

INFRASTRUCTURE TRANSPARENCY INITIATIVE

VERIFICATION REPORT

FOR THE

PROJECT

"ESTABLISHMENT OF THE THIRD

AUTO-TRANSFORMER 330/110/35 KV

AT THE 330 KV "CHERNIVTSI" SUBSTATION.



Ukraine

Ініціатива із
прозорості
інфраструктури

2018

VERIFICATION REPORT

for the project:

*"Installation of a third 330/110/35 kV autotransformer at the 330 kV
Chernivetska substation."*

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1. INTRODUCTION

1.1. About CoST

The aim of CoST is to create an effective platform for cooperation between government, business and civil society, which will enjoy a high level of public trust and open up practical opportunities for transparent and clear information disclosure, public control and data verification in the construction sector.

CoST's operations should ensure:

- the disclosure and publication of information by procurement organisations on all stages of construction, planning, design and estimate documentation, tendering, execution of works and supervision;
- monitoring of risks of inefficient management and corruption, strengthening of equal partnership between the government, business and the public sector to improve the efficiency of public funds use in construction;
- identification and support of independent expertise necessary for the ongoing implementation of procedures for monitoring and verifying disclosed data in Ukraine;
- using best international practices in the field of data transparency through the integration of CoST standards and the use of support and advice from experts at the CoST International Secretariat.

"Disclosure" in CoST projects (Fig. 1.1) refers to the publication of objective disclosed data provided by procurement organisations that are customers of construction/repair works.

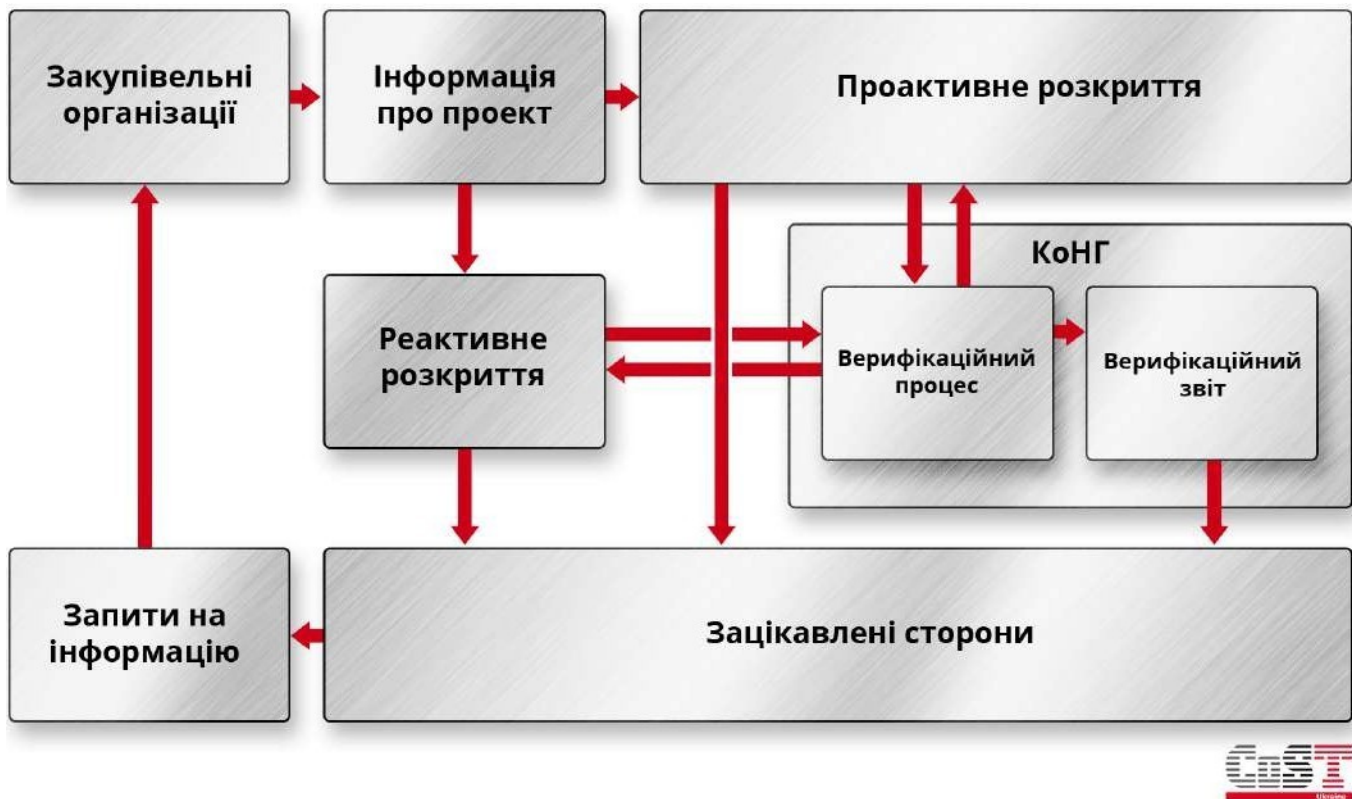


Figure 1.1 – Disclosure of information within the framework of CoST and data verification

Proactive disclosure (Table 1.1) refers to information that procuring entities are required to disclose about projects and contracts at specified stages during the relevant project cycle. The information is presented in a clear and accessible format, publicly disseminated, and open and accessible to a wide range of stakeholders.

Table 1.1 – Proactive disclosure of information

1. Project stage	Project information	2. Contract stage	Contract information
Project identification	Site, part of site	Procurement	Procurement organisation
	Project name		Contact details of the purchasing organisation
	Project location		Procurement process
	Purpose		Contract type
	Project description		Contract status (current)
Project preparation	Project content (main conclusion)		Number of tender participants
	Impact on the environment		Estimated cost
	Resettlement plan		Contract management organisation
	Contact details		Contract name
	Sources of funding		General contractor
	Project budget		Contract price
	Date of project budget approval		Scope of work under the contract
Project completion	Project status (current)		Start date and deadline of contract work
	Cost of work (according to the project)	Implementation	Changes in contract price
	Completion date of work (according to the project)		Contract price escalation
	Scope of work (according to the project)		Changes in work completion dates
	Reasons for project changes		Changes in the scope of work
	References to financial audit reports		Reasons for changes in price
	Project review		Reasons for changes in the scope and timing of work

Reactive disclosure (Table 1.2) involves providing additional information in a form accessible to the requesting party and posting this information on public resources.

Table 1.2 – Reactive disclosure of information

Project	Contract
Identification and preparation	Procurement
Multi-year programme and budget	Persons responsible for the contract and their functions
Project description or feasibility study	Procurement method
Environmental and social impact assessment	Tender documents

Resettlement and compensation plan	Results of tender bid evaluation
Project managers and their functions	Project preparation report
Financial agreement	Contract
Procurement plan	Contract agreement and terms and conditions
Project approval decision	Company registration and ownership
Completion	Specifications and drawings
Project progress reports	Implementation
Decisions on budget changes	List of variations, changes, amendments
Project completion report	List of price increase approvals
Project evaluation report	Quality assurance reports
Technical audit reports	Sampling records or payment certificates
Financial audit reports	Contract amendments

1.2. Methodology for processing and presenting information

For ease of perception and the ability to quantify the share and reliability of the disclosed information, consultants (verifiers) have proposed the following approach.

The disclosed information is presented in blocks consisting of the following sections:

- the block's serial number according to its place in the verification report;
- block name;
- the disclosed information itself in tabular form (Table 2.1);
- the consultant's (verifier's) conclusion;
- detailed explanation from the consultant, if necessary.

Table 2.1 – Form of disclosure

Title	Content		Status
Name of the information field, e.g. Customer's EDRPOU code	Content information, 37641918	Disclosed for example,	1 - confirmed
			2 - refuted
			3 - supplemented
			4 - data unavailable

2. PROJECT SUMMARY

Brief description and purpose of reconstruction:

Prior to the reconstruction, two 330/110/35 kV autotransformers (AT) with a capacity of 200 MVA each were installed at the 330/110/35 kV Chernivetska substation. The substation was built in the 1960s, and its capacity was insufficient, the transformers were overloaded, and most of the equipment was physically and morally obsolete.

The purpose of the reconstruction was to increase the capacity of the substation to provide electricity to consumers in the South-Western power system.

Basis for project development:

- Investment programme of SE "NPC "Ukrenergo" for 2011.
- "Scheme for the prospective development of the South-Western Energy System for the period up to 2015 with a perspective up to 2020"
- Agreement on cooperation between the Ministry of Energy and Coal Industry of Ukraine, Chernivtsi Regional State Administration and Chernivtsi Regional Council on the development of the fuel and energy complex and social infrastructure of settlements in Chernivtsi region dated 22 March 2011.

The project underwent a comprehensive state examination and received an expert report on the review of the project documentation dated 2 August 2012, on the basis of which, by order of the Cabinet of Ministers of Ukraine No. 1035-r dated 19 December 2012 "On the approval of the project "Installation of a third 330/110/35 kV autotransformer at the substation" was approved 330 Chernivetska, the project was with the following indicators:

total estimated cost, thousands of hryvnias	- 134,176.729
including:	
construction and installation works	- 17,393.164
equipment	- 84,493.811
commissioning works	- 6,318.276
other expenses	- 25,971.478

The increase in the cost of construction components for the period 2012–2015 led to the need to adjust the cost estimate part of the project and re-obtain an expert report, for which a corresponding design task (adjustment of the cost estimate part) was issued on 31 July 2015.

The project was adjusted in 2015 by PJSC PTI Kyivorgbud on the basis of the design task, namely bringing the project documentation into line with the requirements of current regulatory documents and determining the estimated cost at the current price level without changing the approved design decisions.

As a result of the project adjustment, an expert report was received on the review of the project documentation dated 31 March 2016 and Order No. 421 of the Ministry of Energy and Coal Industry dated 1 July 2016 approving the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation (adjustment)", with the following indicators:

total estimated cost, thousand hryvnias	- 335,866.781
including:	
construction works	- 29,287.957
Equipment	- 246,423.811
commissioning works	- 6,318.276
other expenses	- 60,155.242

PJSC PTI Kyivorgbud, in letter No. 3.2/469 dated 26 September 2016, informed SE that it had no objections to transferring the copyright for the development of design and estimate documentation for the facility to SE "NPC "Ukrenergo".

The main works envisaged by the project are as follows:

- Installation of a new 330 kV AT-3 autotransformer with a capacity of 200 MVA with the corresponding set of works.
- Reconstruction (partial) of the 330 kV open switchgear
- Reconstruction (partial) of the 110 kV open switchgear
- Reconstruction (partial) of the 35 kV outdoor switchgear
- Reconstruction (partial) of relay protection and automation devices with the construction of a new ZPK-2 building, as well as reconstruction of the automated system with technological processes.

Construction is carried out at the expense of SE "NPC "Ukrenergo" - profit.

Tender procedures:

Selection of a design organisation

Two bidders participated in the procurement procedure, both companies registered in Ukraine. Foreign companies did not participate in the procurement.

No.	Name of bidder	Offer price, UAH, including VAT
1	Kyivenergomerezhproekt LLC, Odessa branch	3,126,648
2	DPVNDI Ukrenergomerezhproekt, Lviv branch	1,799,686.80

Based the results the between SE NPC Ukrenergo and SE Ukrenergomerezhproekt, Lviv Branch" signed a contract for design work No. 239/2011 dated 07.07.2011.

The cost of design work, according to the agreement, amounted to **UAH 1,799,686.80 including VAT.**

Selection of the contractor for adjusting the cost estimate part of the project

Two bidders participated in the procurement procedure. All bidders are registered in Ukraine. Foreign companies did not participate in the procurement.

No.	Name of bidder	Offer price, UAH, including VAT
1	PJSC PTI Kyivorgbud	503,316.38
2	Podilskyi EnergoConsulting LLC	599,027.60

Based on the results of the procurement, a contract was signed for the performance of design work between the State Enterprise

NPC Ukrenergo No. 70-4/3487-15 dated 06.11.2015 for the amount of **UAH 503,316.38 including VAT**, and on the same day an additional agreement was signed to reduce the cost of the work. The adjusted cost was **227,966.40 thousand UAH including VAT.**

According to information received from SE "NPC "Ukrenergo" (Letter No. 01_11001 dated 03.10.2017), the reason for the reduction in the cost of the project adjustment was insufficient funding for the specified works. A complete project adjustment was planned, so it was decided to adjust only the cost estimate part of it.

Selection of a supplier for the AT-3 autotransformer

For the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation", the supplier of the 330/110/35 kV AT-3 autotransformer was determined by SE NEC Ukrenergo, through a separate tender procedure.

Participants in the tender LOT 2 (this lot included 13 units, including a transformer at the 330 kV Chernivtsi substation)

No	Name of bidder	Offer price, UAH, including VAT
1	ABB LDT LLC (Switzerland)	1,084,060,869.81
2	PJSC Zaporizhtransformator (Ukraine)	571,407,396

Based on the results of the procurement, a purchase agreement No. 02-1060-16 dated 24 March 2016 was signed between SE "NPC "Ukrenergo" and PJSC

Zaporizhtransformator, purchase agreement No. 02-1060-16 dated 24 March 2016 was signed for a total amount of UAH 928,590,912.00 including VAT. The total price of the agreement consists of the cost of three lots, including:

- Lot 1: UAH 335,302,236.00 including VAT
- Lot 2: UAH 571,407,396.00 including VAT
- Lot 3: UAH 21,881,280.00 including VAT

The transformer for the Chernivtsi substation, type ATDTN 20000/330/110-U1, is supplied under lot No. 2 in accordance with the terms of the contract. The cost of the autotransformer under the contract is **47,238,024.00** UAH, including VAT.

The transformer was delivered to the construction site in December 2016, in accordance with the terms of the contract. At the time of preparing the report, as of November 2017, **no information on the availability of signed acts of work performed (services provided) and mutual settlements under the specified contract was provided to the verification group.**

Selection of a contractor for construction and installation works and supply of main equipment. Prior to procurement the customer was admitted 8 organisations. All applicants are registered in Ukraine. Foreign companies did not participate in the procurement. The large number of participants led to quite fierce competition.

