

ANNEX V

THE MANAGEMENT SYSTEM OF A TSO, THE EXAMPLE OF GRS, GERMANY

Introduction

The Integrated Management System of GRS (Gesellschaft für Anlagen- und Reaktorsicherheit gGmbH) as well as its quality policy and the principles are described in the Management Manual with the current version being certified according to DIN EN ISO 9001:2015 by TÜV Rheinland Cert (Germany) and in the Organization Manual of GRS.

The Management Manual of Quality (QMM) comprises process descriptions, technical instructions, and standard documents.

The Management Manual is accessible via the intranet of GRS. The QMM as well as other information and support services can be delivered upon request to the following email-address: scc@grs.de.

The central GRS intranet website of the Integrated Management System gives all staff at GRS quick access to all internal management documents. Through the internal online news bulletin the staff of GRS is informed by the Key Quality Manager (KQM) about the release of new versions of the QMM which is structured according to the following table of contents (Fig. 5.1):

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FIG. 5.1. Table of Content of the QMM with its Sections 1 - 7.

Section 1 of the QMM BUSINESS POLICY contains the Quality Policy and Principles and reflects the principles, value, attitudes and activities set and sustainably developed in compliance with the national and international standards on the management systems of nuclear organizations. The relevant IAEA documentation is one of the fundamental reference points for further development of the GRS business policy.

This section includes a Statement of Commitment signed by the top management, which states that the QM system applies to all areas of activity and to all processes of GRS, is binding and directly applicable by all staff, and is accessible to other interested parties. This statement commits the management and all GRS staff to the QM system and its continual improvement.

Section 2 of the QMM CONTEXT AND COMPANY PROFILE contains the description of the company context and profile including its mission and vision (Fig. 5.2), and the target system (Fig. 5.3).



FIG. 5.2. GRS Mission and Vision.

Ecological, economic and social aspects are considered in all strategic actions of GRS as the basis for a sustainable development of the company. GRS is committed to adhering to socially and environmentally relevant rules and standards (such as DIN EN 16247-1). The same is expected of its subcontractors. Against this background, a target system has been developed from the mission statement, defining concrete targets and strategies as seen below (Fig. 5.3).



FIG. 5.3. Targets and Strategy.

Section 3 of the QMM MANAGEMENT SYSTEM describes the Management System structure of the GRS with integrated parts of it certified according to DIN EN ISO 9001, DIN EN ISO/IEC 17020 and DIN EN ISO/IEC 17025. It is shown in Fig. 5.4 below:



FIG. 5.4. Management System.

The quality management system (QM system) of GRS establishes the procedures and responsibilities for all processes developed from the company's mission statement which has an influence on the quality of the services and products.

The process structure of GRS comprises the three following process types: management processes, core processes, and support processes. These processes with integrated tools for their improvement are depicted in Fig. 5.5 in the form of a process map. The procedures to be applied specifically are put in concrete terms in technical instructions, standard documents, and in guidelines. **Sections 4, 5 and 6 of the QMM** contain detailed descriptions of these processes and the tools for improvement.

