

# GENERAL PROCEDURE OF NATIONAL HEIGHT SYSTEM'S REPLACEMENT

**Armands Celms, Aivars Ratkevičs, Ilona Reķe,**

*Latvia University of Agriculture*

## **Annotation**

In the State Administration practice regularly develops situations where for established, functioning system is a need to impact changes. Implementation is not a simple process, even in seemingly simple cases - changes can affect public interest and are carried out by public money. Changes of functions performance, all are evaluated the same way – because they are not official's or authority personal resources, but the nation's resources, for which country people have the right to know and require the report as owner. These requirements also apply to such a public administration area as state geodesy and assured with strong order, accuracy planning and documentation of all processes [6].

## **Introduction**

In the State Administration practice regularly develops situations where for established, functioning system there is a need to make more or less amount and impact changes. Implementation of changes may dictate unbiased need, technical progress or social development requirements, and other factors. Regardless of the reason, implementation is not a simple process, even in seemingly simple cases.

Essence of the problem – changes can more or less affect major public interest and are carried out by public money. It does not matter whether they apply to higher or lower significance state structure activities, changes of functions performance, all are evaluated the same way – because they are not official's or authority personal resources, but all the nations resources, for which uses in a democratic country people have the right to know everything and require the report as a resource owner.

These requirements also apply to such a public administration area as state geodesy – in its full extent, as long as the state provides supervisory, management or other functions.

## **Basic conditions**

Organizing any complex, structured system changes or enhancements, always should keep in mind that the process itself, the expected result will not be simple to implement because it will have effect on a large number of users of the system, at various levels.

Riskiest moments found in the fact that the unconsidered and poorly organized system replacement, modification arrangements, initiated with the best intentions can lead and also lead to unreasonable tensions, loss, long-term problems for existing and future system service recipients, including financial losses and disruption of these systems customer service functioning. There is no room for in world history famous warlord expression "I came, I saw, I conquered". Such a solution formula for a national point of view can be considered to be either complete irresponsibility or incompetence in performing its tasks, which can afford only dictators and to them according government regime. In democratic countries this management style from the public administration side, which permits voluntary or risky playing with the national resources, should follow by an investigation with appropriate organizational conclusions, action, or criminal proceedings.

Changes in the large impact or scale national systems, including geodetic support system, whose activities, services, or results affecting public administration in general and other government systems can be likened to the change implementation issues in large complex facilities. Organizing some kind, even modest improvements or changes, initially take into consideration that the imprudent action can create chaos in the production process, or stop it at all. Therefore for the basis for the national geodetic support system transformation or modernization procedure, can select the production's classical procedure, which task always serve as a guarantee of timely thought out, reasonable action sequences for any changes.

## **Basics of changes implications**

Planning and organizing the process of systems change, there should be taken into account the effects which on the change initiative and its future implementation leave each individual change initiative or source of origin witch can be summarized in the following groups:

- Technical need (actual, urgent);
- Technological need (planned, proactive);

- Political motivation (justification - political will).

#### Technical need

The grounds for change are usually based on reality findings that the quality of use of the system no longer satisfies, or in the near future will not meet the criteria for the use or non-compliance with requirements for new development phase. Changes in such cases do not depend on human preferences or beliefs it is dictated by the current reality and requirements.

#### Technological need

The need for changes and the reasons are usually based on timely defined technical and technological development prospects, future strategic and technical or technological realities, opinions – which indicate that the currently used system's quality in the near future will not meet the criteria for use of prospective, or current criteria will not support the future development requirements. Changes in such cases are not the actuality at a present moment, but could become in some time and only from people expectations, beliefs, knowledge or opportunities depends on the change timely, proactive advancement.

#### Political motivation

Changes and justifications are based on politically defined ideas, realities or requirements, where a technical and technological development prospect, their future strategies and reality usually is present as second plan grounds. The progress of political motivation idea is considered as a riskiest option from technical and professional opinion, in decision-making more use political than professional arguments. Implementation of changes by political motivation always is justified only in critical situations of the state or industry, when to achieve results is actual the limited time factor and there is no time for democratic nature discussion.