The expected cost of the procurement was: UAH 176,581,000.00 including VAT

No.	Name of applicant	Offer price, UAH incl. VAT
1	Private enterprise "Donkom"	158,700,311.60
2	Limited Liability Company "Technostar"	157,999,631.60
3	Joint Venture "Installation Management No. 6 Elektropivdenzakhidmontazh"	89,722,565.63
4	Kyiv Energy Construction Company Limited Liability Company	81,467,353.87
5	Limited Liability Company Sich Energo	82,098,705.42
6	Company with limited liability "Zv'yazoktehservis"	106,524,770.22
7	Limited Liability Company Southern Energy Company	89,662,252.63
8	Corporation of Manufacturing and Commercial Enterprises "Soyuz"	112,028,033.98

Sich Energo LLC was declared the winner. The total cost of the bid was 82,098,705.42 UAH including VAT (46.5% of the expected purchase price).

Selection of a contractor for author supervision of construction

The contract for author supervision was concluded by the Customer with Sich Energo LLC on 09.11.2016 for the amount of UAH 88,289.28 (including VAT), six months after the signing of the contract for the performance of construction and installation works at the facility.

Comparison of costs

The total cost of the facility under the signed agreements (design work, adjustment of the estimate, supply of an autotransformer, performance of work and supply of other equipment) currently amounts to UAH 131,591,489.28 including VAT, with an estimated cost that was reviewed in 2015 UAH 335,866,781.00 including VAT. It can be stated that the adjusted cost estimate of the project developed by PJSC "PTI "KYIVORGBUD" and re-approved in 2015 was overstated.

Progress of work:

The deadline for completion of the work, according to the contract, is no later than 1 July 2017.

In accordance with the terms of the contract, the Customer transferred the advance payment to the General Contractor in full and on time, namely 80% for imported equipment, 50% for domestically produced equipment, and 30% of the cost of construction and installation works:

An advance payment for equipment in the amount of UAH 29,778,194.28, including VAT, was provided on 7 September 2016, including:

- advance payment for imported equipment = UAH 15,737,519.34 including VAT
- for domestically manufactured equipment = UAH 14,040,674.94 including VAT

An advance payment for construction and installation works in the amount of UAH 10,303,636.91 including VAT was made on 3 April 2017.

As of early June 2017 (9 months after receiving the advance payment), the general contractor shipped equipment to the customer for a total amount of UAH 10,861,307.70 including VAT, of which:

- imported equipment in the amount of UAH 10,861,307.70 including VAT
- domestically manufactured equipment = UAH 0.00 including VAT

The General Contractor received a 20% surcharge for the equipment shipped upon shipment.

According to the information received, the General Contractor had a problem with the shipment (delivery) of the equipment ordered from KT ZZVA, about which the General Contractor informed the Customer by letter No. 31 dated 24 January 2017. The reason was a change in the owners of the supplier plant and its failure to fulfil its obligations.

According to the minutes of the production meeting dated 1 February 2017, in order to resolve the situation, the General Contractor (Sich Energo LLC) was instructed to submit for approval to the State Enterprise NEC Ukrenergo proposed replacing KT ZZVA equipment with equipment from other manufacturers.

On 30 June 2017, Supplementary Agreement No. 1 was signed, in which the main changes concern the extension of the terms of equipment delivery, performance of work and the term of the agreement.

According to Supplementary Agreement No. 1, the equipment delivery deadline is 15 August 2017, and the work completion deadline is 1 October 2017.

A visit to the construction site took place on 7 July 2017.

After conducting surveys, inspections and discussions, the following can be noted:

1. The schedule for the performance of work and delivery of equipment, which is an appendix to the signed Supplementary Agreement No. 1 of 30 June 2017, does not include a number of works provided for in the Contract and project documentation, therefore it is not possible to compare the status of their implementation.

2. As of 7 July 2017, there is a slight delay in the current schedules for the performance of work and delivery of equipment. However, given that on 7 July 2017, a joint issue between the customer and the contractor regarding the replacement of the design equipment supplied by KT "ZZVA", the delivery period for which is 4-6 months, and also due to the fact that part of the equipment is in the delivery stage, it could be argued that the signed schedules will not be fulfilled and there is a need to re-adjust the work schedules to extend the deadlines, the next Additional Agreement (later signed as DA No. 2).

It was unclear why the Customer and the Contractor, when signing Additional Agreement No. 1 dated 30 June 2017, included in it schedules for the performance of work and supply of equipment with knowingly unrealistic deadlines, since on the date of signing the additional agreement, all parties to the contract were aware of the unresolved problem with the equipment manufactured by KO "ZZVA" and the actual status of the work performed at the facility.

3. According to the "general work log" available at the facility, work has been ongoing since 18 November 2016 and part of the construction work has already been completed, but as of 7 July 2017, the Contractor has not drawn up or signed any act of completed work (KB-2v) with the Customer. Such behaviour on the part of the Contractor is incomprehensible, since the formalisation of certificates means payment by the Customer for the work performed and the possibility of writing off material resources in the accounting records in accordance with the signed certificates of work performed.

4. There were no comments on the quality of the material resources and equipment supplied or the conditions of their storage at the facility.

5. There were no comments on the quality of the work performed and the organisation of the work process.

6. An inspection of the availability and review of the existing documentation in accordance with DBN A.3.1-5:2016 "Organisation of Construction Production" showed that there were no complaints about the contractor.

7. A superficial check of the implementation of occupational safety measures showed that there were no complaints about the contractor.

8. During discussions with the contractor, it was noted that he had complaints about the project documentation. In our opinion, the presence of minor errors in the project documentation for a project of this scale is acceptable and is present in most projects of a similar scale.

9. When discussing with the contractor, it should be noted that, in his opinion, the initial deadlines for the work proposed by the customer at the tender stage and when signing the contract were very tight, and unforeseen circumstances with the equipment of KT ZZVA ultimately made it impossible to meet them.

At CoST's request, the Customer informed that as of the end of September 2017, there were no certificates of completion of construction and installation works on the project. Considering that the Customer made advance payments in April 2017 in the amount specified in the contract, and CoST consultants recorded partial completion of construction and installation works during their visit to the site (for more details, see the site visit report), the contractor's behaviour is incomprehensible.

***Note:** after the report was completed, the Customer provided information that as of 30 January 2018, certificates of completion had been signed for an amount of UAH 3,862,038.52 including VAT.*

At the time of writing this report, an additional agreement had been signed between the customer and the contractor. No. 2 dated 29 September 2017 to contract No. 05-3/3370-16 dated 12 August 2016, which extended the deadline for completion of the project to 30 September 2018.

According to Supplementary Agreement No. 2, the deadline for the delivery of equipment is 4 April 2018, and the deadline for the completion of works is 30 September 2018.

After the signing of Supplementary Agreement No. 2, the total value of the contract was reduced from UAH 82,098,705.42 including VAT to UAH 81,946,692.95 including VAT, but at the same time, the total cost of construction and installation works decreased and the total cost of equipment increased. Indicators such as wages and the cost of materials remained unchanged. Supplementary Agreement No. 2 included the following major changes regarding equipment and scope of work:

1. The equipment manufactured by KT ZZVA was replaced with similar equipment from other manufacturers.
2. The cost of some of the equipment that was to be supplied by KT ZZVA was excluded, as this equipment will be supplied by the Customer, which made it possible not to exceed the total cost of the Contract.
3. In the control and automation section, Siemens microprocessor devices RZ and A were replaced with ABB devices, with which Sich Energo LLC won the tender for production, as envisaged by the project. This replacement led to an increase in the cost of this equipment by UAH 2,564,635.20 (including VAT). It is unclear how the Customer verified the cost of the RZ and A equipment included in DU No. 2.
4. A reduction in telemechanisation equipment by UAH 763,493.52 (including VAT) by excluding part of the equipment and related works provided for in the project and the Contract.
5. Increase in the volume of construction work on building ZPU No. 2 for a total cost of UAH 606,427.02 (including VAT).
6. Reduction of the total cost of commissioning works by a total amount of UAH 1,133,239.26 (including VAT).
7. Exclusion of part of the scope of work on motorways for a total amount of UAH 965,515.72 (including VAT), which was provided for in the project and the Agreement.
8. Increase in the scope of work on the engineering networks section for a total cost of UAH 456,746.04 (including VAT).
9. Exclusion of work on temporary buildings and structures for a total amount of UAH 279,008.29 (including VAT).

Table of changes in the cost of works and equipment under the contract for construction and installation works No. 05-3/3370-16 12 August 2016.

Type of expense	Initial contract	Additional agreement No. 1	Additional agreement No. 2	% change in cost relative to the initial agreement
Cost construction and installation works	29,902,471.19 UAH including VAT	29,902,471.19 UAH with VAT	29,042,757.72 UAH with VAT	-2.29
Cost of commissioning works	4,442,985.18 UAH with VAT	4,442,985.18 UAH with VAT	3,309,745.92 UAH with VAT	-25.5
Equipment cost	47,753,249.05 UAH with VAT	47,753,249.05 UAH with VAT	49,594,189.31 UAH with VAT	+3.86
Total	82,098,705.42 UAH with VAT	82,098,705.42 UAH with VAT	81,946,692.95 UAH with VAT	-0.19

Table of changes to the terms of performance under the construction and installation works contract No. 05-3/3370-16 12 August 2016

Type of expense	Initial contract	Additional agreement No. 1	Supplementary agreement No. 2	% change relative to the initial agreement
Project implementation period	no later than 1 July 2017	no later than 1 October 2017	no later than 30 September 2018	+155
In months	9 months	12 months	23 months	+155

As of February 2018, the Customer decided to terminate the contract and re-announce a tender for the remaining work.

3. LIST OF TERMS AND ABBREVIATIONS

CoST (English, Infrastructure Sector Transparency Initiative) – Infrastructure Transparency Initiative

IFO – international financial organisation(s) Ministry of Infrastructure – Ministry

of Infrastructure of Ukraine VAT – value added tax

TEO – technical and economic justification Stage P –

Project stage

RD stage – "Working documentation" POB –

construction organisation project

ODS (ODS) – open distribution system (device) AT – autotransformer

TN – voltage transformer CT – current

transformer

ZKR – Consolidated cost estimate DKT – tender

documentation

4. SOURCES OF INFORMATION

A number of documents were reviewed in preparation of the verification report (Table 2.1). Freely accessible documents are highlighted in green, while non-public information is highlighted in yellow.

Each document has been assigned a digital code, which is referenced throughout this report. For the sake of brevity, hyperlinks to open data sources have been converted using the <https://goo.gl/> service.

Table 2.1 – List of documents reviewed

Code	Title	Data source	Format and volume	Hyperlink reference	Notes
1	Annex to the Memorandum of Understanding between the CoST National Secretariat, the State Enterprise "National Energy Company Ukrenergo" and Transparency dated 27 October 2016	CoST Secretariat	.doc 3 pages	-	dated 27 October 2016
2	Documentation for competitive for the performance of design works	State Enterprise "NPC Ukrenergo"	.pdf 15 pages	-	
3	Minutes of the opening of bids for competitive for the performance of design works	State Enterprise "NPC Ukrenergo"	.pdf 2 pages	-	No. 78/1 dated 03.06.2011
4	Minutes of the meeting of the committee on competitive for the performance of design works for the ES	State Enterprise "NPC Ukrenergo"	.pdf 2 pages	-	No. 18 May 2011
5	Minutes of the evaluation of bids for competitive for the performance of design works	State Enterprise "NPC Ukrenergo"	.pdf 3 pages	-	No. 78/2 dated 09.06.2011
6	Contract for the design of the facility between SE "NPC "Ukrenergo" and SE "DVNDI "UKRENERGO MEREPRO EKT"	SE "NPC UkrEnergo"	.pdf 8 pages	-	No. 239/2011 dated 07.07.2011
7	Agreement on amendments to agreement No. 239/2011 between SE "NPC "Ukrenergo" and SE "DVNDI "UKRENERGO MEREPRO EKT"	SE "NPC UkrEnergo"	.pdf 3 pages.	-	No. 470/2011 dated 20 December 2011
8	Report on the results of the procedure	State Enterprise "NPC Ukrenergo"	.pdf 3 pages	-	No. 25.07.2011
	open tender for the performance of design works				

9	Design assignment	State Enterprise "NPC Ukrenergo	.pdf 9 pages	-	from 01.04.2011
10	Project documentation for stage "P"	SE "NPC Ukrenergo	.pdf Volume 21	-	2011 - 2012
11	Agreement on the performance of an expert assessment of the construction project between DPVNDI "UKRENERGO MEREPRO EKT" and DP "Specialised State Expert Organisation – Central Service of Ukrainian State Construction Expertise DP "UKRDERZHBUEDEXPERT IZA"	SE "NPC UkrEnergo"	.pdf 3 pages	-	No. 00-0087- 12/IZ dated 05.02.2012
12	Act of acceptance and transfer of completed works under contract No. 00-0087-12/IZ dated 05.02.2012	SE "NPC Ukrenergo	.pdf 1 page	-	No. b/n dated 02.08.2012
13	Order of the Cabinet of Ministers of Ukraine on approval of the project	State Enterprise "NPC Ukrenergo"	.pdf 1 page	-	No. 1035R dated 19.12.1012
14	Project documentation for the "RD" stage	SE "NPC Ukrenergo	.pdf 42 volumes	-	2011 - 2012
15	Design tasks (adjustment of the cost estimate part)	State Enterprise "NPC Ukrenergo	.pdf 2 pages	-	from 31 July 2015
16	Invitation from the South-Western EU to applicants to submit proposals for the implementation of adjustments the cost estimate part of the project	State Enterprise "NPC Ukrenergo	.pdf 3 pages	-	
17	Minutes of the meeting of the South-Western ES tender committee to determine the organisation that will perform adjustments to the cost estimate section of the project	State Enterprise "NPC Ukrenergo	.pdf 2 pages	-	No. 59-ZP dated 15.10.2015
18	Agreement between SE "NPC Ukrenergo and PJSC "PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD" on	SE "NPC Ukrenergo	.pdf 15 pages	-	No. 70-4/3487- 15 dated 06.11.2015
	adjustment of the cost estimate part of the project				

