

NPJSC "Abylkas Saginov Karaganda Technical University"	<p align="center">Documented Procedure Nonconformities and Corrective Actions Data analysis. Continuous improvement of the effectiveness of the quality management system</p>	<p>DP X-03-2022 Version 02 Date 2022.11.02 P. 1 out of 16</p>
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Approved by
Quality Management
Representative

 G.S.Zhetessova
« 04 » 11 2022

DOCUMENTED PROCEDURE

**NONCONFORMITIES AND CORRECTIVE ACTIONS
DATA ANALYSIS. CONTINUOUS IMPROVEMENT OF THE
EFFECTIVENESS OF THE QUALITY MANAGEMENT SYSTEM**

DP X – 03 – 2022

**Developed by: Director
of Strategic Development
G.S.Zhetessova**



Karaganda

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1 Scope

This documented procedure establishes the procedure for carrying out corrective actions in order to eliminate the causes of nonconformity in order to prevent their recurrence by analyzing the data, establishes the method, procedure and criteria for data analysis in order to carry out actions aimed at continuous improvement of the effectiveness and efficiency of the quality management system (QMS), non-commercial joint stock company "Abylkas Saginov Karaganda Technical University" (hereinafter NPJSC "Abylkas Saginov Karaganda Technical University") and consumer interests.

The provisions of this procedure are mandatory for application by all employees of the departments of the NPJSC "Abylkas Saginov Karaganda Technical University".

This documented procedure is a part of the quality management system documentation (QMS).

2 Regulatory references

B In this documented procedure, references are made to the following normative documents:

ST RK ISO 9001-2016 (ISO 9001:2015) "Quality Management System. Requirements";

ST RK ISO 9000-2017 (ISO 9000:2015) "Quality management systems. Basic Provisions and Vocabulary";

DP X – 01 Control of documented information.

3 Terms, definitions and abbreviations

In this documented procedure, terms, definitions and abbreviations are used in accordance with ST RK ISO 9000:

Corrective action is an action taken to eliminate the cause of a detected nonconformity or other undesirable situation;

A preventive action is an action taken to eliminate the cause of a potential nonconformity or other potentially undesirable situation;

Quality policy is the general intentions and directions of the organization's activities in the field of quality, officially formulated by the top management;

The consumer is students, graduates and organizations employing university graduates;

CQM&A – Center for quality management and accreditation;

QMS - quality management system;

DP - documented procedure;

QMR - quality management representative;

AC – Academic Council;

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DAA - Department of Academic Affairs;
TS – teaching staff.

4 Responsibility and authority

4.1 This documented procedure (DP) is approved by the Quality Management Representative (hereinafter referred to as QMR).

4.2 Responsibility for the implementation of the procedure is borne by the QMR and the head of the Center for Quality Management and Accreditation (hereinafter CQM&A).

4.3 The developer of this procedure is a director of strategic Development.

4.4 Responsibility for the organization and coordination of activities for the implementation of specific stages of the procedure and the quality of the final results is borne by the heads of departments who are participants in the implementation of a specific stage.

4.5 Responsibility for the safety, unauthorized copying of documents of the quality management system (hereinafter QMS) located in the division, and leakage of official information are the heads of departments.

5 General provisions

5.1 In accordance with ST RK ISO 9001, if there is detected a nonconformity including any following from the claims, the organization should:

- a) respond to nonconformity and, to the extent applicable:
 - 1) take actions to manage the nonconformity and correct it;
 - 2) take action on the consequences;
- b) assess the need for actions to eliminate the cause(s) of the discrepancy so that it does not recur or occur elsewhere, by:
 - 1) nonconformity analysis;
 - 2) determining the causes of nonconformity;
 - 3) identify whether there are similar inconsistencies or could they potentially occur;
- c) perform any necessary action;
- d) analyze the effectiveness of all corrective actions taken;
- e) update, if necessary, information about risks and opportunities identified during the planning stage;
- f) make changes to the quality management system, if necessary.

5.2 This documented procedure defines control, responsibilities and authorities to prevent releasing a nonconforming product at all the stages of training and management of identified nonconformities.

5.3 Corrective actions should be appropriate to the consequences of the identified nonconformities.

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5.4 It is needed to analyze regularly:

- claims of consumers, students, employees and other interested parties;
- all types of nonconformities and comments identified during internal and external audits;
- internal QMS documentation including records, Quality Policy and Objectives, and various employee suggestions.

5.5 All divisions of the NPJSC "Abylkas Saginov Karaganda Technical University" participating in the QMS are required to identify the causes of any problems related to:

- nonconformities in the QMS;
- consumer complaints;
- the use of inappropriate QMS documents.