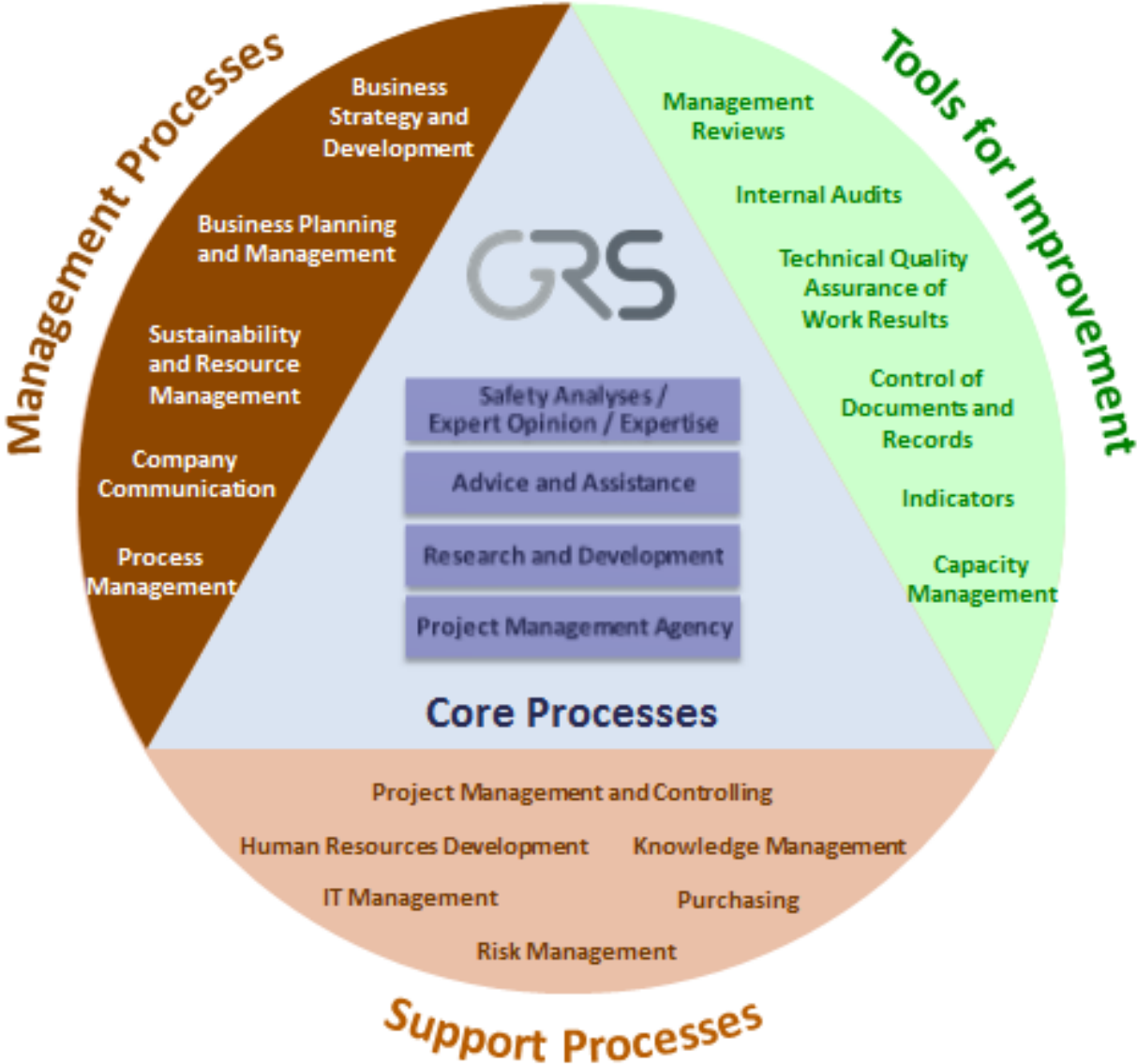
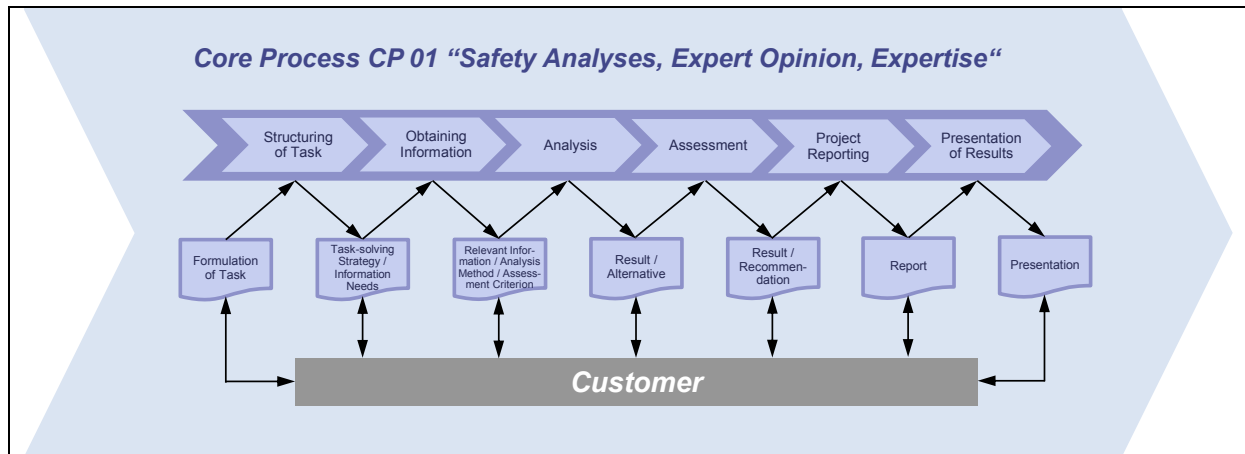


