

ASPECTS OF RECONSTRUCTION TECHNICAL PROJECT EXPERTISE PROGRESS

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Annotation. The article describes the course of the technical design expertise of a building construction project. Based on a specific example, the stages of the project expertise are discussed, the chronology of the submission of the necessary documents, the reasons for the delay in the completion of the work, and how the estimated cost of the project changed when changing the technical solutions.

The object chosen for the study: the technical project of the reconstruction of the water supply networks of the city of Panevėžys, prepared by a closed joint-stock company, after the preparation of the construction project, and the execution of the technical expertise. By analyzing the content and chronology of the correspondence, the aim was to determine how smoothly the technical project expertise procedure was carried out and whether this time could have been shortened, another aspect was how much the estimated cost of the project changed after the expertise.

Keywords: legal acts, construction, expertise, technical project

INTRODUCTION

Construction activities in Lithuania are carried out in accordance with the Construction Law and other legal and regulatory acts in force in the Republic of Lithuania. Construction works may be carried out with private funds or with money allocated from the budget for the implementation of approved projects. According to the Construction Law, in order to obtain a construction permit, it is necessary to have an approved construction project for the future construction work. When construction projects are important to society and are planned to be financed from state or municipal budgets, then public tenders are announced for the performance of individual project works. Companies participating in public tenders that have won the tenders for the performance of works must comply with the established regulatory requirements when performing project works. (Construction Law of the Republic of Lithuania, Summary version).

The client himself selected the expertise company to conduct the expertise of the technical project of the water supply reconstruction selected for the study. (Construction Technical Regulation STR 1.04.04:2017).

Usually, it is important for all project participants to complete the work on time as agreed in the work performance contracts. Sometimes the implementation of projects can be delayed due to various bureaucratic reasons, which are usually related to institutional arrangements. The article describes the progress of the implementation of a technical project for the reconstruction of one company's water supply system submitted for examination.

Analyzing the information provided by the company's designer, the aim was to find out how the expertise was carried out after submitting the project and other mandatory documents. As the project expertise lasted for more than three months, it was important to find out the reasons that prevented a smoother execution of the project expertise procedure. The prices of the reconstruction project submitted before and after the expertise were also compared.

The construction sector is closely related to the economic situation in the country, so the smooth implementation of construction projects is very important. Another important aspect is the deadlines for the completion of the works according to the signed contracts, so work productivity is always important. (Pyrantas et al. 2023; Stundziene et al. 2022)

Subject: Technical expertise of the water supply network reconstruction technical project of the city of Panevėžys, a closed joint-stock company, after the preparation of the construction project.

Objective: To conduct a correspondence analysis of the progress of the general expertise of a building technical project and compare the change in the estimated project prices after the evaluation.

Tasks:

1. To create a chronology of electronic correspondence for the execution of the project expertise, according to which the project expertise work was carried out.
2. To determine the time for the execution of the technical project expertise.
3. To analyze the comments of the experts due to which negative interim project assessments were received.
4. To compare the estimated prices of the technical project of the water supply reconstruction project before and after the project expertise.

Research method: case analysis, analysis of project expertise reports.

ANALYSIS OF ELECTRONIC CORRESPONDENCE BETWEEN THE PROJECT EXPERTISE PERFORMER AND THE DESIGNER

The electronic version of the technical project for the reconstruction of the water supply system was uploaded to the data repository by the designer, and a login link was sent to the experts. (Technical work project for the reconstruction of water supply network, 2023) The entire process of conducting the expertise consisted of electronic correspondence. Based on the data of the electronic correspondence that took place between the expert and the designer, an electronic correspondence table (Table 1) was compiled with a chronology of dates and responses to queries. The information grouped in the table makes it easier to analyze the consistency of the correspondence and monitor how quickly the feedback is provided.

