

The Use of Expert Assessment Methods in the Selection of Technical Control Tools

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key words

entrance control, acceptance control, laboratory complex, quality, selection, equipment, technical means, project activity

We have studied the effectiveness of applying the method of expert assessments in the selection of technical means of input control to reduce the level of defectiveness of manufactured products. As a part of the project activities, we have developed a project for a complex for incoming inspection of rolled metal products and a project for a complex for statistical acceptance control in the production of gas discharge electrodes. For the successful implementation of projects in both cases, a multi-criteria choice of hardware and software included in their composition was carried out. We got acquainted with the regulatory documents of the enterprise; developed projects of complexes for carrying out input and acceptance control of products; using the method of multi-criteria selection, selected the appropriate hardware and software; prepared the necessary project documentation. Thus, it has been established that the methods of expert assessments can be successfully applied in project activities when solving the problem of multi-criteria choice in the course of developing complex technical systems for production quality control of products.

References

1. Romanova M.V. Upravlenie proektami: uchebnoe posobie [Project management: study guide], Moscow, *PH FORUM, SPC Infra-M*, 2013, 256 P. ISBN 978-5-8199-0308-7; <https://new.znaniy.com/catalog/product/391146> (acc.: 14.05.2021).
2. Nazarova O.B., Maslennikova O.E. Modelirovaniye biznes-protsessov: uchebnyk. 2 red. [Modeling of business processes: textbook], Moscow, *FLINTA*, 2017, 261 P. ISBN 978-5-9765-3700-2; <https://e.lanbook.com/book/104923> (acc.: 27.04.2021).
3. GOST R 54869–2011 Project management. Project management requirements: national standard, Moscow, *Standartinform*, 2015.
4. Kutsenko E.I. Proektnyy menedzhment: uchebnoe posobie [Project management: study guide], Orenburg, *OSU*, 2017, 265 P.; <http://www.studentlibrary.ru/book/ISBN9785741018354.h>. (acc.: 25.05.2021).
5. Muzafarova T.R., Putimtseva K.R. Risk v upravlenii proektami [Risk in project management], *ESS: Economics. State. Society*, 2018, no. 2, pp. 1–8. ISSN 2906-0029; <https://e.lanbook.com/journal/issue/311338> (acc.: 14.05.2021).
6. GOST 16504–81 System of state testing of products. Testing and quality control of products. Basic terms and definitions (with change N 1): interstate standard: approved and introduced by the Decree of the USSR State Committee for Standards of December 8, 1981 N 5297: introduction date 1982-01-01, Moscow, *Standartinform*, 2015.
7. GOST 15.309–98 System for the development and production of products (SDPP). Testing and acceptance of manufactured products. Basic provisions: interstate standard: adopted by the Interstate Council for Standardization, Metrology and Certification (minutes N 13 of May 28, 1998): introduction date 2000-01-01, Moscow, *Standartinform*, 2015.
8. GOST R ISO 10012–2008 Organisation management. Measurement management systems. Requirements for measurement processes and measuring equipment: national standard, Moscow, *Standartinform*, 2015.
9. GOST 26828–86 Mechanical engineering and instrumentation products. Marking: state standard of the USSR, Moscow, *Standartinform*, 2015.
10. OJSC Transmash; <http://www.transmash.com> (acc.: 14.05.2021).
11. JSC Razryad, Republic of North Ossetia — Alania; <http://zavod-razryad.ru/> (acc.: 14.05.2021).
12. Akimova A.A., Vechkanova E.I., Knyazeva A.N., etc. Razrabotka kompleksa dlya provedeniya vkhodnogo kontrolya metalloprokata (v usloviyakh OAO Transmash, g. Engel's) [Development of a complex for incoming inspection of rolled metal products (OJSC Transmash, Engels)], *Science and youth: problems, searches, solutions: Proceedings of the All-Russian scientific conference of students, postgraduates and young scientists*. Total edited by prof. M.V. Temlyantsev, Novokuznetsk, *SSIU*, 2020, pp. 49–53.
13. Kaplina A.A. Razrabotka kompleksa primeneniya statisticheskogo priemchnogo kontrolya na proizvodstve (AO Razryad, Respublika Severnaya Osetiya — Alaniya) [Development of a complex for the application of statistical acceptance control in production (JSC Razryad, Republic of North Ossetia — Alania)], *Science and youth: problems, searches, solutions: Proceedings of the All-Russian scientific conference of students, postgraduates and young scientists*. Total edited by prof. M.V. Temlyantsev, Novokuznetsk, *SSIU*, 2020, pp. 262–266.
14. Podinovskiy V.V. Vvedenie v teoriyu vazhnosti kriteriev v mnogokriterial'nykh zadachakh prinyatiya resheniy [Introduction to the theory of the importance of criteria in multi-criteria decision-making problems], Moscow, *FIZMATLIT*, 2007; <http://www.studentlibrary.ru/book/ISBN9785922107433.html> (acc.: 14.05.2021).
15. Khamitov R., Kolchurina M., Kolchurina I. [et al.]. Designing of a laboratory complex for spectral analysis of measurement data of different materials, *Studies in Systems, Decision and Control*, 2021, vol. 351, pp. 169–177. DOI 10.1007/978-3-030-68103-6_15.
16. Khamitov R.M., Kolchurina M.A., Kolchurina I.Y. [et al.]. Laboratory complex for studying the quality of materials using spectral analysis of signals, *Journal of Physics: Conference Series*, St. Petersburg, *Virtual*, 2021, p. 012009. DOI: 10.1088/1742-6596/1728/1/012009.