

Development of Comprehensive Nuclear Safety Regulation Plan for 2007-2011

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1. Introduction

The Article 8-2 of Atomic Energy Act requires the government to establish Atomic Energy Promotion Plan every five years. It sets out national nuclear energy policies in a systematic and consistent way. The plan presents the goals and basic directions of national nuclear energy policies on the basis of current status and prospects. Both areas of utilization and safety management of nuclear energy are included and various projects and schedules are delineated based on the national policy directions.

The safety management area in this plan deals with the overall safety and regulation policy. Its detail projects and schedule should be developed in separate plans by responsible ministries under the mediation of the MOST. As a regulatory authority, MOST is responsible for safety management area and its technical support organization, KINS has developed Comprehensive Nuclear Safety Regulation Plan as an implementation plan of safety area. This paper presents the development process and specific projects contained in the Comprehensive Nuclear Safety Regulation Plan which is under development now.

2. Underlying Bases of the Plan

The Plan aims at goal-oriented and demands-driven comprehensive national plan for the coming 5 years. Goal-oriented means that the plan should be organized to achieve the basic policy objectives set out in Nuclear Safety Policy Statement which is higher level official document set out safety and regulation policy of 10 years term. The statement is in final stage of revision and its revision edition will be announced soon. Demands-driven means that the plan should be prepared for the coming new regulatory demands such as new construction of NPPs, development of first-of-kind nuclear facilities and new requirements from domestic and international settings. Figure 1 shows the underlying bases of the plan.



Figure 1. Development of the Plan

3. Development Process

To achieve the goal of the plan the following process was taken.

3.1 Specifying Policy Directions from the Analysis on Nuclear Safety Policy Statement

Nuclear Safety Policy Statement was revised in consideration of new environment and achievements after the statement was announced in 1994. From the revised policy statement 19 policy directions were specified as shown in Table 1.

Table 1. Policy Directions of New Nuclear Safety Policy Statement

Policy Directions	Policy Goals
<ul style="list-style-type: none"> ● Risk Informed and Performance based Regulation ● Ensuring Safety of Operating and New Nuclear Facilities ● Establishment of Management System on Maintenance, operating experience feedback and Incident Prevention ● Achieving Higher Efficiency on Radiation and Radioisotope Safety Regulation ● Ensuring Safety of Radioactive Waste and Spent Fuel ● Setting up Comprehensive Emergency Preparedness Plan and Its Implementation ● Strengthening Nuclear Security 	Maintenance of the utmost level of nuclear safety
<ul style="list-style-type: none"> ● Development of Regulatory Policy, Institutions and Legal System ● Keeping Regulatory Requirements and Standards of International Level ● Acting on International Conventions and Norms 	Continuous development of nuclear safety standard
<ul style="list-style-type: none"> ● Safety Research Based on Tech Tree and Master Program ● Resolution of Safety Issues ● International Cooperation ● Maintaining Human and Financial Resources and Training 	Maintenance of technologies to enhance nuclear safety
<ul style="list-style-type: none"> ● Program Development for Monitoring and assessing safety culture ● Development of safety management system in regulatory body 	Promotion of nuclear safety culture
<ul style="list-style-type: none"> ● Opening Safety Information and improving public confidence ● Public Participation in Safety Activities 	Settlement of public confidence regarding nuclear safety

3.2 Investigation on Future Regulatory Demands and Survey on Internal and External Environment

Total 131 factors were identified from literature survey and expert interviews. The factors were classified into external drivers and forces to affect future nuclear safety regulation and internal program and plan for regulatory body to implement now or in the future.

3.3 Derivation of Specific Projects

Based on both the policy directions and external and internal factors, total 57 specific projects were derived. Figure 2 shows a schematic example of derivation process.

3.4 Elaboration on the Specific Projects, Estimation of Resources and Prediction of Schedule

Necessity and background of the projects, implementing actions, implementation strategy, necessary budget and human resource, expected outcomes and implementing schedule were elaborated on each specific project.

3.5 Setting Priority on the Specific Projects

Priority on urgency and effectiveness will be set on each project, based on expert opinion. If each project is given a priority ranking then roadmap could be drawn up which is useful for decision-maker to manage the implementation of the plan.

4. Conclusion

The government is expected to approve this Safety Regulation Plan to supplement Atomic Energy Promotion Plan as its implementation plan for safety management area. This plan will enhance the transparency of safety regulation and public confidence in organizations related to nuclear safety. With the specific projects suggested, measures for safety enhancement in nuclear and radiation related facilities could be duly and effectively implemented. Major safety policy directions and specific projects embraced in this regulation plan are expected to be referenced as a good basis of work plan to enhance nuclear safety by regulator and licensees for at least next 5 years ahead.

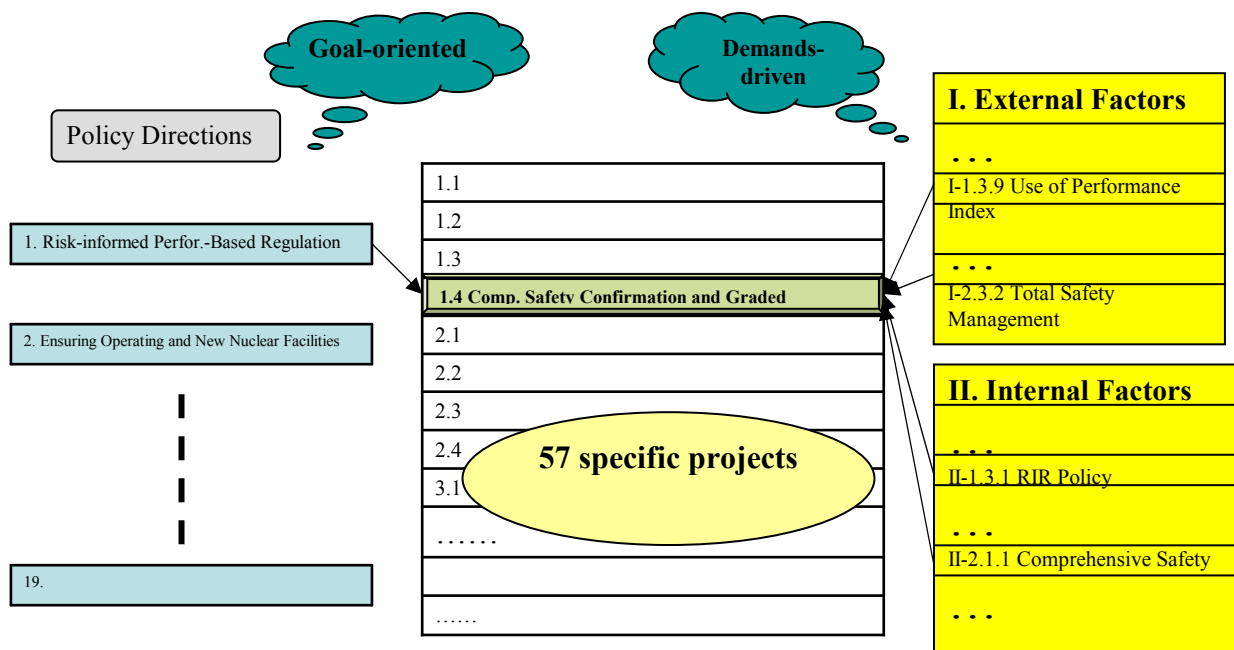


Figure 2. Example for deriving a specific project