The entire chronological sequence of electronic correspondence between the designer and the expert is divided into two stages. The first stage consists of a general expert assessment of the technical reconstruction project, the second stage is the assessment of the estimated prices calculated for the reconstruction project. The figure shows the consistency of the intermediate, partial and final expert reports drawn up during the examination. (Fig. 1)

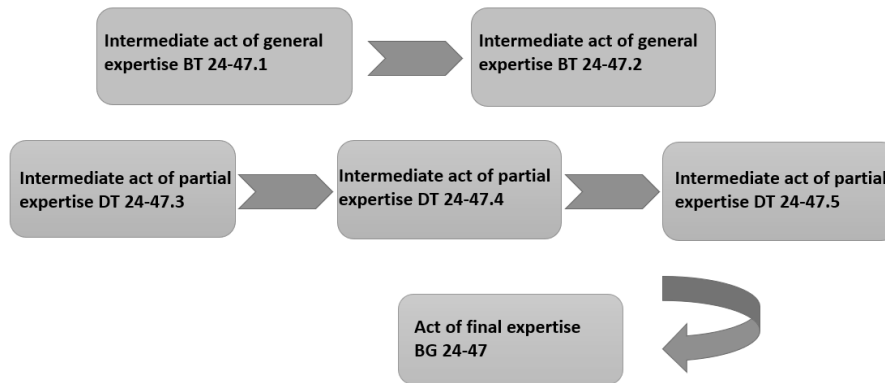


Fig. 1. The order of drawing up expert reports for the technical design of the water supply reconstruction.

During the first stage, the experts assessed the technological solutions for the construction of the technical project for the reconstruction of the water supply system and whether the project complies with the applicable technical construction requirements. (Construction technical regulation STR 1.04.02:2011) The initial estimated price calculations were also checked. This stage of the expertise was not very long, it took nineteen working days. During the second stage of the expertise of the project, the estimated price calculations were checked, which changed depending on the extent to which the technical solutions of the project were changed. The entire expertise process took about three months. (Table 1)

Table 1

Chronological event dates of the construction technical project expertise

Date	Letters sent by the designer to the expert	Date	Answers and expertise reports sent by the expert
The first stage of expertise			
02 23	Initial presentation of the project to the expert.	02 26	It is asked to submit the project signed by e-signature
02 26	Project signed by e-signature is sent.	03 06	Comments are provided for the performed expertise.
03 12	Corrected project is sent.	03 13	Expert comment and additional request to group comments in a table.
03 13	Corrected project with a template table of corrected places in the project, according to the expert's comment.	03 20	An expert assessment is obtained Date of the expert report 03 06, BT 24-47.1.
03 21	Corrected project is sent again.	03 26	It is required to submit the estimate and project in one place as one file.
Second stage of expertise			
03 27	Estimate and project are sent.	04 03	The interim report of the general expertise BT 24-47.2 with comments for the estimate is provided.
04 10	Sending a response to expert comments, revised project draft.	04 12	Expert commentary.
04 17	Response to expert comments, revised part of project.	04 24	The interim report DT 24-47.3 of the partial expertise is submitted

05 06	Repeated request due to not receiving expert's response.	05 06	Expert assessment DT 24-47.4 with comments.
05 08	A reply is sent again after the project has been corrected.	05 10	Expert commentary.
05 13	A revised part of the project is sent.	05 13	It is informed that the SSKN part has been agreed, only the accompanying documents and parts of the project need to be submitted with PV and PDV e-signatures
05 14	An additional link is being sent regarding the missing documents.	05 14	Request for additional documents
		05 14	Conclusions and general expertise report BG 24-47 is sent.

Description of the first stage of the expertise of the water supply network reconstruction project.

