

Development of Questionnaire for Self-Assessment of Regulatory Capture

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1. Introduction

The history of regulations and the regulatory bodies is as old as the human history itself. Regulatory bodies design different rules called regulations, formulate guides to control the business and perform monitoring & enforcement. These powers are delegated by the state or government on the behalf of public to protect their rights, working as a public agent.

Nuclear industry with its evolution in 60s came with a number of pros and cons. In order to avoid any accident or incident, highest safety standards and quality control mechanism were established. The relation of regulator with its licensee is critical in the sense of public safety and welfare.

The situation when the regulator starts to work for the interests of the industry instead of the public interest and fails to cling with his mission is known as “regulatory capture” which may cause a number of serious negative effects like radiological or radiation risk [1]. According to George Stigler, “as a rule regulation is acquired by the industry and is designed and operated primarily for its benefit” [3]. The phenomenon of regulatory capture may hamper the safety culture and can also be considered as regulatory failure. It is therefore necessary to clearly understand this type of government failure to avoid the happening of serious accidents like TMI and Fukushima in the future.

This paper aims to explore whether the regulatory body works independently and effectively to achieve its assigned tasks and objectives. Hence we proposed a questionnaire for the self-assessment of regulatory capture within the regulatory body. It also includes the results of an experimental assessment which was carried out to check the relevance and reliability of the questions to this subject. This assessment survey was conducted with the officers and staff members of Pakistan Nuclear Regulatory Authority (PNRA).

2. Literature Review of Regulatory Culture

The terminology of regulatory capture has been generally used in economics or public choice theory. The former explains that regulatory capture occurs when a state regulatory agency created to act in the public

interest instead advances the commercial interests it is charged with regulating [4]. Regulatory capture is the deviation the state’s regulatory body (ies) from their mission through such action (s) which may compromise the public interest & welfare by causing some negative externalities. Regulatory capture may promote agenda of the regulated industries or of the anti-groups.

In economics, the state’s regulatory body is known as captured when it advances the commercial interests it is charged with regulating instead of the public interest. Regulatory capture is a form of government failure, as it can produce negative externalities by encouraging large firms.

Regulatory capture can also be explained and understood with the principal agent problem. Sometimes it is stated that no regulatory body is better than a captured and biased one [2]. In order to get results of their own interest, some stakeholders may use their influencing power. Therefore, efforts should be made to protect the regulatory body from outside influences.

3. Methodology

The development of assessment questionnaire is based on the attitude and behavior study of the individuals. It also requires the knowledge and understanding of the key responsibilities and core values of an institution. In order to prepare the questionnaire, experienced feedback and review of the available material on the subject matter has been utilized.

We have designed this questionnaire keeping in mind that independence of a regulatory body in all aspects is necessary to accomplish its assigned tasks and duties. Moreover, to check the relevance of the questions to the subject matter, developed questionnaire was distributed to the officers and staff members of Pakistan Nuclear Regulatory Authority (PNRA) as feedback of the working regulators was necessary to refine and improve relevance of the questions. The main source of inspiration for the development of this questionnaire is the paper (Ref: 1) on the regulatory capture self-assessment checklist.

4. Results of Study

4.1 Self-assessment Questionnaire

Based on the paper “Development of Checklist for Self-Assessment of Regulatory Capture in Nuclear Safety Regulations” (K. S. Choi et al.), the following is the proposed questionnaire for the self- assessment of the regulatory body to check the degree of regulatory capture as given in the table-1.

In this questionnaire all questions are centered on the following main question.

“Does the regulatory body work independently and effectively to achieve its assigned tasks and objectives?”

There are two types of questions; one for a regulatory personnel and the other for regulatory body, though the common term “regulator” is used. The behavior of the individuals is important to evaluate as regulatory capture of an insider may lead towards a major problem. The behavior of the individuals may influence the regulatory body in making regulatory decisions. Moreover, assessment of the individuals is somewhat complex job in comparison to the assessment of a whole regulatory body against its clearly defined objectives and goals.

All of the 38 questions have been categorized into seven sub groups. These seven sub groups are used to represent the vital areas of a regulatory body’s work.

In order to get effective view of the responders, all items were measured on five-point Likert scale, where 1 = strongly agreed and 5 = strongly disagreed. All responses on a Likert scale consists a series of five Likert-type items that are combined into a single composite score (mean value) and represents a quantitative measure of each dimension during data analysis (Boone and Boone 2012).

Table-1: Proposed Questionnaire

No.	Questions
A. Independence of Competence (Knowledge, Information, Expertise)	
1.	Is the licensee’s expertise superior to the regulator?
2.	Does the regulator rely only on the licensee’s information rather than regulator’s own?
3.	Does the regulator reflect the licensee’s view favorably in its technical judgment or regulatory decisions?
4.	Does the regulator accept justifications of the licensee on regulatory matters without asking any further reference or explanation?
5.	Does the regulatory body performs its functions and discharges its responsibilities in a manner that does not compromise its effective independence?
B. Competent and Independent Human Resource	
6.	Does the regulatory body employ a sufficient number of qualified and competent staff corresponding to the nature and number of