5.6 The divisions of the NPJSC " Abylkas Saginov Karaganda Technical University" participating in the QMS should take the necessary corrective actions, regardless of the reasons that cause the need for them.

5.7 The heads of the departments must provide support for all the improvements in order to make sure of their effectiveness.

5.8 Corrective actions are considered effective if no recurrence of the problems for which they were taken is observed.

5.9 Records of the nature of identified non-conformities, corrective actions and action plan of the elimination and prevention of their reoccurrence are kept and maintained in working condition.

5.10 Higher management must analyze the organization's quality management system in planned intervals to ensure its constant suitability, adequacy and performance.

5.11 A data analysis should include assessment of the possibilities for improvement and the need for changes of the organization's quality management system, including quality policy and quality objectives, as well as the involvement of leaders of all levels in the process of assessing the performance and efficiency of processes, plans execution, their analysis, formation of the appropriate actions for the improvement.

5.12 The data analysis, for improvement purposes, is carried out to ensure confidence of the university management that the Quality Policy, adopted at the university, is fulfilled, the goals, set at the respective levels, are achieved, the university's quality management system functions properly.

5.12.1 All QMS processes of the university and related types of activity are analyzed by the university's management in cases of :

- unsatisfactory attestation results;
- decrease in demand for provided educational services;
- deterioration of the educational process quality and decrease of the knowledge level of trained specialists;
- availability of complaints against the trained specialists.

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5.13 Issues are considered during the data analysis, which are related to:

- effectiveness of the corrective actions, proposed during the last analysis, made by the management;
- significant non-conformities, identified during internal audits, which were carried out in the period after the last analysis, made by the management;
- the significant non-conformities, specified in the reports of QMS inspections, carried out by customers of the university products (entrants, students, documents, etc.) and other interested parties during a period of time after the last analysis, made by the management;
- the significant non-conformities, identified during inspection audits and checks, conducted by higher organizations during the period of time after the last analysis, made by the management;
- quality improvement proposals of the educational process, received from any interested party, including internal customers of the university;
- quality comments, provided for analysis by someone among employees;
- personnel development;
- application of the statistical control methods as methods of the educational process improvement;
- current data on complaints and non-conformities in order to identify trends and determine the necessity for any actions;
- information, received from the customers of educational services, including their satisfaction;
- the results of analysis of the needs for resources;
- processes functioning;
- QMS functioning and evidence of its continuous improvement;
- the necessity for updating the Quality Policy and quality manual in general;
- changes, which could influence QMS.

5.14 The main criteria for assessment of QMS functioning are:

- stability of the educational process quality;
- increase of the number of students, making progress and learners as a result of improving the quality of training process;
- reduction of the quantity and significance of non-conformities;
- increase in demand for graduating students of the university;
- increase of the customers' satisfaction.

5.15 The procedure of making the data analysis includes the following:

- the analysis of QMS functioning;
- working out solutions and development of the QMS improvement proposals;
- realization of the decisions, made by the university management and evaluation of their effectiveness.

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6. Procedure description

6.1 The purpose of nonconformity management is the following:

- ensuring that nonconforming products/services are corrected in a timely manner;
- registering, analyzing, and taking corrective actions in the future of similar nonconforming products/services.

6.2 The issue of nonconforming products is solved as follows:

- by taking action to eliminate the detected nonconformity;
- for non-fulfillment of the curricula of specialties and areas of training, violation of the obligations stipulated by the Charter of the University, the Rules of the internal order students can be expelled from the University.

6.3 Determining the fact of nonconformities is possible on the basis of the following sources:

- information (complaints) of consumers and other interested parties;
- interaction with consumers of NPJSC "Abylkas Saginov Karaganda Technical University" and other interested parties;
- internal checks;
- according to the results of the self-assessment of the NPJSC "Abylkas Saginov Karaganda Technical University";
- according to the results of the external audit of the NPJSC "Abylkas Saginov Karaganda Technical University" during certification, licensing, certification and accreditation.

6.5 The information for analyzing the causes of nonconformities is:

- QMS documentation data and their compliance with the criteria (see Table 1);
- powers and suggestions for improving the QMS;
- data on the ranking of university activities (Methods of ranking higher and postgraduate education of the Republic of Kazakhstan by specialties;
- the results of periodic inspections of the QMS documentation (Quality policy and objectives, DP, methodological instructions, regulations on the division, job descriptions, rules).