FIG. 5.5. Process structure of GRS.

The descriptions of the management, core, and support processes as well as the tools for their improvement are included in the QMM (Sections 4, 5, 6 and 7).

Since the management processes are not carried out in the framework of external contracts, the documentation on their description differs from that of the core processes.

For each core process outlined in **Section 5 of the QMM CORE PROCESSES**, a standard process description document is designed, which contains the process chart, the description of the process targets and its scope. The core processes are defined as the ones that contribute directly to the creation of added value. As an example, the process for Safety Analysis, Expert Opinion, Expertise (Core Process 01) is depicted in Fig. 5.6 below:



Target

- Improvement of the safety level of nuclear installations through
 - identification of weaknesses for the purpose of monitoring and maintaining the safety level,
 - identification of approaches for optimisation for the purpose of enhancing the safety level,
 - review or specification of assessment scales and criteria (guidelines, standards, requirements),
 - early damage detection with the help of statistical methods (e.g. trend analyses etc.).
- Minimisation of environmental pollution (conventional and radiological).

Scope

- Information Notices
- Incident Reporting System and International Nuclear Event Scale reports
- Safety-related statements
- Evaluation of operating experience from Information Notices
- Probabilistic Safety Analyses (PSA)
- Expert opinions according to Section 20 of the Atomic Energy Act (§ 20 AtG)
- Expert opinions not according to Section 20 of the Atomic Energy Act (§ 20 AtG) (e.g. for BMWi, ONR or ANVS)
- Generic analyses

FIG. 5.6. Example of Core Process.

Section 6 of the QMM SUPPORT PROCESSES, consists accordingly of the description of the support processes; one of them, the support process on Risk Management (SP 06) is shown below in Fig. 5.7:

