

## **QUALITY MANAGEMENT SYSTEM IN GENERAL DIRECTORATE FOR NATIONAL ROADS AND MOTORWAYS**

B.SZCZEPKOWSKA

General Directorate for National Roads and Motorways, Warsaw, Poland  
bszczepkowska@gddkia.gov.pl

General Directorate for National Roads and Motorways is a state administration responsible for tasks realization as national roads administrator for construction, reconstruction, rehabilitation, maintenance and national roads protection. Is also managing the traffic of the national roads.

The main tasks of General Directorate for National Roads and Motorways is: realization of the transportation policy of the country in the range of maintenance roads and building roads. General Directorate for National Roads and Motorways - as it was written in the name of the organization – is responsible for national roads and motorways.

General Directorate for National Roads and Motorways involves tasks in the whole area of the country by 16 Regional Offices. That kind of decentralization gives the opportunity for defining investments - maintenance needs of local nations concerning national roads. Information from 16 Regional Offices is the base of financial and real plans of General Directorate for National Roads and Motorways.

General Directorate for National Roads and Motorways keeps permanent and close contact with proper institutions or organizations in other countries (particularly in European Union and neighbor countries) that make easier to state needs for roads construction or reconstruction roads between our country and neighbors. This activity is the base of balanced roads development in Poland and neighbors countries.

The quality management system accordingly to the requirements in the international standard ISO 9001:2000 let us to accommodate organizational system directorate to the management standards implemented in European Union and all over the world.

General Directorate for National Roads and Motorways has a very important role in transportation policy in the country and in order to optimize tasks realization, decided to implement Quality Management System in accordance to the requirements in standard ISO 9001:2000.

This activity has been taken to reach :

- Acceptation and implementation of international standard and gave the opportunity for effective communication among all administration offices
- Preparation and continuous improvement of internal and external customer service
- The fast abilities to assure adjustment of GDDK&A to law changes,
- Elimination of anomalies at each stage of contacts among particular customers.

In April 2004 the management system in GDDK&A was assessed as meeting the requirements of ISO 9001:2000 by SGS Systems & Services Certification. In June 2004 GDDKiA underwent the same process for the following activities :

## **“Construction and maintenance management of national roads and motorways in Poland“.**

According to the recommendation of standard ISO 9001:2000 General Directorate for National Roads and Motorways took the process approach and identified internal processes by selecting the groups mentioned below:

- planning and investment preparation process
- the invest realization process
- roads and bridges maintenance process

The process sequence and interaction of this processes was settled. Also the goals and measurements requirements were settled. The monitoring processes are based on the results of plans and budget realization. GDDK&A established the rules of the records preparation which should provide objective evidence of conformity to requirements and of the effective function of the quality management system.

Quality records document:

- Realization of activities connected with monitoring of the management system
- Planning and running of the process realization
- Performance of works of quality
- Research and measurements results

Those records have uniformity form which are define by procedures of management system and by other internal orders.

The Quality Policy in GDDK&A keeps very important role in the quality management system. That policy has few functions. The most important is the meaning of the Quality Policy for the organization management. The Quality Policy provides a framework for establishing and reviewing quality objectives. The next very important function is the importance of that policy for employees. When the policy is defined and communicated it gives the better understanding of the organizational strategy, goals and tasks. It also defines precisely the responsibility for given tasks to those who are involved and responsible for processes and make them to be realized. For the clients the Quality Policy is a kind of declaration and gives assurance that their needs and expectations will be accomplished. The Quality Policy in GDDK&A mentioned below:

### **Quality Policy**

We are an organization, responsible for coordination of the construction and operating both motorways and national roads. We are an important sequential in construction of the transportation policy in the country. That's why we have particular obligation toward our clients who are the users of national roads and motorways in Poland. We care about their satisfaction, which require continual improvement and gain in efficiency of the activity. The quality of work is the basis , which guarantee tasks realization.

Quality means for us:

- Improvement of driving comfort by construction new roads accordingly to the European standards

- Modernization existing roads and communication junctions which improve comfort and safety traffic
- Use modern technology of traffic organization to ensure optimum operating conditions.

Quality Policy has been realized by:

- Implementation and improvement of the quality management system
- Good cooperation of all offices of the GDDK&A
- Ensuring quality objectives and tasks for existing processes in organization
- Improvement of the efficiency in using resources
- To keep stable and experienced employees
- Setting responsibility for quality in each process and each position
- Careful selection of investment contractors and task performers

There are ensured quality objectives, which are measurable and consistent with the Quality Policy. Quality objectives are significant for effectiveness in GDDK&A activity. They help employees in daily work to take right decision and to considered results of those decisions accordingly to what GDDK&A wants to obtain.