19	Additional agreement to contract No. 70-4/3487-15 dated 06.11.2015 between SE "NPC Ukrenergo and PJSC PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD" on adjustment of the project estimate (reduction of the contract price)	SE "NPC Ukrenergo	.pdf 5 pages	-	No. 1 dated 06.11.2015
20	Agreement between PJSC "PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD") and SE "Specialised State Expert Organisation – Central Service of Ukrainian State Construction Expertise SE "UKRDERZHBUEXPERT IZA for the examination of the construction project (adjustment of the cost estimate)	SE "NPC Ukrenergo"	.pdf 1 page	-	No. 02-0496 - 15 24.12.2015 (first page only)
21	Investor's cost estimate documentation after adjustment	SE "NPC Ukrenergo	.ims	-	From 31 March 2016
22	Expert report on the review of project documentation (adjustments)	State Enterprise "NPC Ukrenergo	.pdf 6 pages	-	No. 02-0496 - 15 31.03.2016
23	Order of the Ministry of Coal Industry and Energy of Ukraine on approval of the draft (adjustment)	State Enterprise "NPC Ukrenergo	.pdf 1 page	-	No. 421 dated 01.07.2016
24	Letter from the Ministry of Coal Industry and Energy of Ukraine on consent to perform construction work on project	SE "NPC Ukrenergo	.pdf 1 page	-	Ref. No. 03/15/8628 from 15 August 2016
25	Letter from PJSC Kyivorgbud regarding the transfer of copyright to the project of SE NEC Ukrenergo	SE "NPC UkrEnergo	.pdf 1 page	-	Ref. No. 3.2/469 dated 26 August 2016

26	Documentation for competitive bidding for the implementation of BMR with the supply of basic equipment with amendments	SE "NPC Ukrenergo	.pdf 170 page	-	
27	Changes to the tender documentation for the performance of construction and installation works with the supply of main equipment	State Enterprise "NPC Ukrenergo"	.pdf 12 pages	-	
28	Minutes of the opening of bids for the tender for the implementation of the BMR with the supply of basic equipment	State Enterprise "NPC Ukrenergo"	.pdf 3 pages	-	No. 54 dated 22 June 2016
29	Minutes of the evaluation of bids for the tender for the implementation of the BMR with the supply of basic equipment	State Enterprise "NPC Ukrenergo	.pdf 4 pages	-	No. 34 dated 21 July 2016
30	Notice of acceptance of a tender bid for the performance of BMR with the supply of basic equipment	State Enterprise "NPC Ukrenergo State Procurement Bulletin	.pdf 2 pages	-	No. 01-10/02-1-2-1-2/8522 dated 22 July 2016
31	Bids submitted by tenderers for the performance of BMR with the supply of basic equipment	State Enterprise "NPC Ukrenergo	.pdf, .doc 8 proposal	-	
32	Contract with Sich Energo LLC with all annexes	SEK Ukrenergo	.pdf 594 p.	-	No. 05-3/3370-16 dated 12.08.2016
33	Letter from Sich Energo LLC to SE Ukrenergo, requesting an advance payment for equipment in accordance with the terms of the contract in the amount of: UAH 29,778,194.28 including VAT	SE Ukrenergo	.pdf 1 page	-	No. 292 dated 31 August 2016
34	Application for inclusion in the register of payments of funds in the amount of UAH 29,778,194.28 including VAT to Sich Energo LLC	State Enterprise "NPC Ukrenergo	.pdf 1 page	-	From 07.09.2016
35	Letter from Sich Energo LLC to SE Ukrenergo, requesting an advance payment for electricity and heat in accordance with the terms of the agreement in the amount of:	SE Ukrenergo	.pdf 1 page	-	No. 150 dated 03.04.2017

	10,303,636.91 UAH including VAT				
36	Application for inclusion in the register of payments of funds in the amount of 10,303,636.91 UAH including VAT to Sich Energo LLC	State Enterprise "NPC Ukrenergo	.pdf 1 page	-	From 03.04.2017
37	Additional agreement No. 1 to contract No. 05-3/3370-16 dated 12.08.2016 between SE "NPC "Ukrenergo" and LLC "Sich Energo" (regarding changes to the terms of work performance and equipment delivery)	SE Ukrenergo	.pdf 3 pages	-	No. 1 dated 30 June 2017
38	Subcontract agreement for the adjustment of working documentation for object No. 20/10-2016 dated 20.10.2016 between Sich Energo LLC and Proenerji LLC	SEK Ukrenergo	.jpeg 6 pages		No cost specified
39	Subcontract agreement for the relocation of AT on the territory of substation No. 05 dated 24 March 2017 between LLC Sich Energo LLC and Transmashstroy	SEK Ukrenergo	.jpeg 4 pages		No indication of the cost of the work
40	Subcontract agreement No. 06 dated 30 March 2017 between Sich Energo and PMK -76	SEK Ukrenergo	.jpeg 4 pages.		Without specifying the cost and types of work
41	Subcontract agreement for the construction of an OPK building at substation No. 07 dated 04.04.2017 between Sich Energo LLC and PMK-311 LLC	SE "NPC Ukrenergo	.jpeg 6 pages		No indication of the cost of the work
42	Equipment acceptance and transfer certificates and invoices for the delivered equipment for a total amount of 10,861,846.20 UAH including VAT	SE "NPC Ukrenergo	.pdf 9 pages		April 2016
43	Application for inclusion in the register of payments of funds in the amount of UAH 2,032,307.70 including VAT to Sich Energo LLC (additional payment for equipment supplied)	SE Ukrenergo	.pdf 1 page	-	From 26.04.2017
44	Contract for author supervision of the construction of the facility	State Enterprise "NPC Ukrenergo	.pdf 13 pages	-	No. 70-4/4271-16

					dated 18.11.2016
45	Construction supervision log	State Enterprise "NPC Ukrenergo	.pdf 5 pages	-	as of April 2017
46	Letter from KT "ZZVA" regarding problems with the supply of equipment for production KT "ZZVA"	SE "NPC Ukrenergo	.pdf 1 page	-	No. 2/37-08 dated 10 January 2017
47	Letter from Sich Energo LLC regarding problems with the supply of equipment manufactured by KT ZZVA	SE "NPC Ukrenergo	.pdf 1 page	-	No. 31 dated 24 January 2017
48	Minutes of the production meeting at SE "NPC Ukrenergo	SE "NPC UkrEnergo	.pdf 6 pages	-	from 01.02.2017
49	Minutes of the production meeting at SE "NPC Ukrenergo	SE "NPC UkrEnergo	.pdf 4 pages	-	from 04.04.2017
50	Documentation for competitive bidding for the supply of an autotransformer	State Enterprise "NPC Ukrenergo	.pdf 134 p.		from 17.12.2015
51	Changes to the tender documentation for the supply of autotransformer No. 115	State Enterprise "NPC Ukrenergo	.pdf 6 pages		No. 115 dated 17 December 2015
52	Minutes of the opening of bids for the tender for the supply of autotransformer No. 7	State Enterprise "NPC Ukrenergo	.pdf 4 pages		No. 7 dated 08.02.2016
53	Protocol for evaluating bids in a tender for the supply of an autotransformer	State Enterprise "NPC Ukrenergo	.pdf 6 pages		No. 7 dated 24.02.2016
54	Notice of acceptance of a tender offer for the supply of an autotransformer	State Enterprise "NPC Ukrenergo	.pdf 6 pages		No. 02-1-1- 1/02-1-1-1- 2/2126 dated 25.02.2016
55	Agreement with PJSC Zaporizhtransformator for the supply of an autotransformer for the supply of autotransformer	State Enterprise "NPC Ukrenergo	.pdf 170 p.		No. 02-1/1060- 16 dated 24.03.2016
56	Price proposals of tender participants for similar objects, which are publicly available at https://prozorro.gov.ua	https://prozorro.gov.ua	-		

57	Price offers of tender participants for similar objects, which are publicly available at https://prozorro.gov.ua	https://prozorro.gov.ua	-		
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The following documents, which are not publicly available, were not provided:

Table 2.2 – List of documents that were not provided

Code	Name	Notes
	All changes and additions to the working draft documentation, which were issued during the period from the election the winner to the present time.	Response received from the State Enterprise "NPC "Ukrenergo", which official changes at the time of request to the documentation were not submitted
	Signed acts for additional work (defect reports) that arose during the construction period.	Response received from "NPC Ukrenergo" that no official changes had been made to the documentation at the time of the request had been made
	Acts of completed works, acts of installed equipment and KB-3 certificates, signed between the customer and the general contractor	Response received from SE "NPC "Ukrenergo", that the time of the request are indicated documents are not were formalised
	Information on subcontractors: - agreed list; - types and scope of work; - cost of work.	Contracts provided, in which the cost is missing (<i>covered with a piece of white paper during scanning with a piece of white paper or removed using graphic editors) of the work</i>

5. DISCLOSURE OF INFORMATION

Proactive disclosure of information: As part of the report, 57 documents were processed, 4 of which are freely available. Four documents were not provided, 3 of which, according to the customer's response, had not been drawn up (compiled) at the time of the request.

The percentage of documents provided is 93% of the total number of documents requested.

As part of proactive disclosure, 93% of information indicators were disclosed.

Reactive disclosure of information: In the process of preparing the report, four letters were sent to the customer with requests for additional disclosure of information. Written responses were received to all letters.

The customer disclosed 93% of the data necessary for the preparation of the report.

6. EVALUATION OF PROVIDED AND OPEN DATA

6.1. DESIGN PHASE

6.1.1. Project identification - Project name

Title	Content	Status
Project name	Installation of the third 330/110/35 kV transformer at the Chernivtsi substation.	1 - confirmed

Conclusion: All data is correct.

6.1.2. Project identification - Project customer

Name	Content	Status
Project customer	State enterprise "National Energy Company "Ukrenergo"	1 - confirmed
Location of the customer	01032, Ukraine, Kyiv, 25 Symona Petliury Street	1 - confirmed
Customer's EDRPOU	00100227	1 - confirmed
Subordination	Ministry of Energy and Coal Industry of Ukraine	1 - confirmed

Conclusion: All data is correct.

6.1.3. Project identification - Project location

Name	Content	Status
Region	Chernivtsi	1 - confirmed
District	In the east of the district town of Kitsman	1 - confirmed
Address	52 H. Skovoroda Street	1 - confirmed
Additional description	Building area = 1140 m ² Substation area within the fence = 5.5053 ha Location at a distance approximately 1.5 km from the outermost buildings.	1 - confirmed

Conclusion: All data is correct.

6.1.4. Project identification - Project description

Name	Content	Status
Project description	Installation of a new autotransformer (AT-3) with a voltage 330/110/35 kV Reconstruction and expansion of VRP-330, VRP-110, VRP-35 kV	1 - confirmed
Project objective	Increase the capacity of the substation to enable the supply of electricity consumers of the South-Western power system	1 - confirmed

Conclusion: All data is correct.

6.1.5 Project identification - Project funding sources

Title	Content	Status
Currency	Hryvnia	1 - confirmed
Amount of funding from the state budget	0	1 - confirmed

Amount of funding from the local budget	0	1 - confirmed
Loans from international financial organisations	0	1 - confirmed
Own funds of the state-owned enterprise NPC Ukrenergo - profit	100	1 - confirmed

Conclusion: According to the data of the investment programme of SE "NPC "Ukrenergo" for 2017

6.1.6. Project identification - Contact details of the customer's responsible person

Name	Content	Status
Country	Ukraine	1 - confirmed
Region	Kyiv	1 - confirmed
District	Kyiv	1 - confirmed
Address	25 S. Petliura Street	1 - confirmed
Index	01032	1 - confirmed
Full	Yaremenko Oleksandr Serhiyovych	1 - confirmed
Email	yaremenko.os@ua.energy	1 - confirmed
Tel		4 – no data available
fax		4 – no data available
web	https://ua.energy	1 – confirmed

Conclusion: All data is correct.

6.1.7 Project identification – Technical supervision of the project

Title	Content	Status
Name of organisation	State-owned enterprise "National Energy Company "Ukrenergo"	1 - confirmed
EDRPOU	35536019	1 – confirmed
Country	Ukraine	1 – confirmed
Region	Kyiv	1 – confirmed
Address	Ukraine, Kyiv, 25 Symona Petliury Street	1 –confirmed
Postal	0103	1 –confirmed
Full	Chernyshov Volodymyr Stanislavovych	1 –confirmed
Email	Chernishov.VS@ua.energy	1 –confirmed
Tel		4 – no data available
fax		4 – no data available
web	https://ua.energy	1 - confirmed
Reason	Order of SE "NPC "Ukrenergo"	1 – confirmed
Number	No.	1 – confirmed
Date	01.11.2016	1 –confirmed

Conclusion: All data is correct.

6.1.8 Project preparation – Project subject

Title	Content	Status
Project start date	01.04.2011	1 - confirmed
Basis	Design assignment dated 01.04.2011	1 - confirmed
Type of work	Reconstruction	1 - confirmed
Complexity category	IV	1 - confirmed

Implementation period, according to the POA	10 months	1 - confirmed
Scope of work	Installation of an AT-3 330/110/35 kV autotransformer with a capacity of 200 MVA, a 330 kV voltage transformer (VT), a 330 kV sectional switch (SS), 330, 110, 35 kV, an AT-3 110 kV and 35 kV input switch, two 110 kV SSVs, four 110 kV line switches, a 110 kV busbar switch (SZV), two 110 kV busbar transformers, two 110 kV single-phase linear transformers, one 35 kV input transformer, 330, 110, 35 kV disconnectors and auxiliary transformers. Relay protection devices are installed for the new equipment protection devices are being installed in the new ZPU 2.	1 - confirmed
Impact on the environment	According to EIA (919/14-01-EIA-PZ)	1 - confirmed
Impact on land and population	According to EIA (919/14-01-EIA-PZ)	1 - confirmed

Conclusion: All data is correct

6.1.9 Project preparation - Project developer

Title	Contents	Status
Name of the project organisation	DPVNDI "UKRENERGO MEREPROJECT"	1 - confirmed
Country	Ukraine	1 - confirmed
Region	Lviv	1 - confirmed
District	Lviv	1 - confirmed
Address	1a Heroiv Krut Street, Lviv, Lviv Region	1 - confirmed
Post	7900	1 - confirmed
Project development agreement No.	239/2011 dated 07.07.2011	1 - confirmed
Currency	UAH with VAT	1 - confirmed
Project development cost	1,799,686.90	1 - confirmed

Conclusion: All data is correct.