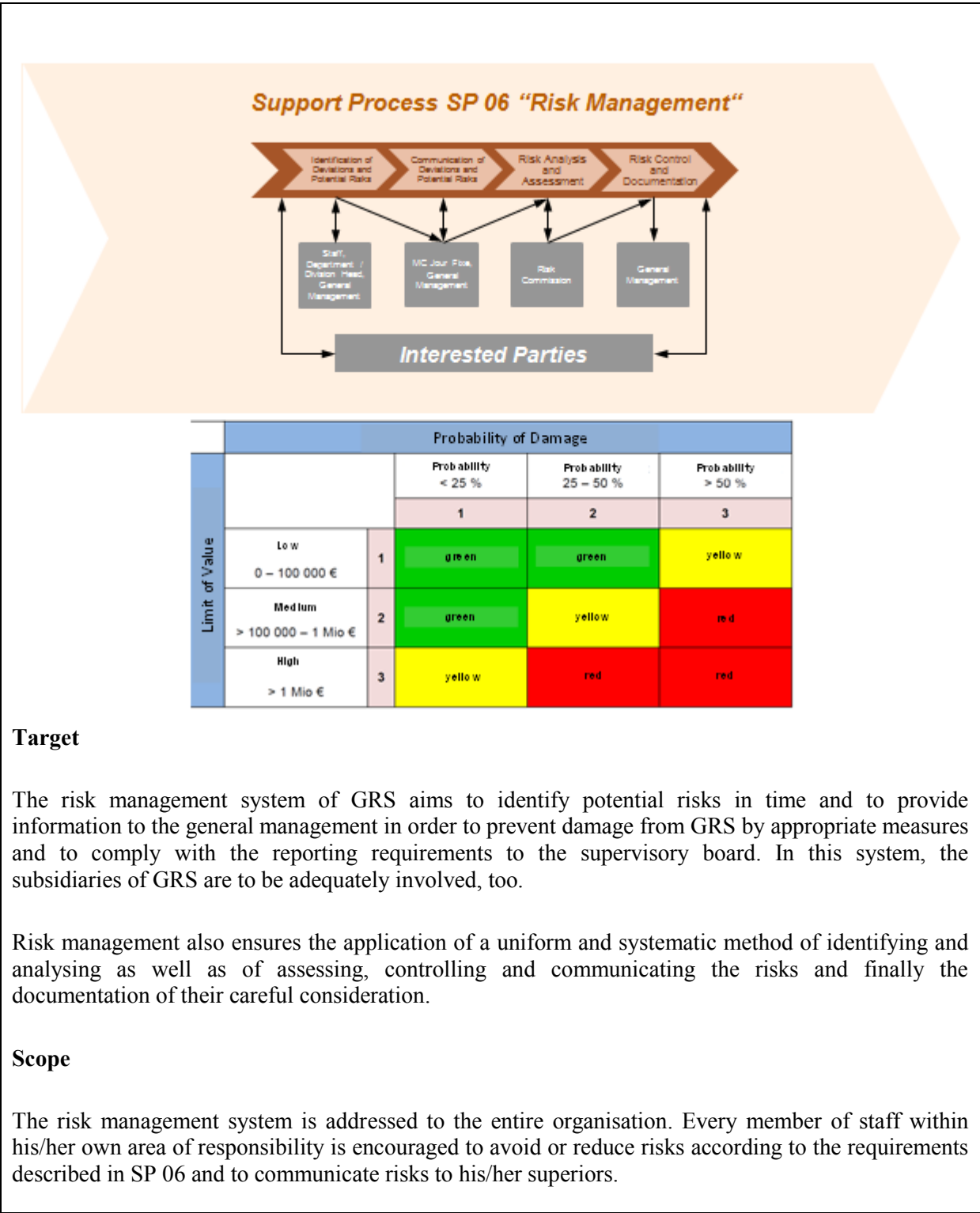


FIG. 5.7. Example of Support Process.

The interrelations between the processes (Fig. 5.8) are exemplified in **Section 4 of the QMM MANAGEMENT PROCESSES / RESPONSIBILITY OF MANAGEMENT.**