Analyzing the content of the electronic correspondence, it can be seen that the designer sends a link to the data repository where the project is located and receives a response with a note that in order to start the expertise work, it is necessary to submit a project signed with an electronic signature as specified in STR 1.04.04: 2017 „Design of a structure, project expertise“. The signed project is sent to the expertise again with an electronic signature. In this way, the process of submitting a project for the reconstruction of water supply networks is completed and it takes two working days. (Table 1)

Within seven working days, the interim act of the General Expertise BT24-47.1 is received. (Intermediate act of general expertise BT24-47.1) The act contains mandatory comments from the general part of the waterworks, the part of preparation for construction and organization of construction works, and the part of determining the estimated cost of construction. A response is received indicating that the technical project must be corrected in accordance with the written comments and submitted for re-examination. (Table 1)

Within five days, the reconstruction project is revised according to the comments received and sent for re-examination. (Table 1) The next working day, a response is received from the expert that an additional table must be drawn up in which the revised project must be listed according to the expert's comments.

After five working days, the designer sent a table with grouped comments and instructions for correcting specific points in the project. The next working day, the expert's comments are received, classified and listed in a table. The designer promptly corrects the errors based on the comments and resubmits the corrected project.

This completes the first stage of the technical project expertise for the water supply reconstruction. (Table 1)

Description of the second stage of the expert examination of the water supply reconstruction project.

After three working days (Table 1), the expert requests the submission of project estimates based on the comments provided for other parts of the project and requires all project files to be submitted in one place. The next working day, the designer sends a link to download electronic documents for all parts of the project in the data repository.

After five working days, the general expert examination interim report BT 24-47.2 with comments to the estimate, expert assessment, comments and recommendations are received. (Intermediate act of general expertise BT24-47.2) The project is not approved, but is returned for revision.

After five days, a revised project is sent based on the comments received. The revised parts of the project with links to the place in the project where the corrections were made are sent in a table.

After two working days, the expert sends a response to the corrections with repeated comments. (Intermediate act of partial expertise DT24-47.3)

After three working days, the designer sends the revised project according to the instructions and waits for a response. After fourteen days, the designer sends a request for the execution of the project expertise because he did not receive a response from the expert on the revised project. On the same day, the expert sends comments and attaches the interim act of the partial expertise DT 24-47.4, which was drawn up on 04 24, that is, seven working days ago. (Intermediate act of partial expertise DT24-47.4), (Table 1)

After two working days, the designer sends a link to the revised project again.

After two days, the interim act of the partial examination DT24-47.5 with mandatory comments is sent. (Intermediate act of partial expertise DT24-47.5)

The revised project is sent the next working day and a response is received on the same day that the SSKN (Building Construction Price Determination) part is coordinated and it is necessary to submit a fully completed PV (Project Manager) and PDV (Project Part Manager) project part signed with electronic signatures for the preparation of expert opinions.

The designer promptly sends a link to download the document.

The next working day, the expert asks where the documents required for the project are: Extract from real estate registers, list of objects where the network will be laid.

On the same day, the designer explains where to find the documents the expert is inquiring about.

Finally, on the same day, a general expertise report is sent with a brief overview and positive conclusions that the reconstruction project, version B, complies with the essential requirements for structures set out in Regulation (EU)

No. 305/2011, the requirements of mandatory project preparation documents, other laws and legal acts of the Republic of Lithuania, and normative technical construction documents.

Upon receipt of the final positive conclusions of the technical expertise of the water supply reconstruction project, the project evaluation procedure is completed. (Final act of general expertise BT24-47)

A review of the sequence of work execution shows that communication went quite smoothly. The entire technical project coordination took 55 working days.

ANALYSIS OF INTERMEDIATE ACTS AND WRITEN NOTES OF PROJECT EXPERTISE

During the entire period of the project expertise, five interim expertise reports and a final sixth report with positive conclusions on the project's compliance with the established requirements were drawn up. (Table 2)

Table 2

Estimated project prices indicated in the expertise reports

No.	Date of document creation	Title of the expert report	Estimated construction cost in thousand EUR.	Construction and installation work cost in thousand EUR
1	2024-03-06	BT24-47.1 Intermediate act of general expertise	295.422	295.117
2	2024-04-03	BT24-47. Intermediate act of general expertise	295.422	295.117
3	2024-04-12	DT24-47.3 Intermediate act of partial expertise	325.250	287.682
4	2024-04-24	DT24-47.4 Intermediate act of partial expertise	344.002	290.836
5	2024-05-10	DT24-47.5 Intermediate act of partial expertise	347.313	294.333
6	2024-05-14	BG24-47 Act of final expertise	349.668	294.333