Regardless of the origin of the change initiative – security should be guaranteed with the measures and procedures compliance order, sequence and documentary evidence, which confirms that the ideas promoters did all the necessary actions and procedures, which eliminate any discussion of unreasonable public resources and assets waste[4].

Depending on the sources of change initiatives and other factors, the action model can adapt for specific needs, justifying it according to the need of each case, while retaining in it contained guidelines and mandatory enforcement of positions.

The classic model of action consists of the following three main positions:

1. The idea / intent / need;
2. Preparation / Planning;
3. Realization / Implementation;

Initially simple, but as more complex system to which it applies, as more complex inner content and higher requirements for quality. Quality of its performance plays an important role in achieving the main task – to prevent unreasonable and unreliable measures, to detect any potential loss and possible problems in process of system change implementation. Action model positions enforceable only in the listed order, it cannot be changed.

The first step – the idea / intent / need (may also be called – Initiative, the goal).

Causes may be various – from individual specialist's innovative, original ideas, to identified existing actions or functions implementation process changes necessity – perhaps even inevitable, immediate. As the need can also be considered a new technology, hardware, software changes effects, other institution or social requirements changes impact on the existing system and its results and application of different standards or a public authority instructions, for example – the national height system's replacement.

A step can divide into the following activities, performance stages:

### **The content of implementation stages**

#### 1. The idea – its objective (why and what to do – motivation)

In the framework of the above mentioned influences specialists define - the idea with its objective which allows changing the system to achieve the objective task of the idea. In the result of the definition the following has been achieved the task of the objective has been defined, planned to achieve in the process of realization of the idea or in its result, the possible methods, principals to achieve the task, the grounds of the necessity and usefulness of the realization of the idea include the predictable results and its benefits; The predictable investments – costs in the implementation; The analysis of the impact of the planned results on the performance of an institution's function in the long term; The evaluation of the impact of the planned results on state administration and economic activities; The predictable risks, there possible impact and preventive conditions; The summary – the balance of investment and assessment in the realization, the prediction of its development.

The result is obtained in the process of theoretic and practical considerations, using general, simple calculation methodology without specific additional information and the elements of planning. The drafted result of the definition of the idea may be considered as bases – to make the first management decision – to continue the further progress or to reject it.

The obligatory condition – Authors must form the definition of the idea as a document, which is used as the basic document of further developments and passing management decisions.

### 2. The technical aspects of the implementation of the idea (how to do it – technology)

If the idea is accepted as potentially appropriate for the realization the next stage of its development the technical investigation/preparation of the idea is started, which finally ends with the management decision about further development. In this stage are specified the technological and technical methods, parameters, requirements and conditions in the realization of the idea – proposals are prepared in the meters of technical performance.

When management supported the further development of the idea, resources for next stage of implementation must be envisaged allowing for the possibility to reject or stop the further realization of the idea. Organizing must be started according to the rules of good management - appropriate management order must be worked out, previously drafted documents of the proposal must be completely drawn up, the protocols of the evaluation of the proposal must exist – which justify the usefulness of further development of the idea.

If the above mentioned documents and succeeding orders do not exist – it may be considered that the development of the idea has no thorough and grounded origin, and there may be voluntary approach, borders with attitude to the expenditure of state finances and resources. The technical investigation/preparation of the idea starts with drafting the order about the investigation and preparation of the possibility of the ideas realization. The work group of the preparation of the idea is formed with the order. In the end of the investigation the obtained results are compiled and evaluated for the compliance to the ideas realization, additional grounding of the realization of the idea is prepared. The ground of the realization is drawn as concretized and completed document of the definition of the idea which includes previously drawn but presently supplemented and defined. Supplement – report on the performance of the management order and the disposed resources of its performance.

### 3. On the decision of the realization of the idea (decision – yes or no, if yes - when)

The step Idea/intention/necessity ends with the management decision on the further development of the idea based on the results of the report of the previous management order performance, received from the work group. In the framework of the report – the bases of the grounding must be prepared so that management can make justified decisions on the further realization in general (to develop, not to develop, terminate realization).