Tanks to short-time (operational), middle-time (tactical) and long-time (strategic) goals GDDK&A has clear vision what the organization wants to obtain. Moreover thanks to them management has a special systems, like monitoring system, evaluation and control system. By regular control of goals realization, GDDK&A has obtained signals about irregularities in the organization activity. Later on the improvement actions are settled by the management. When the time of goals realization is finishing the results are estimated and either conclusions are given or new tasks are determine. When quality objectives are determined, the SMART method is used.

In the SMART method objectives should be:

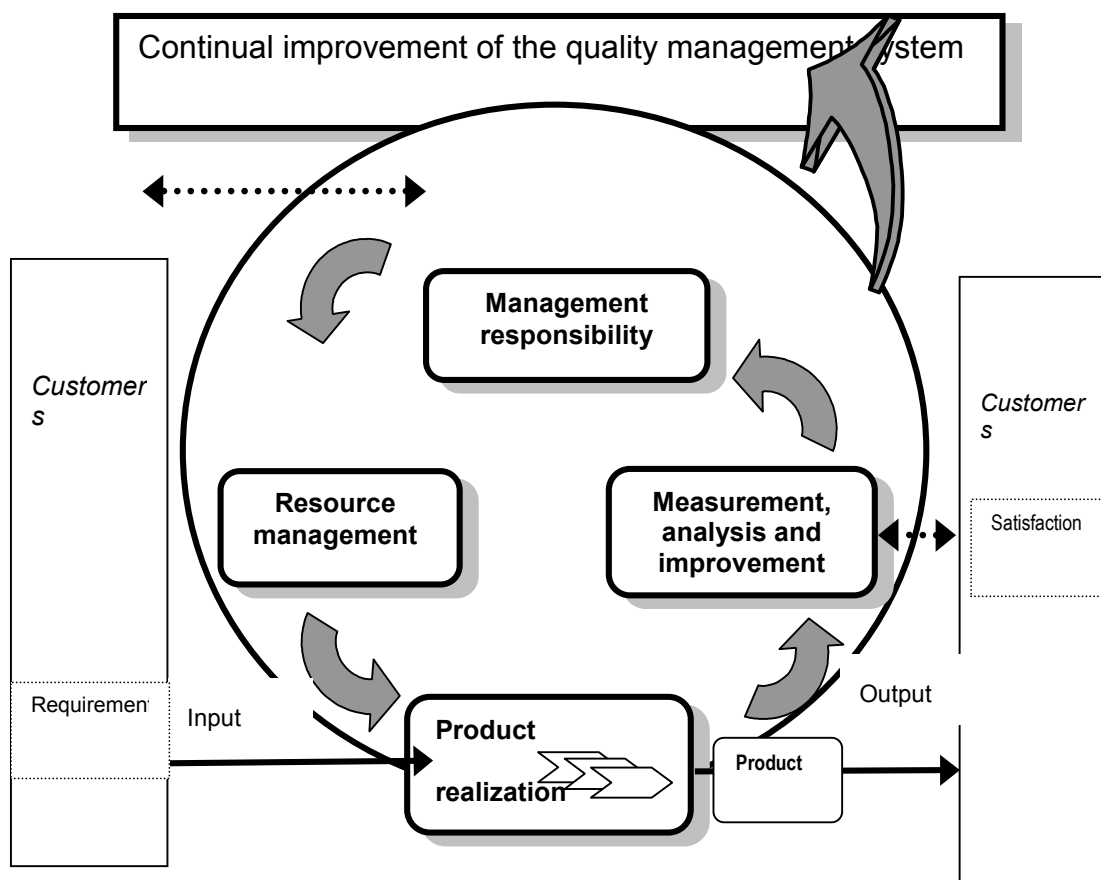
- **S**pecyfic
- **M**easurable
- **A**chivable
- **R**easonable
- **T**ime – bounded

The requirement of standard ISO 9001:2000 is to determine quality objectives of each level of the organization. Those goals should be consistent with the Quality Policy, which is the mainly document in quality management system.

General Directorate for National Roads and Motorways is the organization focused on the needs and expectations of the roads users – our customers. Client satisfaction is significance for our success.

This International Standard promotes the adoption of a process approach during developing, implementing and improving the effectiveness of a quality management system.

The model of a process-based quality management system so called Deming circle – PDCA (Plan, Do, Check, Act) is shown below:



**Key**

- Value-adding activities
- Information flow

Model of a process-based quality management system

PDCA can be briefly described as follows:

- o **Plan:** establish the objectives and processes necessary to deliver results in

- accordance to customer requirements and the organization's policies.
- **Do:** implement the processes
  - **Check:** monitor and measure processes and product against policies, objectives and requirements for the product and report the results.
  - **Act:** take actions to continually improve process performance.