6.6 The reasons for the discrepancy may be:

- the low school preparation of students in the basic disciplines of the university – mathematics, physics, chemistry, as well as language training;
- the low academic discipline of students - non-attendance of classes, failure to fulfill the schedule of the educational process;
- a violation of the schedule for the issuance of control materials, test assignments, term papers and projects, calculation and graphic works;
- a violation of the schedules of consultations on disciplines;
- the inconsistency of the work programs of the disciplines with the requirements of the development of production, the labor market.

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6.7 At the training stage, the reasons for the discrepancy are established based on the results of sessions, inspections of the readiness of departments for the academic year, inspections by representatives of the rector's office, reports and reports of commissions at the Academic Council of the University, at faculty training and methodological meetings.

6.8 To analyze the compliance of graduates with the needs of the labor market, DAA organizes a questionnaire survey of managers of enterprises on the quality of training at the university in various areas – technical, economic, informational, legal, etc., and their wishes for the adjustment of work programs of disciplines.

6.9 Methods necessary to ensure effectiveness in the implementation of the management process of nonconforming products:

- organization of memorization and passing the exam in the discipline;
- recovery;
- re-education;
- deduction.

6.10 The procedure for managing nonconformities consists of the following steps:

- identification of inconsistencies;
- registration and identification of nonconformity;
- suspension of use and isolation of nonconforming products/services;
- analysis of the causes of nonconformity;
- determination of necessary CA to eliminate nonconformity;
- analysis of the effectiveness of the event;
- process efficiency analysis.

6.11 The identification of inconsistencies in the educational activities of the NPJSC "Abylkas Saginov Karaganda Technical University" is carried out:

- when measuring and analyzing the characteristics of educational services/products.

Measurement and analysis of the characteristics of educational services/products occurs:

- when assessing the quality of training sessions;
- during the intermediate and final control of students' knowledge;
- by collecting statistical information;
- by testing students (control of residual knowledge of students);
- by questioning students and graduates;
- by questioning employers;
- when considering complaints and complaints received from consumers, teaching staff and employees of the NPJSC "Abylkas Saginov Karaganda Technical University".

6.12 All the cases of deviations, both established and potentially possible, are recorded without fail by filling out a non-conformity report.

6.13 Suspension and isolation of nonconforming product/service.

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6.13.1 A product/service found to be nonconforming with the requirements of regulatory documents should be separated from a product/service that is conforming with these requirements to exclude the possibility of its unintentional use or transfer to the next stages of the process.

6.14 Analysis of reasons for nonconformity

6.14.1 An analysis of nonconformities and their causes is carried out in order to assess the significance and degree of their impact on the quality of products/services, as well as to establish the costs necessary to eliminate them.

6.14.2 The graduating department, on the basis of the decision of the administration, develops corrective and preventive actions to eliminate the factors of nonconformity, their reaction during the training of specialists and in the next final certification.

6.14.3 The analysis of the causes of nonconformity provides:

- determining the root cause in the chain of possible causes that led to the occurrence of the nonconformity;
- determining the possible consequences of nonconformity;
- ranking the causes in order of importance (if there are several reasons for one nonconformity) and possible consequences.

6.14.3.1 Claims, complaints and feedback from enterprises are registered by the office and transmitted to the QMR.

6.14.3.2 The QMR shall review the information received within 3 days and depending on its content can.

- create a group to identify and analyze the causes of the problem;
- transfer information to the department (dean's office, department, department) to identify and analyze the causes of the problem.

6.14.3.3 The deadline for identifying and analyzing the causes of inconsistencies is set by the QMR, depending on the complexity of the problem, but no more than 4 weeks from the date of receipt of the information.

6.14.3.4 Ways to establish the causes of inconsistencies:

- analysis carried out by an individual or a group assigned to develop a CA;
- observation;
- statistical methods;
- sociological methods

6.14.3.5 The implementation of corrective action plans is carried out by the unit involved in corrective actions.

6.14.4 Planning of corrective and preventive actions.

6.14.4.1 The heads of departments develop corrective actions in order to prevent the recurrence of inconsistencies.

6.14.4.2 - The developed corrective actions are reviewed at the meetings of the departments, coordinated with a higher official and approved by the supervising vice-rector.

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6.14.4.3 - According to the approved corrective actions, an action plan is being developed, which identifies the persons responsible for the execution and sets deadlines for execution.

6.14.4.4 - Control over the execution of the action plan is carried out by an official.

6.14.5 Evaluation of the effectiveness of corrective actions

6.14.5.1 - The criteria for evaluating the effectiveness of corrective actions should be developed by the developer together with the corrective action plan.