If the decision is positive - On the technical issues (which variants are to be developed - realized); - On the terms of the realization of the idea, the costs of the realization of the idea; - On the beginning of the planning of the ideas realization.

Management decision may be made in the meeting of the management comity formed for this aim. The decision definitely must be confirmed by documents – regardless it is positive or negative. By making positive decision management states the terms of beginning next position and the authority in making drawing the order.

Second step preparation/planning activity starts with drawing the order project based on management decision confirmed by documents and the set of reports submitted to the management, providing that performers must ensure preparation for the planning and draw the plan of the measure. As a result management must receive the planning of the realization, completely drawn conformed with the involved institutions and as a supplement to the plan – draft order on the realization of the plan. Step may be divided in the following performance:

## **The content of the steps of the performance**

### 1. Drawing the draft order on the planning of the realization of the idea;

When making management decision to start Preparation/Planning, the initial terms of the planning and the authority in drawing the order are stated. The process of planning becomes complicated process of gathering information processing and documentation [1]. When preparing the order must be evaluated previously prepared and submitted documents for management decision and management decision on the realization of the idea.

The following is specified - Involved structures, specialists and staff; attached resources; Decision on technical issues; Decision on the terms of the realization of the idea; proposals on planning the realization of the idea;

After specifying the mentioned questions and lists the draft order is made which defines:

1. The grounds of drawing the order;
2. The task of the order performance and the terms to reach it;
3. Organizing of the performance of the order;
4. The responsible authorities in the order performance and their authorization;
5. The responsible authorities in allocation/provision of resources;
6. The procedure of involving other institutions and their specialists;
7. The principals of organizing corporation and the procedure among involved institutions;
8. The procedure of providing reports and information;
9. Requirements for formation of the final result and the procedure of submitting.

The draft order is agreed with the managers of the work out structure units – according to the rules of inner order.

*1. Preparation works and planning measures* start with organizing the signing of the order.

After signing the order the preparation works start which are organized by the responsible authorities for planning stated by the order.

It is advisable that preparation processes are performed also by other institutions and enterprises in the state to which the results may apply. Preparation processes and their results are included in the total planning process.

*2. Planning (organizing performance, content);*

The first official meeting of the work group is considered to be the start of the planning process in which all the basic staff of the planning measures plan are involved.

In the following stage work group meetings are organized according to the confirmed regulations. Particular importance is given to the information about real tasks, activities, costs and performance terms, which refer to organizations which are not the developer of the idea.

Planning is oriented to planning to the realization of its variants – which were admitted as the most appropriated by the management. One plan with several performance variants or several independent plans are prepared [2]. When completing drawing the plan the work group prepares the report on performance of planning works and results in which as obligatory conditions are included prognoses of results of drawn plans or their versions with comparative evaluation and comparison table of realization costs. Together with the report the draft order of implementation may be prepared.

*3. Formation of the order of implementing of the idea*

The formation of the final order is completed only by receiving management direction about the formation of the draft order. In case of positive solutions the work groups receives management directions and specify planning documentation, specified performance time and financing schedules, prepare the draft of government order. Management organize the testing of the prepared set of documents and directs them to be considered in the government according to the established order.

*The next step – realization/implementation* starts at the moment when the submitted set of documents has successfully completed the established consideration procedures and the order has been confirmed according to established order in the state.

As a result management must receive fully realized, agreed with involved organizations, idea realization plan and according to realization results the required performance reports. At the final stage commonly the draft order or projects on the ideas realization results and the end of the plan performance are formed. The step internally, relatively may be divided into the following activities/stages of performance:

*1. Preparation works and measures – introduction.*

Preparation period is foreseen already in the schedules of performance planning. During the period all the institutions, organizations and personalities involved in the process are informed.

In the end the institution order is prepared about the performance of the order signed by the government, with which the work group of the plan realization is formed, the responsible authorities for realization and provision are stated. Concluding the preparation period the work group of coordinating the ideas realization is formed, which in the first meetings draw the work regulations and agree on concrete procedure of coordinating activities and mutual consultations.

