance they are used to is not easily compatible with a participatory view of governance, currently being promoted by political discourses and recent regulations. In this new model of governance, the CLI's voice could be considered just as legitimate as the safety inspector's voice, in contrast to a control-based view of governance. Progressively, the safety inspectors find themselves confronted with a pluralistic, open model of governance, involving multiple stakeholders and producing potentially contradictory deliberative processes. Consulting another stakeholder on a particular concern implies listening to its views, and being prepared to accept potential contributions, or even disagreements or criticisms.

The third part shows that safety inspectors tend to classify the CLI's roles into three categories:

- the CLI as a forum for contact with civil society;
- the CLI as a provider of second opinions from civil society;
- the CLI as a "Generalized Other".

In 1934, George Herbert Mead introduced the concept of the "Generalized Other": the general notion that a person belonging to a specific social group has the common expectations held by members of the same group about action and thought (Mead, 1934). The attitude of the "Generalized Other" is in fact the attitude of the broader community. According to Mead, it is as this "Generalized Other" that communities apply pressure on their members' behaviors.

The work shows that even when safety inspectors understand CLIs as second opinion providers, they are finding it difficult to accept that CLIs can make valuable contributions to the safety debate, other than on very specific subjects regarding protection of the local population and environment. It was mentioned in several interviews that the IRSN and ASN have sufficient technical expertise and there is no need for a third expert. According to them, CLIs lack the technical skills and methodology necessary to make significant contributions to the nuclear safety debate. The "layman's" common-sense concerns of CLIs, and their ability to play the role of a civil-society provider of second opinions, are not taken seriously by other nuclear actors. Most regulatory controllers do not accept that CLIs might have a different "take" on matters and could trigger new ideas. Yet, these are prerequisites if the CLIs are to become an active stakeholder in the governance of nuclear safety.

The nuclear regulators seem unwilling to let CLIs interfere with their control power. Safety inspectors feel that CLIs should remain in an observer's position. It was noted that the

safety inspectors tend to consider that they must keep abreast of every matter regarding nuclear safety and that it is impossible for a CLI to make a significant contribution to nuclear safety, because that could mean the inspectors are inefficient controllers. It is also noted that safety inspectors do not necessarily want to engage in genuine dialogue with CLI. The concept of dialogism – *i.e.* debates between several specific and independent voices – is rejected by most of the interviewees. Thus, safety inspectors' initiatives to involve CLIs in the safety debate seem to be primarily organizational responses to laws and regulations and communications strategies rather than reflecting a genuine shared concern for CLI involvement. Most of the interviewees accept that they must comply with the legislation requiring greater CLI participation, but remain unconvinced of its relevance.

To conclude, involving CLIs in matters of nuclear safety is a total paradigm shift, to a governance perspective instead of a control perspective. Going further, a dialogical relationship could be established between all nuclear actors, in which each actor needs to retain some humility, and no actor should be privileged and considered as “possessing the truth”. In this approach, everybody is considered as a participant and nobody is undervalued: the “layman's” common-sense expertise of civil society can be considered as a form of expertise. In such a governance perspective, anyone can contribute valuable information. If this is achieved, both nuclear regulators and other nuclear actors will find themselves exposed to the risk that the CLI might disagree with them, and perhaps bring them to change in some way.

## 5 Conclusion: towards a stakeholder governance of nuclear safety in France?

The present work seeks to understand what role the public plays, through CLIs, in the governance of nuclear safety. It establishes that when CLIs play both the role of a “Generalized Other” representing the public's voice, and the role of a civil provider of second opinions, able to discuss the complex subjects at stake, they can become a powerful and legitimate stakeholder in nuclear safety governance. In such circumstances, CLIs should be able to conduct investigations that are both commonsensical and technical. These characteristics would make CLI-led investigations all the more rich and useful for the governance of nuclear safety. The technical aspect (with the help of experts and specialists) would reinforce the legitimacy of such investigations in the eyes of nuclear actors, and their commonsensical or “layman's view” aspect would provide an alternative view of nuclear questions in the safety debate, potentially leading to creative ways of addressing the issues and situations at stake.

The analysis highlights that there exist several challenges in encouraging public involvement in the governance of nuclear safety. The first main challenge lies in the complexity of the subjects at stake: without extensive understanding of the subjects under discussion, the “publics” concerned will not be able to play a significant role in the governance of nuclear safety, and would also lose their *raison d'être*. The necessary skills are hard to acquire, as long-term dedication is needed, and the variety of complementary profiles within each public is

crucial. The second main challenge concerns organization: who should be in charge? This work takes the specific approach of considering that in order to exist, the public must construct itself, and thus responsibility for organization lies primarily with the different publics. Nonetheless, other nuclear stakeholders could help the constructed public to acquire greater strength and legitimacy. A third main challenge is the concrete operationalization of the public: how can its participation in the governance of nuclear safety be guaranteed? The danger, as was shown in the first part, is that we could simply end up with another type of bureaucracy that is at risk of losing gradually its connection with the public. It is shown in the present work that the final challenge is maintaining this connection between the institution representing the public, and its public, in the long term.

To conclude, effective public participation in the governance of HRO – which is part of the process of constructing the public – can lead to higher levels of safety, through the organizing of a dialogical, reflexive performativity in which the HRO's professionals and experts are committed to continuous dialogue with the public. This construction process – provided the public constructed is truly representative and constitutes an active, structured stakeholder in the social monitoring of the activity – is a great advantage for HRO. Such collectives increase the chances of perceiving weak signals, prevent the organization from becoming enclosed in a culture of secrecy, and reduce the risk of downward bureaucratic spirals that could in turn lead to lower vigilance.

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