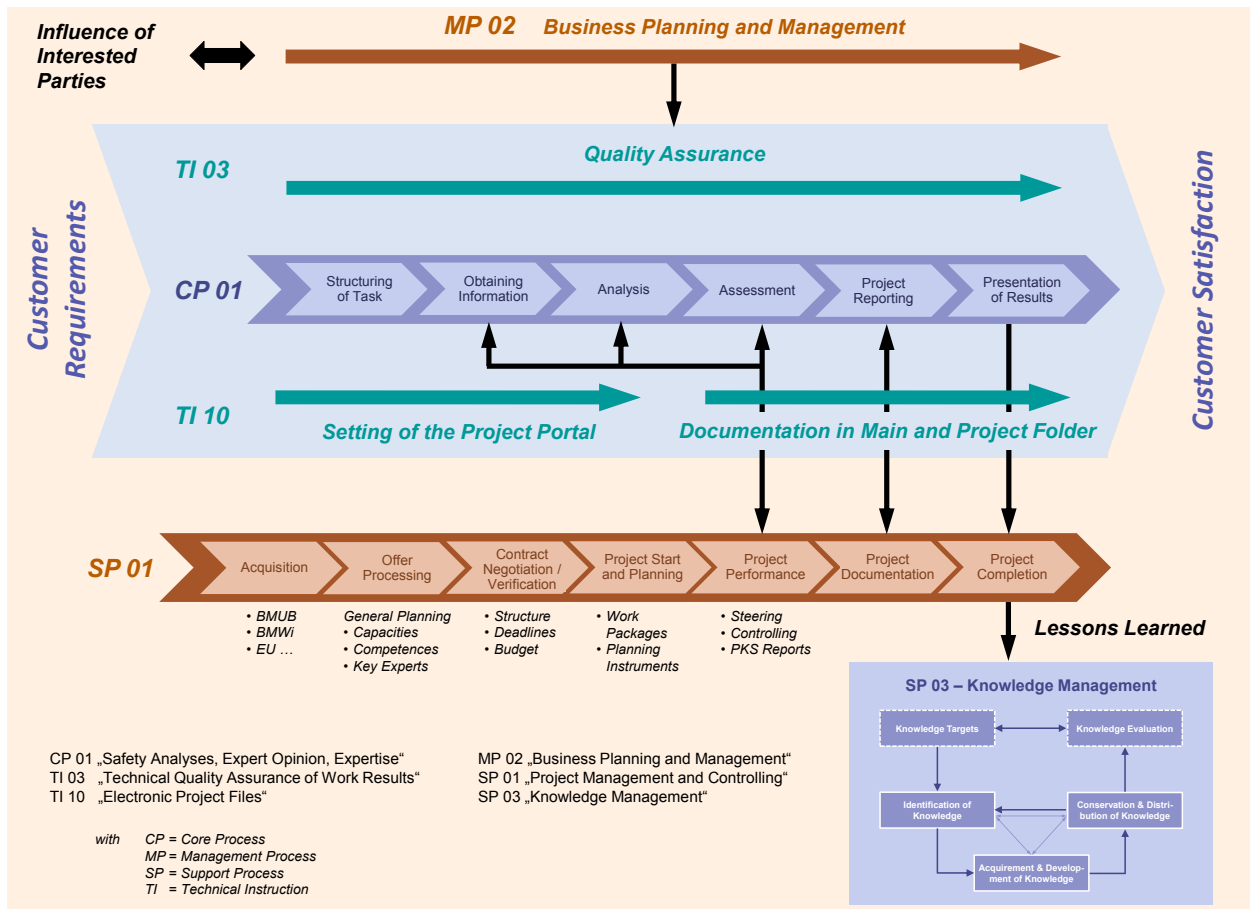


FIG. 5.8. Example of interaction between the processes.

The common feature is the application of the PDCA (plan, do, check, act) cycle as shown in Fig. 5.9, towards their continuous improvement:

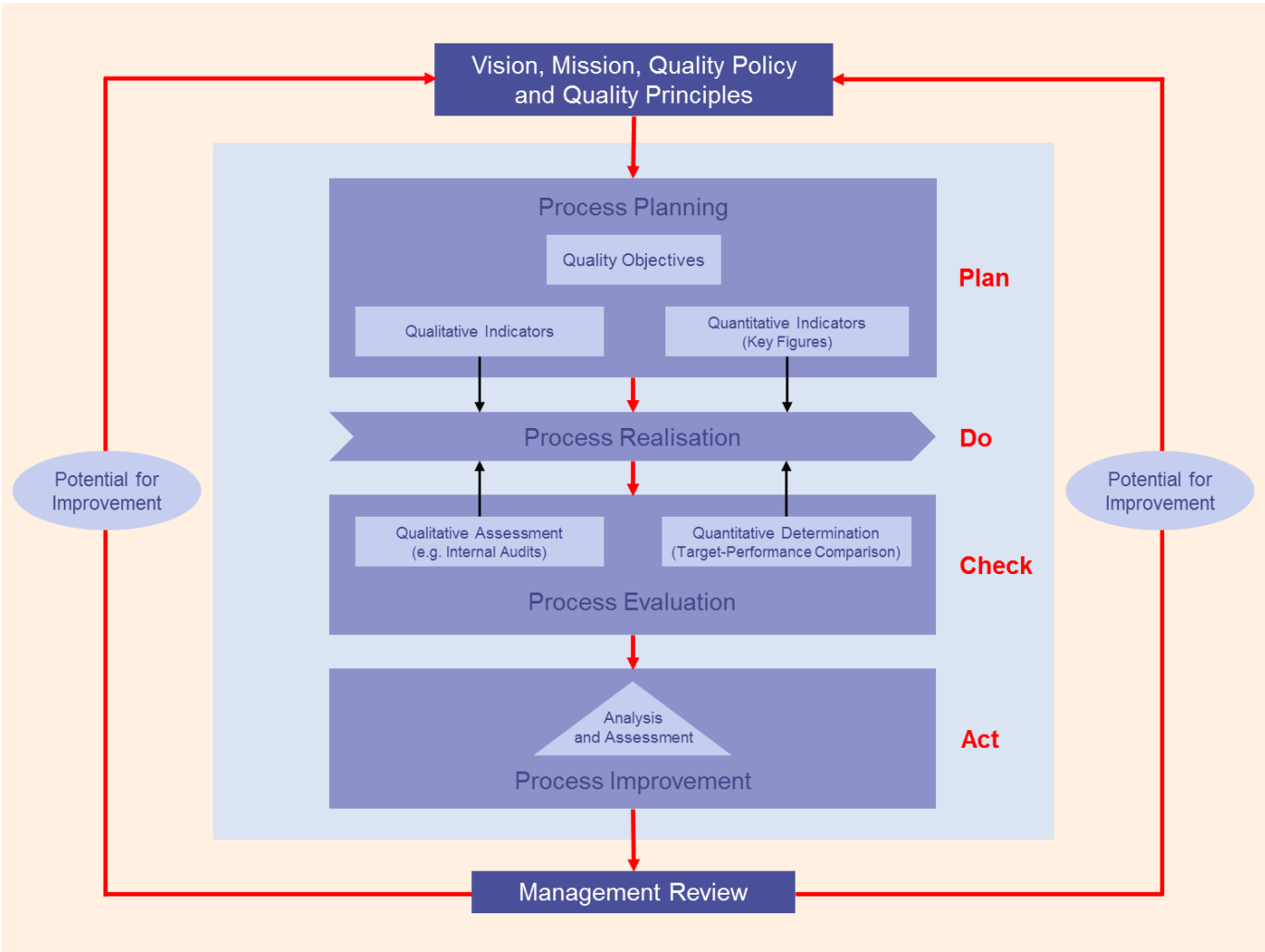


FIG. 5.9. PCDA cycle.

Regular measurements and assessments are conducted at GRS with regard to both process realization and efficiency of the processes. The results of these measurements and assessments provide indications of the quality of the work results and the degree of customer satisfaction. They are used as a basis for a continual improvement process and described in **Section 7 MEASUREMENT, ANALYSIS AND IMPROVEMENT**. The results of the analyses and assessments from project and process measurements form the basis for the establishment and implementation of improvement measures, geared to the GRS quality objectives. The Indicators Catalogue below is the one of the most explicit numerical instruments used at GRS for process monitoring.

Targets	Further development of the safety level of nuclear installations	Mitigation of disposal risks	Contribution to achieve the objectives of environmental and radiation protection	Maintenance and further development of scientific expert competence	Efficient resource management
Strategy	Helping to shape safety requirements and regulations, the state of the art in science and technology, nuclear safety research and collaboration in the annual work plans of the contracted parties		Application of knowledge and methods and provision of expert advice to selected environmental and radiation protection issues, use of synergy effects	Acquirement and development of knowledge, establishment of European competence networks, foresighted human resource development, scientific reputation	Efficient use of resources, improvement of capacity management, compliance with project planning, compliance with the business plan
Indicators	A1 Number of final reports submitted		B1 Number of environmental projects	C1 Staff training	D1 Productivity
	A2 Number of publications in scientific journals			C2 Internal assessment of training programmes	D2 Billable work
	A3 Number of presentations at conferences and workshops			C3 Human resources development plan	D3 (Company) capacity
	A4 Participation in international and national committees				D4 Uniformity of capacity
	A5 Number of code transfers				D5 Degree of fulfilment
	A6 Number of offers (new contracts, successful offers)				D6 Non-profit factor
					D7 Adherence to deadline

FIG. 5.10. Example of the KPI (Key Performance Indicators.)