6.1.10 Project completion – project review

Title	Contents	Status
Expert organisation	State-owned enterprise Specialised State Expert Organisation – Central Service of Ukrainian State Construction Expertise SE "UKRDERZHBUEXPERTIZA"	1 - confirmed
Country	Ukraine	1 - confirmed
Region	Kyiv	1 - confirmed

District	Kyiv	1 - confirmed
Address	26 L. Ukrainka Boulevard	1 - confirmed
Postal	01133	1 - confirmed
Responsible	Chief project expert	1 - confirmed
Full	G.I. Tyagun	1 - confirmed
Email	centr@ukrbudex.org.ua	1 - confirmed
Tel	(044)281-60-57, (044)285-23-70	1 - confirmed
fax	(044) 281-60-57	1 - confirmed
web	http://ukrbudex.org.ua	1 - confirmed
Contract number for expert examination	No. 00-0087/12IZ dated 05.02.2012	1 - confirmed
Currency	UAH with VAT	1 - confirmed
Cost of examination	49163.28	1 - confirmed
Results of the examination	Expert report by DP "UKRDERZHBUEDEXPERTIZA" No. 00-0087/12IZ dated 02.08.2012	1 - confirmed
Total estimated cost	134,176,729.00 UAH including VAT: <u>Including:</u> Construction works: 17,393,164.00 UAH Equipment: 84,493,811.00 UAH Commissioning works: 6,318,276.00 UAH Other expenses: 25,971,478.00 UAH	1 - confirmed

Conclusions: All data is correct.

6.1.11. Project completion - Project status

Title	Content	Status
Project status	Approved	1 - confirmed
Date of approval	19 December 2012	1 - confirmed
Document	Order of the Cabinet of Ministers of Ukraine dated 19 December 2012 No. 1035r "On approval of the project "Installation a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation.	1 - confirmed
Project status (current)	Not implemented, revised in 2015.	1 - confirmed

Conclusion: All data is correct.

6.1.12 Project adjustments (adjustments to the project estimate) – description of changes

Title	Content	Status
Reason for project adjustment	Task for adjustment the cost estimate dated 31 July 2015	1 - confirmed
Purpose of adjustment	Bringing the project documentation in line with requirements of regulatory documents, definition	1 - confirmed

	the estimated cost at the current price level without changing the approved design decisions.	
Scope of work	Adjustment of the estimated part of of the project without changing the existing design decisions	1 - confirmed

Conclusion: All data is correct.

6.1.13 Project adjustment (adjustment of the project estimate) - Contractor.

Title	Contents	Status
Name of the project organisation	PJSC "PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD"	1 - confirmed
EDRPOU code	04012951	1 - confirmed
Country	Ukraine	1 - confirmed
Region	Kyiv	1 - confirmed
District	Kyiv	1 - confirmed
Address	4/6 Suvorova Street	1 - confirmed
Post	010	1 - confirmed
Responsible	Chief Project Engineer	1 - confirmed
Full	Kinzerska T.V.	1 - confirmed
Email	n.chemish@kievorgbud.kiev.ua	1 - confirmed
Tel	(044)590-45-00	1 - confirmed
Fax	(044)590-45-01	1 - confirmed
Web	http://kievorgbud.kiev.ua	1 - confirmed
No of project adjustment for	70-4/3487-15 dated 06.11.2015	1 - confirmed
Currency	UAH with VAT	1 - confirmed
Cost project adjustment (initial)	503,316.38	1 - confirmed
No contract project adjustment for	Additional agreement No. 1 dated 06.11.2015 to contract 70-4/3487-15 dated 06.11.2015 (reduction of the contract price)	1 - confirmed
Currency	UAH with VAT	1 - confirmed
Cost project adjustment (final)	227,966.40	1 - confirmed

Conclusion: It should be noted that on the day the agreement on the adjustment of the project estimate was signed, an additional agreement was signed, according to which the cost of the project adjustment was reduced from 503,316.38 to 227,966.40 UAH including VAT. The reasons for such a significant change in cost are unclear.

6.2.1 Project completion - Examination of the adjusted project

Title	Content	Status
Expert organisation	State-owned enterprise Specialised State Expert Organisation – Central Service of Ukrainian State Construction Expertise SE "UKRDERZHBUDEXPERTIZA"	1 - confirmed
Country	Ukraine	1 - confirmed
Region	Kyiv	1 - confirmed
District	Kyiv	1 - confirmed
Address	26 L. Ukrainka Boulevard	1 - confirmed

Index	01133	1 - confirmed
Responsible person	Chief project expert	1 - confirmed
Full	G.I. Tyagun	1 - confirmed
Email	centr@ukrbudex.org.ua	1 - confirmed
Tel	(044)281-60-57, (044)285-23-70	1 - confirmed
fax	(044) 281-60-57	1 - confirmed
Web	http://ukrbudex.org.ua	1 - confirmed
Contract No.	02-0496-15 dated 24 December 2015	1 - confirmed
Currency	UAH with VAT	1 - confirmed
Cost	89,654	1 - confirmed
Expertise results	Expert report on the review of project documentation for the project "Installation of a third 330/110/35 kV transformer at the 330 kV Chernivtsi substation" No. 02-0496-15 dated 31 March 2016 year	1 - confirmed
Total estimated cost	UAH 335,866,781.00 including VAT: Including: Construction and commissioning works: 29,287,957.00 UAH Equipment: 246,423,582.00 UAH Other expenses: 60,155,242.00 UAH.	1 - confirmed

Conclusion: All data is correct

6.2.2 Project completion - Status of the adjusted project

Title	Content	Status
Project status (current)	Approved	1 - confirmed
Date	01.07.2016	1 - confirmed
Basis	Expert report of the State Enterprise "Ukrderzhbudekspertiza" No. 02-0496-15 dated 31.03.2016	1 - confirmed
Document	Order of the Ministry of Energy and Coal Industry No. 421 dated 1 July 2016 "On approval of the project "Installation of the third 330/110/35 kV AT at the 330 kV Chernivtska substation (adjustment)"	1 - confirmed

Conclusion: All data is correct.

7. PURCHASES-CONTRACT

7.1. Procurement: Determination of the design organisation:

7.2. Author supervision of the construction project

7.3. Information about the contractor.

Name	Contents	Status
Name of organisation	Sich Energo LLC	1 - confirmed
EDRPOU	35536019	1 – confirmed
Country	Ukraine	1 – confirmed
Region	Kyiv	1 – confirmed

Address	40 Kyrylivska Street, building G	1 –confirmed
Postal	0408	1 –confirmed
Full	Popov S.O. (chief project engineer)	1 –confirmed
Email	info@sichenergo.com	1 –confirmed
Tel	(044) 425-94-52	1 –confirmed
fax	(044) 425-94-52	1 –confirmed
web	http://sichenergo.com/	1 –confirmed
Contract No. for author supervision	70-4/4271-16	1 –confirmed
Date of signing	18 November 2016	1 – confirmed
Contract currency	UAH	1 – confirmed
Cost of author supervision services	88,289.28	1 – confirmed

Conclusion: All data is correct.

7.4. Contract performance:

Title	Content	Status
Start date	10 November 2016	1 – confirmed
Project status (current) in relation to funds spent		4 – data not available
Actual amount paid under the contract		4 – data unavailable
Balance of funds under the contract		4 – data not available
Deadlines for completion of work under the contract	1 July 2017	1 – confirmed

Conclusions: The customer provided CoST verifiers with a construction supervision log. According to the log, at the time of preparing the report, the contractor had made six visits to the construction site, which were duly recorded in the log. The log was started on 10 November 2016. The last visit, at the time of writing the report, was dated 19 April 2017. During this period, five entries were made regarding the need for changes to the project. The frequency of visits complies with the terms of the contract and the progress of work at the site.

Information on the availability of signed acts of work performed (services provided) and mutual settlements under the specified contract was not provided by the customer and is not publicly available.

7.5. Procurement: Supply of an ATDTN 200000/330/110/10-U1 autotransformer to the Chernivtsi substation "Chernivtsi"

7.6. Information about the customer

Name	Content	Status
Name of the customer organisation	State enterprise "National Energy Company "Ukrenergo"	1 – confirmed
Location	01032, Ukraine, Kyi Kyiv, Street Simon Petliury, 25 v	1 – confirmed
EDRPOU code	00100227	1 – confirmed
Subordination	Ministry Energy and Coal Industry of Ukraine	1 – confirmed
web	https://ua.energy/	1 –confirmed
Index	01032	1 – confirmed

Address	Ukraine, Kyiv, 25 Symona Petliury Street	1 – confirmed
Responsible person	Head of the Procurement and Competitive Bidding Department – Ihor Vinnikov Mykola	1 – confirmed
Email	sztp@nec.energy.gov.ua	1 – confirmed
Telephone	+38(044) 238-37-24	1 – confirmed
Fax	+38(044) 238-36-82	1 – confirmed

Conclusion: All data is correct

7.7. Subject of purchase:

Name	Content	Status
Name of the subject of procurement	"27.11.4 Electrical transformers (27.11.41-80.00 Lot No. 1 – Autotransformers and reactors with a voltage of 750 kV; Lot No. 2 – Autotransformers with a voltage of 330 kV; Lot No. 3 – Linear transformers)", code according to DK 016:2010 – 27.11.4	1 – confirmed

Conclusion: All data is correct

7.8. Tender information/basis for announcement

Title	Content	Status
Procurement procedure	Open tender	1 – confirmed
Type of procurement procedure	Electrical transformers	1 – confirmed
Date of procurement announcement	16 December 2015	1 – confirmed
Place of publication of the announcement of the competition	http://tenders.ukrenergo.energy.gov.ua/	1 – confirmed
Expected value of the procurement item		4 – data not available
Qualification criteria for participation in the tender	The customer does not require participants who have passed the preliminary qualification selection to resubmit documented information confirming their compliance with the qualification criteria during the further conduct of the procedure.	1 – confirmed
Document approving the methodology	Evaluation of proposals is carried out in accordance with Article 28	1 – confirmed
evaluation of competitive bids	of the Law on Public Procurement. The methodology for evaluating competitive bids is described in the competitive bidding documentation in Section V.	

Conclusion: All data is correct

7.9. Procurement participants

Name	Content	Status
Number of participants	LOT1=3 bidders LOT2=2 bidders LOT3=2 applicants	1 – confirmed
Number of participants admitted to participate in the tender	LOT1=3 applicants LOT2=2 applicants LOT3=2 applicants	1 – confirmed
Number of participants, whose proposals were rejected for the results of the evaluation proposals by the customer	LOT1=0 LOT2=0 LOT3=0	1 – confirmed
List Participants/cost offers (including VAT)	<u>LOT1:</u> 1. Subsidiary company with 100% foreign investment Siemens Ukraine" (EDRPOU code 24940089) / UAH 618,505,051.80 2. ABB LDT LLC (EDRPOU code 21664678)/UAH 893,148,000.00 3. PJSC Zaporizhtransformator (EDRPOU code 00213428) / 335,302,236.00 <u>LOT2:</u> 1. ABB LDT LLC (EDRPOU code 21664678) 1,084,060,869.81 2. PJSC Zaporizhtransformator (EDRPOU code 00213428) / 571,407,396.00 <u>LOT3:</u> 1. ABB LDT LLC (EDRPOU code 21664678)/ 91,692,000.00 2. PJSC Zaporizhtransformator (00213428) / 21,881,280.00	1 – confirmed

Conclusion: All data is correct

7.10. Minutes of the disclosure of tender bids, qualification bids, and price bids.

Title	Contents	Status
No	7	1 – confirmed
Date	08.02.2016	1 – confirmed
Place of publication		4 – data not available
Date of publication		4 – no data available

Conclusion: Information regarding the publication of the protocol was not provided and is not publicly available.

7.11. Protocol for the evaluation of tender proposals.

Title	Content	Status
No	7	1 – confirmed

Date	24.02.2016	1 – confirmed
Place of publication		4 – data not available
Date of publication		4 – no data available

Conclusion: Information regarding the publication of the protocol was not provided and is not publicly available.