	facilities regulated and activities?
7.	Does the regulatory body have a human resource development plan that states the number of staff necessary and the essential knowledge, skills and abilities to perform all the necessary regulatory functions?
8.	Does the regulator have open door policy within the organization to point out and discuss the safety issues without any discrimination of the concerned staff?
9.	Does the regulatory body carry out staff rotation, if necessary, without accepting any external/internal influence?
C. Financial Independence	
10.	Does the regulator have independent financial resources?
11.	Does the regulator have difficulties in securing resources for regulating the licensee?
12.	Does the regulator have job opportunities provided by licensee after retirement?
13.	Does the regulator consider the licensee as fund provider for regulation?
D. The Regulatory Body Conflicts Avoidance	
14.	Does the regulator avoid conducting un-announced inspections which might cause conflicts with licensee?
15.	Does the regulator, in general, want to minimize the conflicts with applicant/licensee in regulation?
16.	Does the regulator want to avoid establishing the policy that may cause adverse responses from the licensee?
17.	Does the regulator consider the applicant/licensee as a member of nuclear community where it should continuously work together?
18.	Does the regulator take pressure that it should reflect the feedback by the licensee/applicant on regulatory matters/regulations?
19.	Does the regulator conduct safety promotional activities by itself?
20.	Does the regulatory body prevent or duly resolve any conflicts of interest or, where this is not possible, seek their resolution within the governmental and legal framework?
21.	Does the regulatory body ensure that there are no conflicts of interest among those who provide advice or assistance to the regulatory body?
E. Relationship with the Licensee	
22.	Does the regulator respect the view of applicant/licensee as they were his/her fellows and have good social relations with one another?
23.	Are the regulator’s decisions influenced as he has family/relative relations with the applicant/licensee?
24.	Does the regulatory body ensure a clear separation from organizations charged with responsibilities for the promotion or application of nuclear or radiation related technologies?
F. Management System	
25.	Does the regulatory body have requirements/criteria prepared to prevent subjectivity influenced by the operator in

	regulatory decision-making of individual staff members?
26.	Does the regulatory body have clearly defined procedures for the objective review and assessment of applications for authorization of facilities and activities?
27.	<i>Does the regulatory body issue any guidance on the format and content of documents to be submitted by the applicant in support of an application for authorization to avoid bias in technical judgments?</i>
28.	Does the regulator establish the policy based on external response rather on its judgment on nuclear safety as public interest?
29.	Does the regulator have an effective management system to avoid external influences?
30.	<i>Does the regulator segregate the regulatory issues according to the significance of the issue i.e., urgent, normal etc.?</i>
31.	Does the regulator itself define the time periods not influenced by the operator for rectification of the observations during the regulatory activities?
32.	Does the regulator follow all the established steps of review and licensing without being exposed to any pressure which may cause undue delay to the regulatory decisions?
33.	<i>Does the regulator complete planned work within budget and on schedule?</i>
34.	Does the regulatory body ensure that its staff remains focused on safety irrespective of their personal views which might be influenced by the licensee?
G. Others	
35.	Does the regulatory body, consistent with its effective independence, have the authority to intervene in any facilities or activities that present significant radiation risks, irrespective of the costs to the licensee?
36.	Is the decision to achieve the regulatory goal influenced by the external communities which are positive to nuclear industry?
37.	Does the regulator take the influence of his political affiliation on its decisions?
38.	Does the regulatory body have established system for the protection of whistle blower?

4.2 Significance Check of the Questionnaire

In order to check the relevance and reliability of the proposed questionnaire a survey was conducted. Because of the nature of this study, one-sample research designs with five scales were developed to measure individuals' response and understanding.

In this survey, officers and staff members of Pakistan Nuclear Regulatory Authority (PNRA) were asked to provide their responses. A total of 60 survey forms were distributed, of which 40 responses were collected. Table-2 shows the designations and number of the participants.

Table-2: Designations of the responders and their number

<i>Designation</i>	<i>Number of Responders</i>
Principal Scientific Officer	4
Senior Scientific Officer	13
Senior Engineer	15
Scientific Officer	3
Assistant Engineer	1
Scientific Assistant	4

The participants were required to mark a score from 1(A) indicating positive attitude/behavior and 5(E) indicating negative attitude/behavior. A neutral score of 3(C) occurred if a participant answered in the mid-range of 3 (test value), which indicated that the participant had no opinion about the context (Bradley et al. 1999). Finally, a one sample t-test was performed for all analyses to check the significance of the received responses. The analyses showed that question number 1, 3, 11, 15, 23 and 37 are non-significant or the responders gave neutral response against these questions whereas the remaining 32 questions are significant relative to the main question.

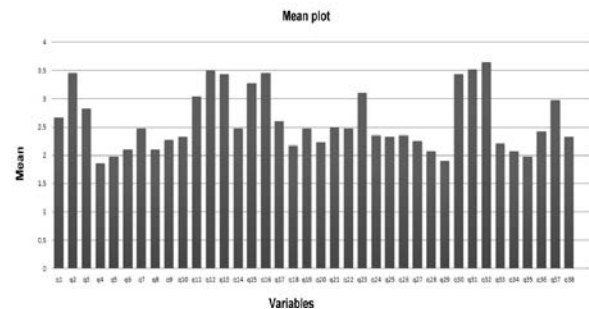


Fig-1: Variables vs Mean Value

5. Discussions & Conclusions

We checked the significance of the proposed questionnaire and found some of the questions like Q. 27, 30 & 33 (written in italic) are not directly related to the phenomenon of regulatory capture. However, the existence of the situation which has been asked in these questions may lead towards the hampering of regulatory culture. Also, Q. 20 can be further divided into following two questions;

- i. Does the regulatory body prevent any conflicts of interests with the other stakeholders?
- ii. Does the regulatory body resolve the conflicts of interests, if any, within the governmental and legal framework?

The proposed questionnaire is the result of the efforts towards the development of a comprehensive questionnaire for the self-assessment of regulatory capture. Such questionnaire, if developed, could be used for the self-assessment of the regulatory capture.

The proposed questionnaire is, however, still under way and need further evaluation and improvements.

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