In the first interim report of the general expertise of the technical project of the water supply reconstruction BT 24-47.1, the designer receives comments on the incompletely completed project. The main comments are as follows: that the legal documents of ownership have not been submitted, that the engineering geological research documents have not been submitted, that the documents on the public information procedure have not been submitted, that the owners' consents regarding the newly designed water supply inlets have not been found, that the revised project documents of the new edition are incorrectly numbered according to regulatory documents. The experts additionally demanded to supplement the project with agreements or consents with the owners of those plots whose plots will be temporarily used during construction, requested to indicate in the project the schemes for installing road signs at the places of work, and also demanded to number the editions of the revised documents and to re-submit estimated calculations. The general conclusion is that the project does not comply with the requirements established by Regulation (EU) No. 305/2011 and cannot be approved.

After coordinating the technical design solutions for the water supply reconstruction project, the second stage of the expertise focused on coordinating the estimated prices and the expert wrote another interim report of the general expertise BT 27-47.2. The expert indicated the following main comments regarding the estimated prices: the percentage of the customer's reserve and design work and engineering services was incorrect; the selections made in the Sistela program for construction work were not suitable, the quantities of materials were not suitable; he demanded to revise the estimated calculations when the technical design solutions were changed and the prices of materials and work changed. The design solutions were changed more than once, so it was necessary to coordinate the estimated calculations several times. Therefore, the project was returned for revision again.

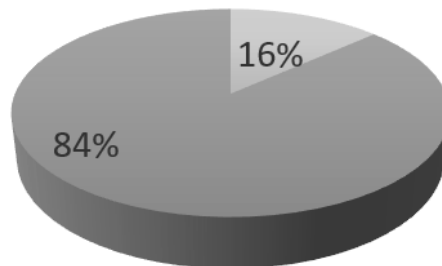


Fig 2. The change in the calculated construction price of the technical project after the expert assessment, the price increased by 16 percent.

The estimated calculations of the technical project for the reconstruction of the water supply system were revised several more times and three more interim acts of partial expertise were drawn up: DT 27-47.3, DT 24-47.4, DT 27-47.5. Summarizing the main comments written in the expertise acts, it can be seen that the expert assessed the prices of construction materials and labor costs in sufficient detail. The designer received comments regarding incorrectly calculated prices for design work and engineering services and regarding incorrectly calculated customer reserves for reconstruction works. (“Sistela” information database)

After correcting all errors in the project, the final general expertise report BG 24-47 was signed with a positive assessment of the water supply reconstruction project.

After the expertise, estimated construction cost for the water supply reconstruction technical project increased by about 16 percent. (Fig. 2)

CONCLUSIONS

1. A table of electronic correspondence shows that the designer and the expert sent each other 25 e-mails. The entire project expertise procedure is divided into two stages. The first stage of the expertise took 19 working days. The second stage of the expertise took 36 working days.

2. The execution of the expertise of the technical project for the reconstruction of water supply networks after the preparation of the construction project took 55 working days. Before the final positive assessment was received, five interim assessments of the general expertise and partial expertise were written, which included comments and what needed to be corrected in the project or what needed to be corrected in the estimated project calculations. During the correspondence, delays occurred that extended the expertise time. After the expert's interim assessment comments, the designer made design corrections on average within five working days.

3. When submitting the technical design of the reconstruction for examination, the designer received comments regarding the improperly completed design, requiring the submission of missing documents. During the second stage of the examination, the main comments were regarding the material prices, incorrectly calculated customer reserve and the percentage of design work and engineering services.

4. When correcting the technical solutions of the project, the estimated calculations also changed. The final estimated cost of construction increased by 16 percent. because additional work had to be included, and the cost of construction and installation work also decreased by about 0.3 percent. because it was required to change the construction work technologies.

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