7.12. The selected organisation is the winner of the procurement.

Title	Content	Status
Name of organisation	PJSC "Zaporizhtransformator".	1 – confirmed
EDRPOU code	00213428	1 – confirmed
Address	Ukraine, Zaporizhia, 3 Dniprovske Shose Street.	1 – confirmed
Postal	69600	1 – confirmed
Head	General Director Kleiner Igor Vsevolodovich	1 – confirmed
e-mail	office@ztr.ua	1 – confirmed
tel	+38 (061) 270-39-00	1 – confirmed
fax	+38 (061) 270-37-39	1 – confirmed
Web	http://ztr.com.ua/	1 – confirmed

Conclusion: All data is correct

7.13. Contract information

Name	Participant	Cost of the proposal
Contract No.	02-1/1060-16	1 – confirmed
Date of signing	24 March	1 – confirmed
Deadlines	By 30 December 2017	1 – confirmed
Currency	UAH (grn)	1 – confirmed
Contract value	928,590,912.00 UAH including VAT, including: Lot 1: 335,302,236.00 UAH including VAT Lot 2: 571,407,396.00 UAH including VAT Lot 3: UAH 21,881,280.00 including VAT	1 – confirmed
Including: the cost of an AT-3 autotransformer, type ATDTN 200000/330/110/10-U1 at the Chernivtsi substation in the amount of 1 unit (<u>included in lot No. 2)</u>	47,238,024.00 UAH including VAT.	1 – confirmed
Place of contract performance (<u>in Ukraine)</u>	Ukraine, Chernivtsi region, Kitsman, 52 H. Skovoroda Street	1 – confirmed
<u>AT-3 at PS "Chernivtsi"</u>		
Terms of delivery	DDP (Incoterms 2000)	1 – confirmed
Changes to the contract	None	1 – confirmed

Conclusion: All data is correct

7.14. Procurement – performance of works and supply of main equipment (except for AT)

7.15. Subject of procurement:

Name	Content	Status
Name of the subject of procurement	"DSTU B.D.1.1-1:2013 "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation. Performance of construction works with the supply of equipment" (inv. No. new) (45251000-1 construction power stations and thermal stations)"	1 – confirmed

Conclusion: Information provided – in accordance with tender documentation

7.16. Customer

Name	Content	Status
Name of the customer organisation	State enterprise "National Energy Company "Ukrenergo"	1 – confirmed
Location	01032, Ukraine, Kyiv, 25 Symona Petliury Street	1 – confirmed
EDRPOU code	00100227	1 – confirmed
Subordination	Ministry Energy and Coal Industry of Ukraine	1 – confirmed
web	https://ua.energy/	1 – confirmed
Index	01032	1 – confirmed
Address	Ukraine, Kyiv, 25 Symona Petliury Street	1 – confirmed
Responsible person	Chairman of the tender committee Vladislav Viktorovich Babchenko	1 – confirmed
e-mail	sztp@nec.energy.gov.ua	1 – confirmed
Tel	+3 8 (044) 238-37-24	1 – confirmed
fax	+3 8 (044) 238-36-82	1 – confirmed

Conclusion: Information provided in accordance with tender documentation

7.17. Tender information/basis for announcement

Title	Content	Status
Procurement procedure	Open tender	1 – confirmed
Type of procurement procedure	Execution construction works with equipment supply	1 – confirmed
Date of procurement announcement	31 March 2016	1 – confirmed
Place of publication Announcement of the tender	http://tenders.ukrenergo.energy.gov.ua/	1 – confirmed
Expected value of the procurement	176,581,000.00 UAH including VAT	1 – confirmed
Qualification criteria for participation in the tender	Specified in the tender documentation: Section 3, Clause 6 "Qualification Criteria for Participants" and in Appendix 2 to the CTD	1 – confirmed

Document approving the methodology for evaluating tender proposals	The evaluation of tender proposals is carried out in accordance with Article 28 of the Law on Public Procurement The methodology for evaluating tender proposals is described in the tender documentation in Section V "Evaluation of tender proposals and determination of the winner.	1 – confirmed
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Conclusion: All data corresponds to the tender documentation

7.18. Procurement participants

Name	Content	Status
Number of participants	8	1 – confirmed
Number of participants admitted to participate in the tender	8	1 – confirmed
Number of participants whose bids were rejected based on the results of the bid evaluation by the customer	4	1 – confirmed
List of participants/bid price (including VAT)	Private enterprise "Donkom" (Ukraine)/ 158,700,311.60 UAH (rejected) Limited liability company Technostar (Ukraine)/ 157,999,631.60 UAH (rejected) Collective enterprise "Installation Management No. 6 Elektropivdenzakhidmontazh (Ukraine)/ 89,722,565.63 UAH (rejected) Limited Liability Company Kyivska Energy Construction Company" (Ukraine)/ UAH 81,467,353.87 (rejected) Limited Liability Company "Sich Energo" (Ukraine)/ UAH 82,098,705.42 Limited Liability Company Zv'yazoktehservis (Ukraine)/ 106,524,770.22 UAH	1 – confirmed
	Limited Liability Company Pivdenna Energy Company" (Ukraine)/ 89,662,252.63 UAH including VAT Corporation of Production and Commercial Enterprises "Soyuz" (Ukraine)/ UAH 112,028,033.98	

Conclusion: All data is correct

7.19. Minutes of the disclosure of tender bids, qualification bids, and price bids.

Title	Contents	Status
No	54	1 – confirmed

Date	22 June 2016	1 – confirmed
Place of publication		4 – data not available
Date of publication		4 – data not available

Conclusion: Information regarding the publication of the protocol was not provided and is not publicly available

7.20. Protocol for evaluating competitive bids.

Title	Content	Status
No	34	1 – confirmed
Date	21 July 2017	1 – confirmed
Place of publication		4 – data not available
Date of publication		4 – data unavailable

Conclusion: Information regarding the publication of the protocol was not provided and is not publicly available.

7.21 Winner of the procurement

Name	Content	Status
Name of organisation	Sich Energo LLC	1 – confirmed
EDRPOU	35536019	1 – confirmed
Country	Ukraine	1 – confirmed
Region	Kyiv	1 – confirmed
Address	40 Kyrylivska Street, building G	1 – confirmed
Postal	0408	1 – confirmed
Full name	Popov S.O. (chief project engineer)	1 – confirmed
Email	info@sichenergo.com	1 – confirmed
Tel	(044) 425-94-52	1 – confirmed
Fax	(044) 425-94-52	1 – confirmed
Web	http://sichenergo.com/	1 – confirmed

Conclusions: All data is correct

7.22. Contract information

Name	Participant	Cost of the proposal
Contract No.	05-3/3370-16	1 – confirmed
Date of signing	12 August 2016	1 – confirmed
Deadlines	By 30 December 2017	1 – confirmed
Currency	UAH	1 – confirmed
Contract value	82,098,705.42 UAH including VAT	1 – confirmed
Place of contract performance	Ukraine Chernivtsi region, Kitsman, 52 H. Skovoroda Street	1 – confirmed
Changes to the contract		4 – no data available
Date of changes to the contract		4 – no data available

Conclusion: Information regarding existing changes and additions to the contract was not provided

d is not publicly available.

7.23. Subcontractors

Name	Participant	Cost of proposal
Number of subcontractors involved	4	1 – confirmed

Number of subcontractors who participated in the tender for the contract	0	1 – confirmed
Total value of subcontracts		4 – data not available
Currency	UAH	1 – confirmed
List of subcontractors involved	TDV "PMK-76" LLC "Mobile Mechanised Column No. 311 Proenerji LLC Transmashstroy LLC	1 – confirmed

7.24. Conclusion: The subcontracts provided to CoST consultants do not specify the cost of the work.

Contract performance:

Title	Content	Status
Start date		1 – confirmed
Project status (current) relative to the implementation schedule of work	Behind schedule	1 – confirmed
Actual amount paid under the contract	40,081,831.19 UAH including VAT	1 – confirmed
Project status (current) regarding funds spent	Behind schedule	1 – confirmed
Balance of funds under contract	42,016,874.23 UAH including VAT	1 – confirmed
Deadlines for completion of work under the contract	1 July 2017	1 – confirmed

8. PROJECT DESCRIPTION

Location of the facility: The existing 330/110/35 kV Chernivetska substation is located in the east of the district town of Kitsman, Chernivtsi region, at 52 H. Skovoroda Street, approximately 1.5 km from the outskirts of the town.

General information about the project:

According to the existing scheme, two 330/110/35 kV autotransformers (AT) with a capacity of 200 MVA each are installed at the 330/110/35 kV Chernivetska substation.

The load on the ATs in normal mode at maximum loads of the South-Western Energy System over a long period of time was above the norm and amounted to 80% and above, and for the reporting year 2010, 91.2% and 102.3% for AT-1 and AT-2, respectively.

The purpose of the reconstruction is to increase the capacity of the substation to provide electricity to consumers in the South-Western power system.

Basis for project development:

- Investment programme of SE "NPC "Ukrenergo" for 2011.
- "Scheme for the prospective development of the South-Western Energy System for the period up to 2015 with a perspective up to 2020"
- Agreement on cooperation between the Ministry of Energy and Coal Industry of Ukraine, Chernivtsi Regional State Administration and Chernivtsi Regional Council on the development of the fuel and energy complex and social infrastructure of settlements in Chernivtsi region dated 22 March 2011.

The design task "Installation of the third AT at the 330/110/35 kV Chernivtsi substation" was issued on 1 April 2011. According to the task, a two-stage design is envisaged: design (P) and working documentation (R). The general designer was selected on the basis of a competitive tender.

The project for the reconstruction of the 330/110/35 kV Chernivtsi substation, entitled "Installation of a third 330/110/35 kV transformer at the 330 kV Chernivtsi substation", was carried out by DPV and NDI.

UKRENERGO MEREPROEKT Lviv Branch, based on agreement No. 239/2011-278 dated 7 July 2011 and the right to perform design work, licence: Series AB No. 555795 issued on 09.11.2010, Series AG No. 595335 issued on 08.07.2011.

The design documentation was completed in accordance with the design specifications.
The period of development of the design documentation was 2011-2012.

The project underwent a comprehensive state examination. As a result, an expert report was received on the review of the design documentation dated 02.08.2012, on the basis of which, by order of the Cabinet of Ministers of Ukraine No. 1035-r dated 19 December 2012. "On the approval of the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV

Chernivtsi substation," the project was approved with the following indicators:

total estimated cost, thousand	UAH	- 134,176.729
including:		
construction and installation works	- 17,393.164	
equipment	- 84,493.811	
commissioning works	- 6,318.276	
other expenses	- 25,971.478	

This project was not implemented before 2016. At CoST's request, the client explained that this was due to insufficient funding and lengthy approval of documentation by other agencies. In 2016, the project was put into operation.

Due to the increase in the cost of construction components (compared to the time of development of the design and estimate documentation - 2011-2012), it became necessary to adjust the cost estimate part of the project and re-obtain an expert report, for which a corresponding design task (adjustment of the cost estimate part) was issued on 31 July 2015.

The project was adjusted in 2015 by PJSC PTI Kyivorgbud on the basis of the design task. The project adjustment provides for bringing the design documentation into line with the requirements of current regulatory documents and determining the estimated cost at the current price level without changing the approved design decisions.

Following the project adjustments, an expert report was received on the review of the project documentation dated 31 March 2016 and an order from the Ministry of Energy and Coal Industry.

No. 421 dated 01.07.2016 on the approval of the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation (adjustment)", with the following indicators:

total estimated cost at current prices	
as of 02.03.2016, thousand hryvnias	- 335,866.781
including:	
construction works	- 29,287.957
equipment	- 246,423.811
commissioning works	- 6,318.276
other expenses	- 60,155.242

PJSC PTI Kyivorgbud, in letter No. 3.2/469 dated 26 September 2016, informed SE NEC Ukrenergo that it had no objection to transferring the copyright for the development of design and estimate documentation for the construction project "Installation of the third 330/110/35 kV AT at the 330 kV Chernivtsi" to the State Enterprise "NPC "Ukrenergo".

List of main equipment for the project:

No.	Equipment name	Unit of measurement	Quantity
	Autotransformer installation		
1	Three-phase autotransformer with three oil windings ATDTN-200000/330/110- U1	pcs	1
	330 kV switchgear		
2	Three-pole gas-insulated switch ZAR2 F1 420 kV (complete with spring drives, control cabinet, connecting cables);	pcs	1
3	TOG 330-II-IU1 current transformer;	pcs	3
4	Voltage transformer NOG-330 II II;	pcs	3
5	Single-pole disconnector with two sets of grounding knives (complete with factory racks and drives) RG.2-330.2/2000-40 UHL1;	pole	9
6	Single-pole disconnector with one set of earthing knives (complete with factory racks and drives) RG.1a-330.2/2000-40;	pole	3
7	Three-phase gas-insulated switch 3AP1 FG 145 kV;	pcs	8
	110 kV switchgear		
8	110 kV TOG-110-II-II-U1 current transformer;	pcs	24
9	Voltage transformer NOG-110 II I U1;	pcs	8
10	Three-pole disconnector (complete with support racks and motor drives) with two sets of RGN.2-110.II/1000 UHL1 grounding knives RGN.2-110.II/1000 UHL1;	pole	15

11	Three-pole disconnecter (complete with support racks and motor drives) with one set of grounding knives PGH.1a-110.II/1000 YXJ1;	pole	21
12	Three-pole step-type switch (complete with supporting racks and motor drives) with one set of grounding knives RGN.1b-SK-110.II/1000 UHL1;	pole	9
13	Three-pole disconnecter (complete with support posts and motor drives) with two sets of grounding knives RGN.2-110.II/2000 UHL1;	pole	21
14	Three-pole disconnecter (complete with support racks and their drives) with one set of grounding knives RGN.1a-110.II/2000 UHL1;	pole	12
15	Three-pole step-type switch (complete with supporting racks and motor drives) with one set of grounding knives RGN.1b-SK-110.II/1000 UHL1;	pole	3
16	Single-pole switch (complete with support racks and motor drives) with one set of grounding knives RGN.1b-OP-110.II/2000 UHL1;	pole	3
	VRU 35 Kv		
17	Three-phase vacuum circuit breaker for a rated voltage of 35 kV, (complete with factory racks) OVB-VBF 40.5	pcs	1
1	Current transformer TRO 70.11-35	pcs	3
19	Three-pole disconnecter RG.2-35II/1000 UHL1 with two sets of grounding knives (complete with factory rails and drives)	pole	3
20	Three-pole disconnecter RG.1b-35/1000 UHL1 with one set of earthing knives (complete with factory rack and drives)	pole	3
21	Three-phase transformer with two windings, oil-filled TM-630/35 U1	pcs	2
2	35 kV 3EP5-042-1 PE2 surge arresters (complete with factory rack)	pcs	6
	Complete transformer substation 10/0.4 kV		
23	Complete transformer substation 10/0.4 kV complete with transformer TMG-630/10 U1; (weight = 0.7)	pcs	1
	Microprocessor devices		
24	RET670 ABB device (AT-3 protection)	pcs	2
2	REC670 ABB device (AT-3 protection)	pcs	1
26	ABB REB670 device (AT-1, AT-3) 330 kV busbar protection	pcs	2
2	ABB REC670 device (SV-1 330 kV automation)	pcs	1
2	ABB REB670 device (DZSH 110kV)	pcs	6
29	L014 PM RZA "Diamant" device (total bus protection)	pcs	4
30	SV-1, SV-2, ShZV-2 automation devices	pcs	4

Construction solutions.

Installation of AT-3 autotransformer. Designed in an open space, on the same axis as the existing AT-1 and AT-2. The foundation for the autotransformer consists of prefabricated reinforced concrete slabs. Transformer portal - standardised metal, foundations for the portal - prefabricated reinforced concrete footings with crossbars, supports for equipment - metal, foundations for supports made of monolithic reinforced concrete.

330 kV switchgear. Cellular portals and busbar portals are standardised metal. Equipment supports are metal. The foundations for the portals and masts are prefabricated reinforced concrete, and the foundations for the supports and bio-protective screens are monolithic reinforced concrete.