The next very important point worth presenting are the eight rules of management quality:

1. Customer focus
2. Leadership
3. Employees commitment
4. The process approach
5. System approach to the management
6. Continual improvement
7. Decision by the fact
8. Good relationships with the suppliers

#### Rule 1. Customer focus

Organization is depending of its customers, that's why must know their current and future needs, should meet them and try to exceed customers satisfaction.

#### Rule 2. Leadership

Top management shall establish the quality objectives and direction of activity consistent with the quality policy. They should ensuring the availability of resources in which employees can be fully commitment to the obtain quality objectives of the organization.

#### Rule.3 Employees commitment

Employees commitment at relevant functions and management levels are very important in the organization. Theirs involvement let to use their skills, education and experience to the achievement of the developing organization.

#### Rule.4 The process approach

Expected results are obtained and more effective, when actions and resources are managing as a process.

#### Rule.5 System approach to the management

Identifying, understanding and managing of the numerous linked processes as a system, gives opportunities for the effective and efficient obtaining the quality objectives.

#### Rule.6 Continual improvement

Continual improvement of all actions and processes should be perpetual objective of the organization.

### Rule.7 Decision by the fact

Effective decisions are based on data and information analysis, which are confirmed by the facts.

### Rule.8 Good relationships with the suppliers

Organization and suppliers are depended. Cooperation based on both sides benefits escalate ability to generate added value.

All above mentioned rules permit to identify, understand and manage the system of linked processes and gives the opportunity for realization of the undertaken strategy, policy and goals of the organization.

This approach rise the effectiveness and efficiency of the organization activities. That is also the possibility for effort concentration on the main processes.

Finally I would like to present the profit of General Directorate for National Roads and Motorways after application of the quality management system which is compliance with international standard ISO 9001:2000 and activity which are planned for improvement of quality management system in General Directorate for National Roads and Motorways.

In July 28-29 2005 SGS Systems & Services Certification conducted control audit to determine weather the quality management system

- Conforms to the requirements of this International standard
- Is effectively implemented and maintained
- Demonstrate the ability of the management system to achieve planned objectives and consistent with the quality policy.

The implementation of the Quality Management System in GDDK&A was positively estimated and we can continue improvement management system, what is the mainly message of the International Standard.

Equally, the same importance has objective of implementation of the Quality Management System in 16 Regional Offices of GDDK&A.

To the implementation system will be used:

- Measurement and monitoring of the customer satisfaction
- Internal audits
- Self-evaluation
- Monitoring and process measurement
- Measurement and monitoring all interested sides satisfaction
- Data analysis

**Measurement and monitoring customer satisfaction** are huge source of information like: customers petitions, communiqués, reports in media.

**Internal audits** should give us objective estimation about system functioning and estimation of the effectiveness and the efficiency of the GDDK&A. During the internal audits we have checked :

- the effectiveness and the efficiency of the processes implementation

- the ability of the continual improvement
- analysis of the quality costs
- the way of resource using
- interaction with all interested sides

Range of **Self-evaluation** is a result of objectives in the organization. Self-evaluation is made by top management. The main objective of the self-evaluation is to give the organization outlines based on facts, how to invest resources for organization improvement. The most important way of system improvement is **Monitoring and process measurement**. According to international standard ISO 9001:2000 organization should apply adequate methods of monitoring and processes measurement of the quality management system. GDDK&A will try to work out the methods, which should show the ability of the processes to obtain planned results.

Next method of a system improvement is **Measurement and monitoring all interested sides satisfaction**. This matter includes employees, company owners, investors, suppliers and society. Another method is **Data analysis**, from different sources. This method will allow to estimate the realization accordingly to the plans, objectives and other tasks. Moreover it will help to identify improvement areas including benefit for interested sides. Data analysis helps to determine source and reason of the existing or eventual problems and let us take right decision about corrective and preventive actions. The results of analysis can be also used in different way, for example for defining development trends, estimation of the effectiveness and the efficiency of GDDK&A. It can be also used for the estimation of the quality costs, financial results and market results, benchmarking and competition.

Top management is applying to assure the future of the organization and satisfaction of all interested sides by creating the behavior culture for employees who actively want to improve the processes, actions and services.

GDDK&A try to obtain this by establishing objectives for employees, projects, organization and by awarded achievements connected with improvement. Benefits of GDDK&A connected with implementation of the Quality Management System in accordance with the requirements of International Standard are visible and consist of:

- processes identification, its sequence and interaction between them
- establishing objectives for employees, projects, organization
- developing of manual principles and rules describing behavior standard in accordance to the tasks realization
- using Standard ISO as a good practice of management
- making the employees aware of significance of tasks realization
- streamlined communication
- defining of the responsibilities and authorities
- adjusting management system of GDDK&A in accordance to the management system in European Union and all over the world.