*2. Organizing performance – the process management.*

Organizing and performance in each institution are done independently – according to the plan, by consultations – coordinating corporation with other involved institutions, working within

direct corporation frameworks with the specialists being appointed there or using the coordination work group formed by leading institution. The work plan normally predicts what reports, when and for whom must be made, when and whom must be submitted, but they may be additionally specified or completed with the agreement of the joint coordination work group.

### 3. *The final measures – the final.*

The final measures usually are stated in the confirmed plan of the realization of the idea. They include final reports – the preparation of the report in the joint coordination work group and submitting them to management, the preparation of final order in which the end of the performance of the realization plan of the idea, the provided results and the formed or changed systems are put into operation or in maintenances mode are stated. After signing the prepared order the joint coordination work group terminates their activities which, if necessary, hand over the unrealized or transformed functions hand over to the structures or specialists stated by the order. All the materials of the work groups, on the termination on their functions, are submitted to the archives of the institutions.

## Conclusion

The suggested procedure of replacing or changing systems for the cases of state institutions, including state geodesy field, might provide the bases for the realization of professional, competent and transparent realization, of the process, which would limit the possibility of unsuitable use of state resources and finances both in case of professional mistakes and lack of competence, and because of the influence of lack of experience and insufficient preparation of the involved high position state specialists, and to exclude dishonest attitude to state and private sector in the field, and because of the influence of other subjected factors.

Good quality planning always must be seen as the bases to achieve good results.[3] The better and more considered the planning is the bigger is the efficiency of implementation and the smaller amount of the impact of problems.[5] When planning the implementation of the idea on the state scale it always must be remembered that it is necessary to study the possibly full impact of the implementation in the state generally and on the performance of its functions and on society.

The efficiency of the implementation of the idea and the planning of its realization firstly must be evaluated by analyzing the comparisons of expenditure and benefits, and if it applies to state functions, then this comparison must be in the limits of the impact of the all the state in possibly full amount.

## List of literature

- 1.А.С. Грушин, И.И.Ипатов, Б.А.Литвинов Курс геодезии раздел общие сведения о геодезических сетях, Москва, 1972 г. Издание ВИА; 263 стр.
- 2.С.С. Уралов Развитие опорных геодезических сетей специального назначения, Москва, 1963 г. Издание ВИА; 266 стр.
- 3.Инструкция о построении государственной геодезической сети СССР, Москва, 1966 г. Издательство «Недра»; 341 стр.
- 4.С.С. Уралов Курс геодезической астрономии часть2, Москва, 1971 г. Издание ВИА; 366 стр.
- 5.С.С. Уралов Организация и экономика топогеодезического обеспечения войск, Москва, 1973 г. Издание ВИА; 266 стр.
- 6.Б.С.Кузьмин Б.А.Литвинов Руководство по геодезии Москва, 1961 г. Издание ВИА; 721 стр.

## Анотация

В практике государственного управления постоянно возникают ситуации при которых необходимы изменения в налаженной, работающей системе. Организация изменений не является простым, даже в заурядных случаях, результаты влияют на интересы общества и осуществляются за счёт общества. Подход к решению должен оцениваться одинаково, ресурсы и следствия не собственность чиновника или предприятия а населения государства, которое имеет право знать о их использовании и требовать отчета на правах собственника. Это относится и к вопросам управления государственной геодезии и обеспечивается соблюдением строгого порядка действий, тщательным планированием и документированием процессов.

**Armands CELMS**, Msc.sc.ing, lector of the Department of Land Management and Geodesy. Latvia University of Agriculture Department of Land Management and Geodesy. Address: Akadēmijas iela 19, Jelgava, LV-3001, Latvia. Armands.Celms@llu.lv

**Aivars RATKEVIČS**, lector of the Department of Land Management and Geodesy. Latvia University of Agriculture Department of Land Management and Geodesy. Address: Akadēmijas iela 19, Jelgava, LV-3001, Latvia. aivars.ratkevics@apollo.lv

**Ilona REĶE**, student of Professional Bachelor study programme of Land Management.