110 kV substation. Cellular portals and busbar portals are standardised metal structures. Equipment supports are metal structures. The foundations for the cellular portals are reinforced concrete bored piles, for the busbar portals and floodlight mast are prefabricated reinforced concrete mushroom-shaped with crossbars, for the supports are monolithic reinforced concrete.

35 kV switchgear. Floodlight supports are standardised reinforced concrete, supports for equipment are metal frames installed on reinforced concrete uprights.

The ZPU 2 building is a single-storey building with dimensions of 9.0 x 14.0 m. The walls are brick, the foundations are strip foundations made of concrete blocks, and the floors are made of prefabricated reinforced concrete hollow core slabs.

The **valve switching chamber building** is a single-storey structure with dimensions of 2.0 x 3.0 m. The walls are brick, the foundations are strip foundations made of concrete blocks, and the floors are prefabricated reinforced concrete hollow core slabs.

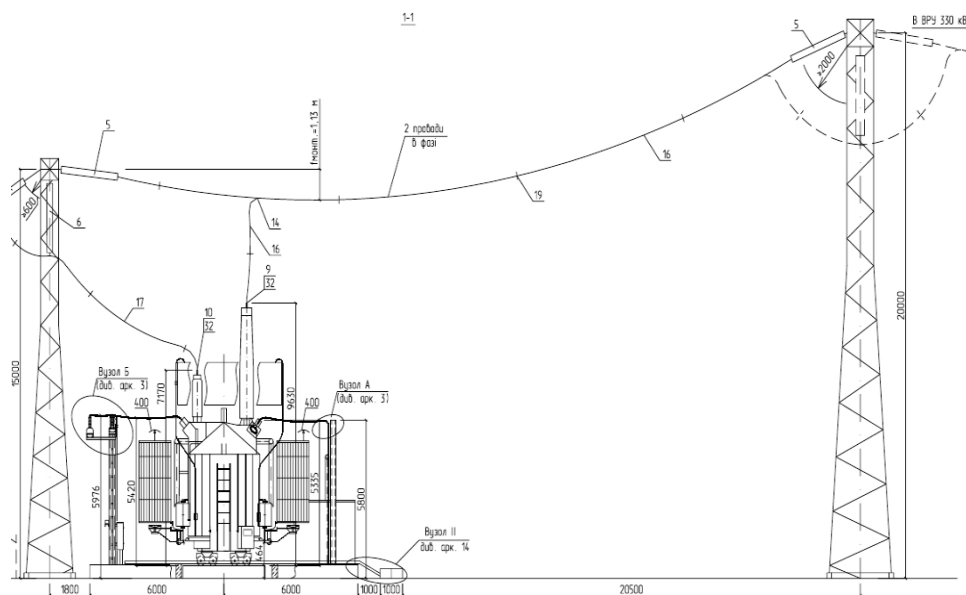
Electrical engineering solutions.

Installation of AT-3 at the 330 kV Chernivetska substation:

In accordance with the design task at the 330 kV Chernivtsi substation, a new AT-3 autotransformer of the ATDTN-200000, 330/110/35 U1 type, manufactured by Zaporizhtransformator JSC, is installed in a free space.

The AT-3 will be connected to cell No. 5 on the 330 kV switchgear, cell No. 16 on the 110 kV switchgear, and cell No. 8 on the 35 kV switchgear.

The new AT-3 is also equipped with an explosion and fire warning system from Sergi.



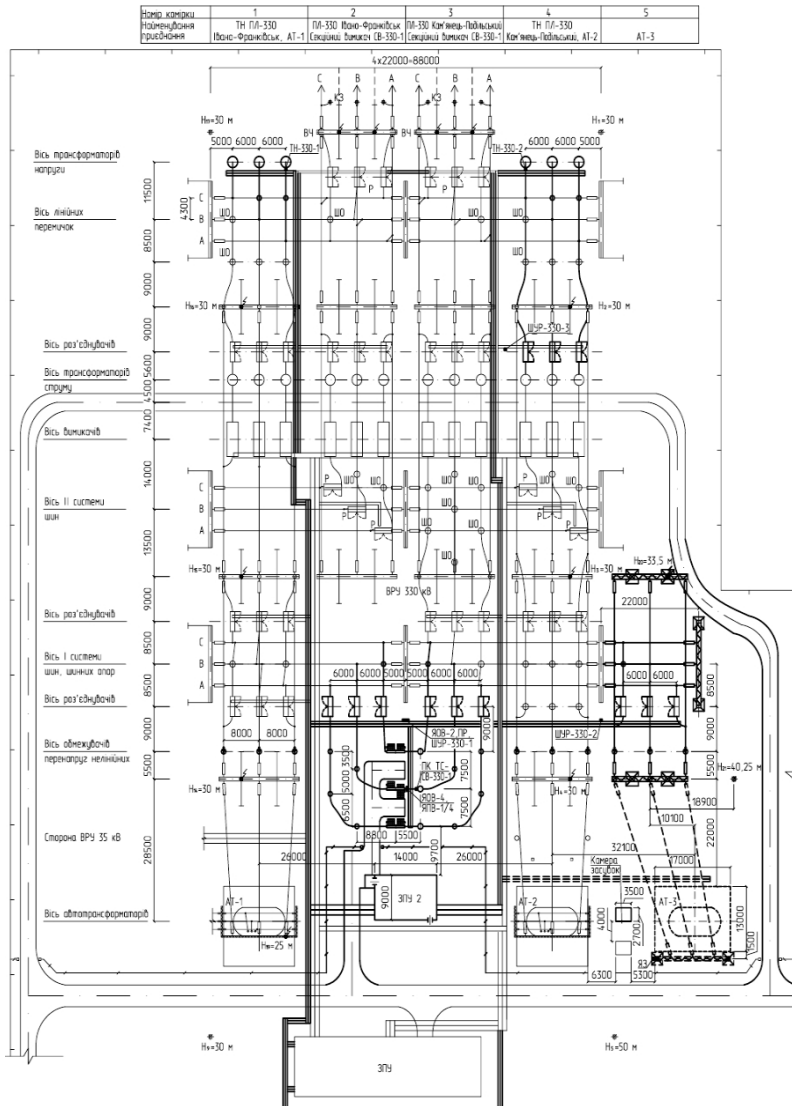
Installation of AT 3

VRP-330kV PS 330kV "Chernivtsi":

According to the design specifications for the 330 kV substation, the following is planned:

- relocation of existing 330 kV voltage transformers (TN-330) of 330 kV overhead lines (OL) "Ivano-Frankivsk" and "Kamyanets-Podilsk";
 - construction of a sectional switch cell of the first 330 kV busbar system (SV-330-1) at the location of the existing TN-330 "Ivano-Frankivsk" and TN-330 "Kamianets-Podilskyi"
 - connection of a new autotransformer (AT-3) is planned to I-I SSH-330;
 - replacement of arresters with non-linear surge arresters (OPN)
 - replacement of the existing disconnect switch No. 4 with a disconnect switch with two grounding blades
- The existing electrical connection diagram is based on a "quadrangle" scheme with two transformers and two lines. After reconstruction, it is planned to convert the diagram to a "quadrangle" with three transformers and two lines.

The existing TN-330 "Ivano-Frankivsk" and TN-330 "Kamyanets-Podilsk" are transferred directly to the linear jumpers in cells No. 1 and No. 4, respectively. TN-330 are installed and connected to the OSS without disconnectors.

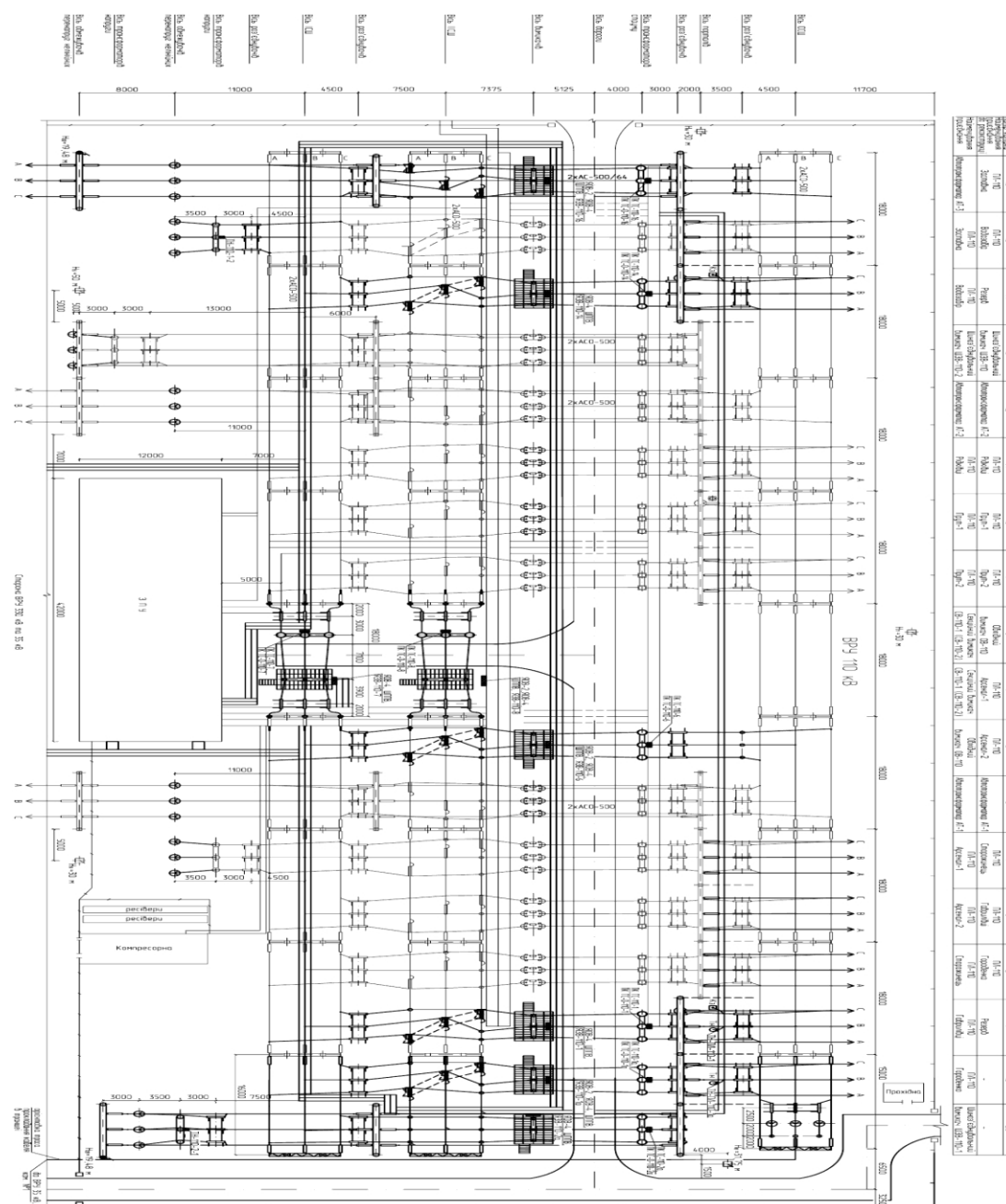


VRP-330kV plan
(equipment to be installed is highlighted with a thick line)

VRP-110kV PS 330kV "Chernivetska":

In accordance with the design specifications for the 110 kV switchgear, the following is envisaged:

- bringing the circuit to type 110-8 "two working, sectioned by circuit breakers, and a bypass busbar system with one bypass circuit breaker;
- sectioning of two working busbar systems 110 kV with circuit breakers;
- in existing 110 kV cells designated for the installation of sectional switches, replacement of equipment with new equipment is envisaged;
- in existing 110 kV cells designated for connection to AT-3, equipment is to be replaced with new equipment;
- installation of two additional voltage transformers for 110 kV busbar operating systems;
- replacement of arresters with non-linear surge arresters (OPN).
- Expansion of the 110 kV switchgear by two cells;



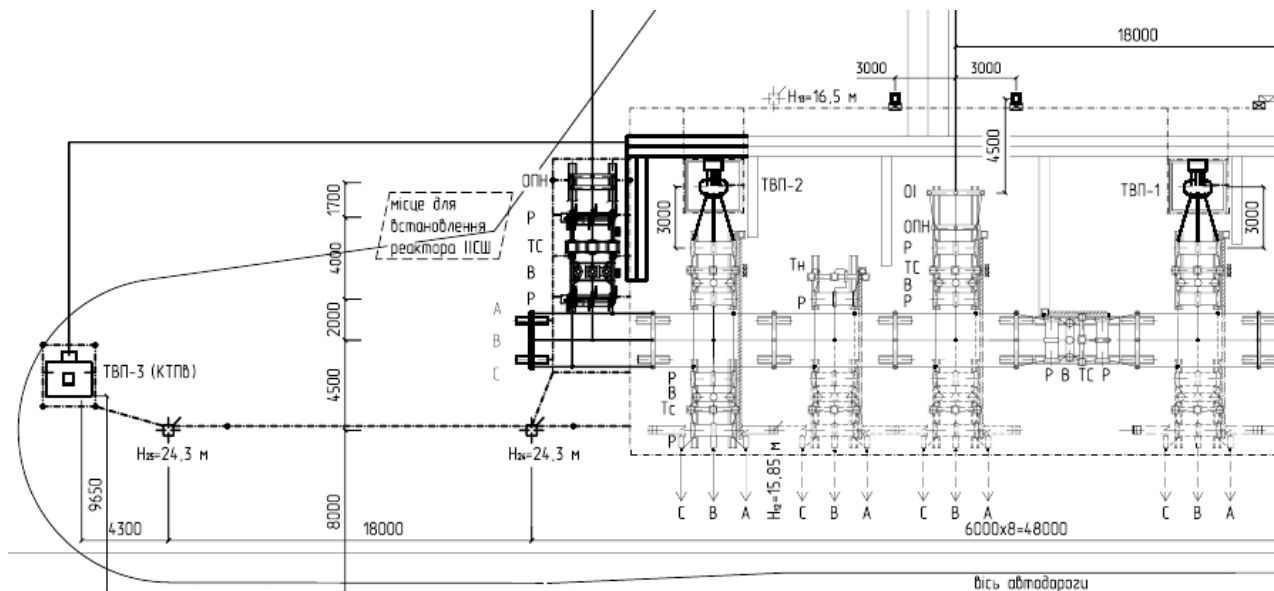
*Plan of the 110 kV switchgear
(equipment to be installed is highlighted with a thick line)*

VRP-35kV PS 330kV "Chernivtsi":

According to the design specifications, the following is planned for the 35 kV switchgear:

- replacement of the 35 kV AT-2 overhead busbar bridge with a 35 kV cable;
- 35 kV AT-3 bushing to be performed with 35 kV cable;
- construction of a new cell for connecting the new AT-3;
- Replacement of existing TVP-1 and TVP-2 transformers with a capacity of 400 kVA and a voltage of 35/0.4 kV with new ones with a capacity of 630 kVA.
- replacement of the backup TVP-3 with a capacity of 400 kVA and a voltage of 10/0.4 kV with a new one with a capacity of 630 kVA
- Replacement of 35 kV arresters with surge arresters.