6.14.5.2 - If it is appropriate, the developer may make proposals for changes to the evaluation criteria during the implementation of corrective actions, but no later than half of the specified period for the implementation of the correction.

6.14.5.3 - Proposals for changes to the evaluation criteria are approved by the QMR.

6.14.5.4 - The evaluation results are filled in according to the form provided in Appendix A.

6.15 Process efficiency analysis

6.15.1 - The head of the department performs an efficiency analysis based on the results of an internal audit once a school year.

6.16 The data analysis for the purposes of improvement.

6.16.1 In order to make the data analysis for the purposes of improvement, data is collected to obtain information about customers satisfaction and (or) dissatisfaction.

6.16.2 The data analysis, for the purposes of improvement, is systematically carried out by leaders of the divisions of NPJSC "Abylkas Saginov Karaganda Technical University" in the field of their competences during a year. The form of analysis of the divisions' goals of NPJSC "Abylkas Saginov Karaganda Technical University" is given in Appendix B.

The management plans and realizes improvement activities, based on the results of systematic analysis.

6.17 Requirements for improvement measuring.

6.17.1 Measurements must have a clear and specific purpose.

6.17.2 Improvement goals must be:

- set for all divisions in the field of quality;
- closely related to common goals;
- measurable and controllable;
- focused on satisfaction of the needs of customers;
- understandable for employees.

6.17.3 The improvement goals must:

- ensure the efficiency and performance of processes;
- be revised on a regular basis and include changes of the needs of customers.

6.18 The procedure of making improvements during the year.

6.18.1 The improvement activities are realized during the year in the form of:

- decisions of the Academic Council;

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- activities, based on the results of internal audits;
- activities, based on the results of external audits, performed by the customers and certification body;
- activities, based on the results of accreditation of the university and specialties.

Table 1 – Data for obtaining information about customer satisfaction and (or) dissatisfaction

Source of information	Frequency of providing information	Person, who is responsible for providing information	Who the information is provided to	Person, who is responsible for providing improvement proposals
1 Customer complaints	Actually	Office	Chairman of the Management Board - Rector, QMR	QMR, leaders of the divisions
2 Letters, faxes of customers	Actually	Office	Chairman of the Management Board - Rector, QMR	QMR, leaders of the divisions
3 Personal communication with a customer	Actually	ATS and leaders of the divisions	Chairman of the Management Board - Rector, QMR	QMR
4 Results of sociological research	On the results of questionnaire	Leaders of the divisions	Chairman of the Management Board - Rector, QMR	Group leader

The results (outcomes) of data analysis must include solutions and actions, related to:

- possibilities for improvement;
- all necessary changes of the quality management system;
- the needs for resources.

Information of the results of performed QMS analysis is used in formation of the plan of quality management system improvement. Quality objectives are formed on the basis of QMS analysis for the next year.

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7 Approval, validation and implementation

The approval, approval and introduction of this DP is carried out in accordance with DP X - 01 and is formalized in the "Approval Sheet" (Appendix C).

8 Ensuring accessibility

Ensuring accessibility of this documented procedure must be carried out in accordance with the DP X – 01.

9 Storage

The storage of this DP must be carried out in accordance with DP X – 01, and is made out in the "Approval Sheet" (Appendix C).

10 Analysis and updating

Analysis and updating this documented procedure must be carried out in accordance with the DP X – 01.

11 Making changes to the document

Amendments to the document of this DP must be made in accordance with DP X - 01.

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Appendix A
(mandatory)

F. DP-X-03-01

Форма заполнения результатов оценки

Name of output data	From where and when were received	The content of the output data or the document formed within the procedure (document registration number)	Person responsible for input of the output data	Place of storage	Term of storage
1	2	3	4	5	6
1 Corrective action plan					
2 Changes to the QMS documentation					
3 Changes of authority to the quality management system					
4 Improved parameters as a result of corrective actions					
5 Modernization of methods for measuring product parameters and production processes					
6 Results of evaluating the effectiveness of corrective actions					
7 Results - measurements and analysis consumer requirements; - checks DP, JD, MG, rules; - analysis of methods for measuring processes and product quality indicators					

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Appendix B
(mandatory)

F. DP-X-03-02

ANALYSIS OF FULFILLMENT OF the quality objectives

Division “_____” for 20__ - 20__ academic year

Content of the division’s goals	Fulfillment	Reasons of non- fulfillment	Timeframes of reason elimination	Person, being responsible for elimination

Discussed and approved at the meeting of division

“_____” minutes No. _____ dated _____ 20__

Quality authorized person

(full name), signature

Head of the division

(full name), signature