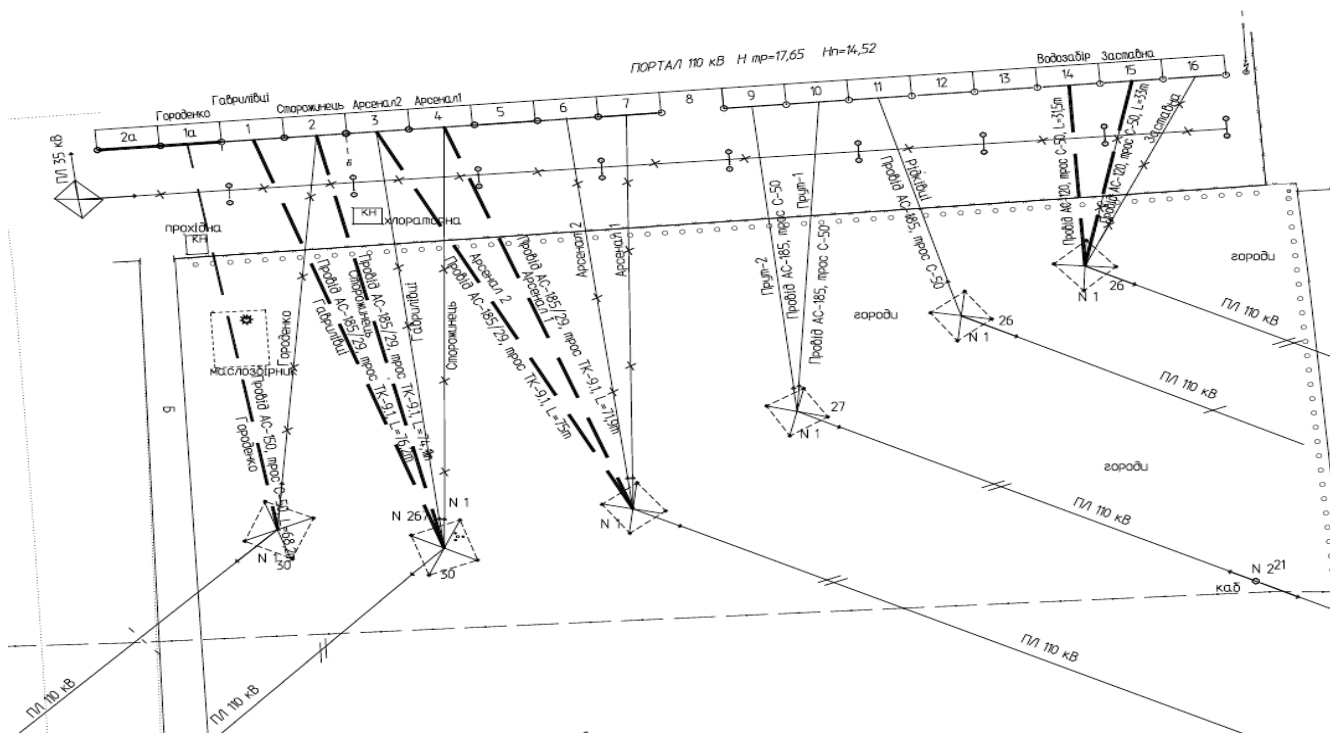
The existing electrical connection diagram is based on a "two busbar sections separated by a switch" scheme and will be retained.



*Plan of the 35 kV substation
(the thick line shows the equipment to be installed)*

110 kV power line measures:

The following **110 kV power lines** are subject to relocation to the substation: Vodozabir (31.5 m), Zastavna (33 m), Gorodenko (68 m) – using existing wires and cables; Gavrilivtsi (76.2 m), Storozhynets (74 m), Arsenal-1 (71.9 m), Arsenal-2 (75 m) - installation of new wires and cables due to the increase in span length. The relocation is carried out without changing the location of the existing end supports.



*Plan for the reorganisation of 110 kV power lines at the 330 kV Chernivetska substation
(the thick line shows the equipment to be installed)*

Engineering support.

The substation will be equipped with a fire water supply system and a fire extinguishing system, with the reconstruction of the fire extinguishing pump and the rearrangement of the existing fire water supply network section, which falls under the foundations and structures of the high-voltage switchgear, emergency oil drains, the installation of outdoor lighting networks and electrical equipment for buildings.

Domestic water supply and sewerage systems are existing.

In the buildings under design, ventilation is natural and heating is electric.

At the Chernivtsi substation, it is planned to carry out work on control and automation, signalling and measurement, organisation of commercial electricity metering, expansion of the existing telemechanics system, organisation of information collection and transmission to the power system and NPC Ukrenerg, and organisation of telephone communications.

The automatic fire alarm, fire notification and central alarm systems are existing. Three additional employees will be required to maintain the substation and new equipment.

The project includes special measures for fire safety, occupational health and safety, and energy conservation. The reconstruction and operation of the facility will not pose any additional risk or danger to the area.

Construction organisation.

The project provides for the methods of performing the main works, the sequence of construction, and the requirements for construction machinery and mechanisms, material resources, and temporary buildings. Occupational health and safety measures are provided for.

Cost estimate

The total estimated cost provided for in the estimate documentation, according to the consolidated estimate calculation at current prices as of 3 February 2016, is UAH **335,866,781** thousand, including:

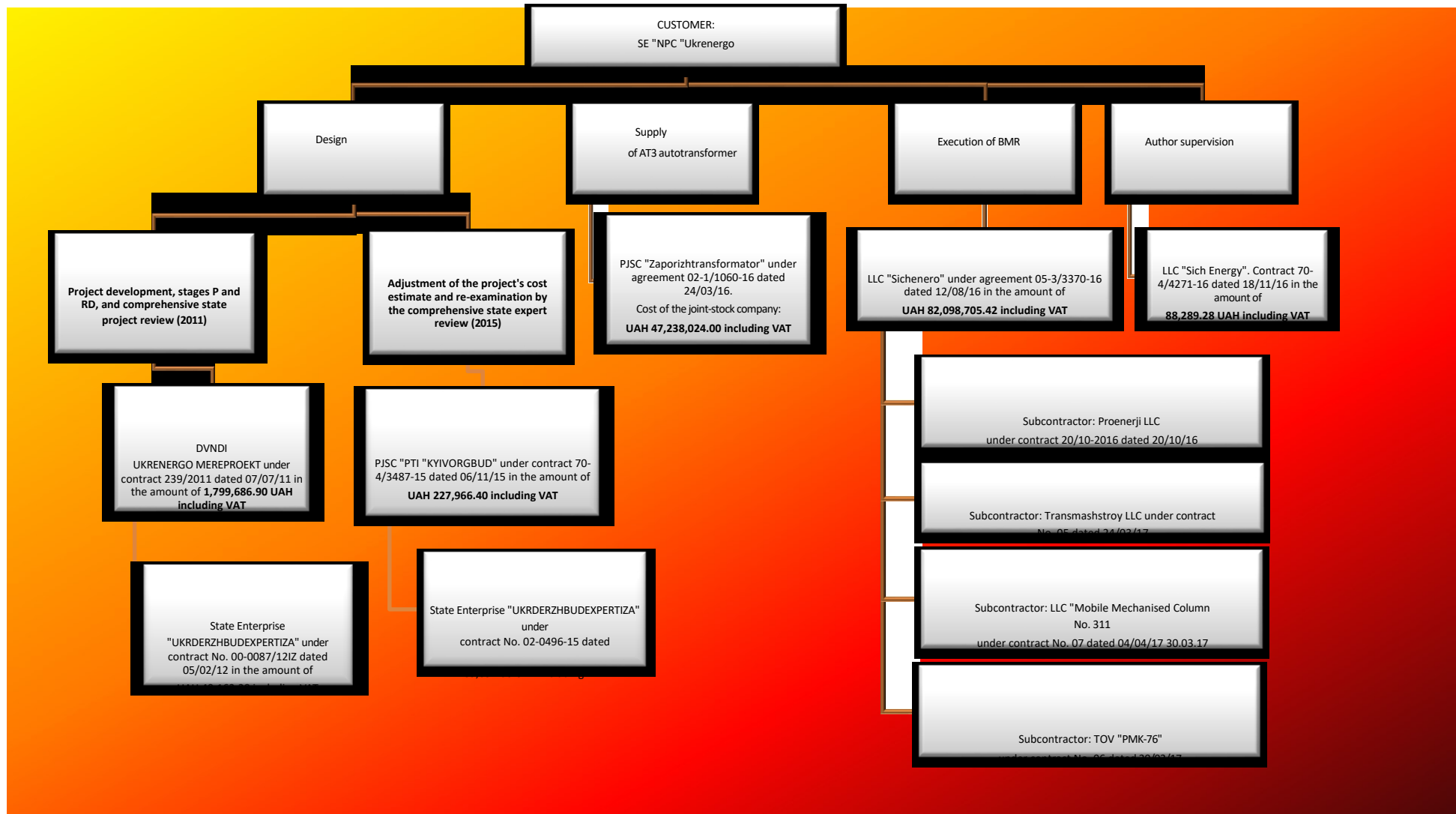
construction works – UAH **2,9287,957** thousand;

equipment – UAH **246,423,582** thousand; other

expenses – UAH **60,155,242** thousand.

9. DESCRIPTION OF TENDER PROCEDURES AND PROJECT IMPLEMENTATION

9.1. DIAGRAM OF PROJECT IMPLEMENTATION PARTICIPANTS



9.2. PROJECT LIFE CYCLE

Date	Event	Document
<i>Document t provided</i>	Approval of the Investment Programme of SE "NPC "Ukrenergo" for 2011	Approved by the NEURC resolution in 2011
01.04.2011	Approval of the for the design of the facility	Task for designing the facility dated 01.04.2011
07.07.2011	Conducting competitive bidding and selecting a design organisation and signing a contract	Contract on for the design of the state-owned enterprise "NPC "Ukrenergo" and DPVNDI "Ukrenergomerezhpoeekt" No. 239/2011 dated 07.07.2011
19.12.2012	Comprehensive state examination of the developed project and approval of the project	Order of the Cabinet of Ministers of Ukraine on the approval of draft No. 1035P dated 19.12.1012
2012	Development of a working draft	
31 July 2015	Approval Tasks Adjustment of the project estimate	Task Adjustment the cost estimate of the project dated 31 July 2015
06.11.2015	Determination of the project organisation – contractor adjusting the project estimate and signing the contract	Contract between SE "NPC Ukrenergo and PJSC "PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD" on the adjustment of the cost estimate part of project No. 70-4/3487-15 dated 06.11.2015
01.07.2016	Comprehensive state examination of the developed project and approval of the adjusted project	Order of the Ministry of Coal Industry and Energy of Ukraine on approval of the project (adjustment) No. 421 dated 01.07.2016
24 March 2016	Conducting competitive bidding and selecting a supplier of an autotransformer and signing a contract for the supply of	Agreement between SE "NPC Ukrenergo and PJSC Zaporizhtransformator. No. 02-1/1060-16 dated 24 March 2016
12 August 2016	Conducting competitive bidding and selecting an organisation to perform construction and installation works with the supply of main equipment and signing of a procurement contract	Contract No. between State Enterprise "NPC "Ukrenergo" and LLC "Sich Energo" No. 05-3/3370-16 dated 12 August 2016
18 November 2016	Signing of the author supervision of construction for	Agreement between SE "NPC Ukrenergo and LLC "Sichennergo" No. 70-4/4271-16 dated 18 November 2016

30 June 2017	Signing of supplementary agreement No. 1 to the contract Agreement between SE "NPC "Ukrenergo" and LLC "Sichenero" No. 05-3/3370-16 dated 12 August 2016 (extension of the terms of work performance)	Supplementary agreement No. 1 dated 30 June 2017 to the agreement between SE "NPC "Ukrenergo" and LLC "Sich Energy" No. 05-3/3370-16 dated 12 August 2016
4 October 2017	Signing of supplementary agreement No. 2 to the agreement Agreement between SE "NPC Ukrenergo", and Sich Energo LLC No. 05-3/3370-16 dated 12 August 2016 (adjustment of the scope of work and supply of equipment)	Additional agreement No. 2 dated 4 October 2017 to the agreement between SE "NPC "Ukrenergo" and LLC "Sich Energy" No. 05-3/3370-16 dated 12 August 2016
January 2018	The customer informs the contractor of its intention to initiate the procedure early termination of the agreement and recalculation of funds provided for by the bank guarantee as security for the performance of the agreement in favour of the customer, as well as the imposition of penalties and the return of advance payments to the contractor	Letter from SE NEC Ukrenergo to Sich Energo LLC

9.3. PROJECT DESIGN

The selection of the design organisation for the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation" was carried out through open bidding.

The scope of the procurement included the performance of design work in accordance with the design assignment in two stages: "Design" and "Working documentation" and passing a comprehensive state examination of the project.

Two bidders participated in the procurement procedure. All bidders are registered in Ukraine. Foreign companies did not participate in the procurement.

Table – Tender participants

No.	Name of bidder	Country of origin
1	Kyivenergomerezhproekt LLC, Odessa branch (EDRPOU code 36127013).	Ukraine
2	DPVNDI Ukrenergomerezhproekt, Lviv branch (EDRPOU code 23967294).	Ukraine

Note: information obtained from *the Protocol on the disclosure of tender bids No. 78/1 dated 03.06.2011.*

Table – Analysis of tender proposals read aloud

Bid number in order	Name of bidder	Bid price, UAH, including VAT
1	Kyivenergomerezhproekt LLC, Odessa branch (EDRPOU code 36127013).	3,126,648
2	DPVNDI Ukrenergomerezhproekt, Lviv branch (EDRPOU code 23967294).	1,799,686.80

Based on the results of the evaluation by the Customer, none of the bids were rejected. The winner of the procurement, based on a combination of criteria such as price, terms and conditions of payment, was the Lviv branch of the State Design, Survey and Research Institute "UKRENERGO MERZHEPROEKT".

Note: information obtained from *the "Protocol on the disclosure of competitive bidding proposals No. 78/2 dated 09.06.2011"*

Based on the results of the procurement, a contract for the performance of design work was signed No. 239/2011 dated 07.07.2011 was signed.

The cost of the design work, according to the contract, amounted to **UAH 1,799,686.80 including VAT**.

The specified design organisation developed the project in 2012, based on the approved design assignment dated 10 August 2011.

Comparing the design assignment and the developed project, it can be concluded that the project was developed in accordance with the approved design assignment.

The project underwent a comprehensive state examination and received a positive expert opinion from the State Enterprise "UKRDERZHBUEXPERTIZA" No. 00-0087/12IZ dated 2 August 2012.

9.4. ADJUSTMENT OF THE COST ESTIMATE PART OF THE PROJECT

Due to a lack of funding, the project was not implemented for a long time. Funds for the implementation of the project at the State Enterprise "NPC "Ukrenergo" only became available in 2015.

Since the project was approved, prices for all construction components have increased significantly, and current building codes have changed, making it necessary to adjust the project budget and, accordingly, spend additional funds.

Definition of an organisation which will perform adjustments the part of the project was carried out through a sub-threshold procurement.

Two bidders participated in the procurement procedure. All bidders are registered in Ukraine. Foreign companies did not participate in the procurement.

Table – Tender participants

No.	Name of bidder	Country of origin
1	PJSC PTI Kyivorgbud (EDRPOU code 36127013).	Ukraine
2	Podilskyi Energo Consulting LLC (EDRPOU code 23967294).	Ukraine

Note: information obtained from *the "Minutes of the meeting of the tender committee South-Western ES No. 59-ZP dated 15 October 2015"*

Table – Analysis of tender proposals read out

No Bid number	Name of the bidder	Bid price, UAH, including VAT
1	PJSC PTI Kyivorgbud (EDRPOU code 36127013).	503,316.38
2	Podilskyi Energo Consulting LLC (EDRPOU code 23967294).	599,027.60

Note: information obtained from *the Minutes of the Meeting of the Tender Committee South-Western ES No. 59-ZP dated 15 October 2015*

Based on the results of the evaluation by the Customer, none of the proposals were rejected. PJSC PTI Kyivorgbud was declared the winner of the procurement based on the price criterion.

Based on the results of the procurement, a contract for the performance of design works was signed between SE NPC Ukrenergo No. 70-4/3487-15 dated 06.11.2015 for the amount of **UAH 503,316.38 including VAT**, and on the same day, an additional agreement was signed to reduce the cost of the works. The adjusted cost was **227,966.40 thousand UAH including VAT**. The reasons for such a significant change in cost are unclear.

In 2015, PJSC PTI Kyivorgbud made adjustments to the project based on the design assignment approved by the customer on 31 July 2015.

The project adjustment provides for bringing it into line with the requirements of current regulatory documents and determining the estimated cost at the current price level without changing the approved design decisions.

According to , the adjustment was received positive expert report of the State Enterprise Ukrderzhbudekspertiza dated 31 March 2016 No. 02-0496-15 and recommended for approval in accordance with the established procedure.

9.5. AUTHOR'S SUPERVISION OF CONSTRUCTION

The contract for author's supervision was concluded by the Customer with Sich Energo LLC and was provided to CoST consultants.

A letter from the Director of the separate division of SE "NPC Ukrenergo" - South-Western Electric Power System - Didichenko E.S. was provided with the signed contract for author supervision. (No. 3204-7912-16 dated 09.11.2016) to the head of the procurement department of SE "NPC Ukrenergo" I.G. Baryshev with a request not to conduct electronic bidding to determine the organisation that will carry out author supervision and to agree to conclude a contract with LLC "Sich Energy", since, according to him, the said organisation carried out adjustments to the cost estimate part of the project. However, the contract with Sich Energo LLC for the adjustment of the project estimate was not provided to CoST consultants.

At the same time, CoST consultants were provided with the contract between SE "NPC "Ukrenergo" and PJSC PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD" No. 70-4/3487-15 dated 06.11.2015 for the adjustment of the project estimate.

Given these circumstances, it is unclear on what basis Sich Energo LLC was selected as the organisation to supervise the construction.

It is noteworthy that the contract for author supervision was signed with the contractor only six months after the contract for construction and installation works at the facility was signed.

The customer provided CoST verifiers with a construction supervision log. According to the log, at the time of preparing the report, the contractor had made six visits to the construction site, which were duly recorded in the log.

The last visit, at the time of writing the report, was dated 19 April 2017. There are no entries in the log regarding additional work or the need to make changes to the project.

The customer did not provide any information about the existence of signed acts of completed works (services rendered) and mutual settlements under the specified contract.

9.6. SUPPLY OF THE AT3 AUTOTRANSFORMER

For the project "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation," the supplier of the 330/110/35 kV AT-3 autotransformer was determined by SE NPC Ukrenergo through a separate tender procedure.

Competitive bidding ("27.11.4 Electrical transformers (27.11.41-80.00 Lot No. 1 – Autotransformers and reactors with a voltage of 750 kV; Lot No. 2 – Autotransformers with a voltage of 330 kV; Lot No. 3 – Linear transformers)", code according to DK 016:2010 – 27.11.4), suppliers of equipment were selected for three lots. Namely:

LOT 1 (7 units):

VP "Donbaska ES" (5 units), including:

1) Autotransformer AODCTN-417000/750/500/15.75-U1 (or equivalent) to replace AT-2 f.S and reserve at the Donbaska-750 kV substation – 2 units.

2) 750 kV shunt reactor for replacement at the Donbaska-750 kV substation at the Zaporizhzhia f. A, B, C connection points – 3 units.

VP "Western ES" (2 units), including:

1) AODCTN-333000/750/330 autotransformer (or equivalent) to replace AT-2 f. "C" at the 750 kV "Western Ukraine" substation – 1 unit.

2) ROM-110000/750 shunt reactor (or equivalent) to replace R-1 f. "B" at the 750 kV "Western Ukraine" substation – 1 unit.

LOT 2 (13 units):

VP "Dniprovska ES" (3 units), including:

1) Autotransformer ATDCTN-250000/330/150/38.5 (or equivalent) for installation of AT-1 at 330 kV substation "Pershotravneva" – 1 unit.

2) Autotransformer ATDCTN-250000/330/150/38.5 (or equivalent) for installation of AT-2 on 330 kV substation "Girnycha" – 1 unit.

3) Autotransformer ATDCTN-250000/330/150/38.5 (or equivalent) (AT No. 1) for 330 kV substation "Dnipro-Donbas" – 1 unit.

VP "Western ES" (3 units), including:

1) Autotransformer ATDTN-200000/330/110 (or equivalent) to replace AT-1 at the 330 kV Rivne substation – 1 unit.

2) Autotransformer ATDTN-125000/330/110 (or equivalent) for installation of AT-3 at the 330 kV Rivne substation – 1 unit.

3) Autotransformer ATDTN-125000/330/110 (or equivalent) to replace AT-5 at the 330 kV Lviv South substation – 1 unit.

South-Western ES (3 units), including:

1) Autotransformer ATDTN-200000/330/110-U1 (or equivalent) for installation of AT-3 at 330 kV Chernivtsi substation – 1 unit.

2) Autotransformer ATDTN-125000/330/110/10-U1 (or equivalent) for installation of AT-2 at 330 kV substation "Khmelnyska" – 1 unit.

3) Autotransformer ATDTN-125000/330/110/35kV (or equivalent) for installation of AT-4 on PS-750 kV "Vinnytska" – 1 unit.

VP "Pivnichna ES" (3 units), including:

1) Autotransformer ATDTN-125000/330/110-U1 (or equivalent) to replace ATDCTN-125000/330/110/6 kV (1AT) at PS 330kV "Poltava" – 1 unit;

- 2) Autotransformer ATDTN-200000/330/110-U1 to replace ATDCTN-200000/330/110/6 kV (or equivalent) (3AT) at the 330kV Poltava substation – 1 unit; \
- 3) Autotransformer ATDTN-125000/330/110-U1 (or equivalent) to replace ATDCTN-125000/330/110/10 kV (3AT) at the 330 kV Konotop substation – 1 unit;
 VP "Central ES" (1 unit), including:

- 1) Autotransformer ATDTN-200000/330/110-U1 (or equivalent) for installation of AT-3 at the 330/110/10 kV Novokiyivska substation – 1 unit;

LOT 3 (2 units):

VP "Dniprovska ES" (1 unit), including:

- 1) Line transformer LTDN-63000/38.5 (or equivalent) for PS 330 kV "Dnipro-Donbas" – 1 unit.

VP "Pivnichna ES" (1 unit), including:

- 1) LTDN-40000/6 transformer (or equivalent) to replace the TDNG 31500/110 kV (3T) transformer at the 330 kV Poltava substation – 1 unit;

All equipment, under the terms of the tender documentation, must be delivered on DDP terms (Incoterms 2010) and complete with supervision of installation for the full scope of installation and commissioning works in accordance with the requirements of the manufacturer's plant.

Note: DDP (Delivered Duty Paid) terms – delivery terms under which the goods are delivered to the customer at the destination specified by them, customs duties and other payments related to risk insurance are paid by the supplier.

Table — Participants in the tender LOT 1

No	Name of applicant	Country of origin
1	Subsidiary with 100% foreign investment Siemens Ukraine (EDRPOU code 24940089)	Italy
2	ABB LDT LLC	Switzerland
3	PJSC Zaporizhtransformator	Ukraine

Table – Participants in LOT 2 tender

No	Name of applicant	Country of origin
	ABB LDT LLC	Switzerland
2	PJSC Zaporizhtransformator	Ukraine

Table – Participants in LOT 3 auction

No	Name of applicant	Country
1	ABB LDT Ltd.	Switzerland
2	PJSC Zaporizhtransformator	Ukraine

Note: information obtained from *the Protocol on the disclosure of tender bids, qualification bids, price bids No. 7 dated 08.02.2016*

Table – Analysis of tender bids read out – LOT 1

Bid No.	Name of the bidder	Bid price, UAH, including VAT
in order		
1	Subsidiary with 100% foreign investment Siemens Ukraine (EDRPOU code 24940089)	618,505,051.80

2	ABB LDT LLC	893,148,000.00
3	PJSC Zaporizhtransformator	335,302,236

Table – Analysis of tender bids read out – LOT 2

No. of bid order	Name of bidder	Bid price, UAH, including VAT
1	ABB LDT LLC	1,084,060,869.81
2	PJSC Zaporizhtransformator	571,407,396.00

Table – Analysis of tender bids read out – LOT 3

No. of bid in order	Name of applicant	Offer price, UAH incl. VAT
1	ABB LDT LLC	91,692,000
2	PJSC Zaporizhtransformator	21,881,280

Note: information obtained from *the Protocol on the disclosure of tender bids, qualification bids, price bids No. 7 dated 08.02.2016*

Based on the results of the evaluation of the bids received, the customer rejected one of the three bids as not meeting the terms of the tender.

Table – List of rejected bids.

No. of bid order	Name of bidder	Bid price, UAH, including VAT	Reason for rejection
1	Subsidiary with 100% foreign investment Siemens Ukraine (EDRPOU code 24940089)	618,505,051.80	In the commercial offer, the participant provided a certificate of agreement with the main terms of the contract, which contains a requirement for the monetary equivalent of the obligation in euros, which does not comply with the requirements of the tender documentation

The rejected bid had the lowest price among the bids submitted Based on the results of the evaluation of the bidders, the winner of the procurement for three lots was Zaporizhtransformator PJSC was selected (*Notice of acceptance of the tender offer,*

or price proposal or proposal based on the results of the negotiation procurement procedure No. 02-1-1-1/02-1-1-1-2/2126 dated 25 February 2016).

Based on the results of the procurement, a procurement contract No. 02-1060-16 dated 24 March 2016 for a total amount of UAH 92 million was signed between SE "NPC "Ukrenergo" and PJSC Zaporizhtransformator, procurement agreement No. 02-1060-16 dated 24 March 2016 was signed for a total amount of UAH 928,590,912.00 including VAT. The total price of the agreement consists of the cost of four lots, including:

- Lot 1: UAH 335,302,236.00 including VAT
- Lot 2: UAH 571,407,396.00 including VAT
- Lot 3: UAH 21,881,280.00 including VAT

The transformer at the Chernivtsi substation, type ATDTN 20000/330/110-U1, shall be supplied under lot No. 2 in accordance with the terms of the contract.

The cost of the autotransformer under the contract is 47,238,024.00 UAH, including VAT.

According to information received from SE "NPC "Ukrenergo" – additional agreements, to contract for the supply of AT are absent. Accordingly, it can be stated that the contract price and the terms of delivery of the transformer have not changed in relation to those stipulated in the contract.

The transformer was delivered to the construction site in December 2016, which complies with the terms of the contract, and installation work is currently underway (as of 03.07.2017).

The customer did not provide any information about the existence of signed acts of work performed (services provided) and mutual settlements under the specified contract.

9.7. PERFORMANCE OF CONSTRUCTION AND INSTALLATION WORKS AND SUPPLY OF MAIN EQUIPMENT

Selection of a general contractor for the construction of **"DSTU B.D.1.1-1:2013 "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation. Performance of construction works with the supply of equipment" (inv. No. new) (45251000-1 construction of power stations and thermal stations)"** was carried out by SE "NPC "Ukrenergo" through open tenders. Information on the tender procedure was published in the State Procurement Bulletin. The electronic bidding system was not used.

Tender documentation was posted on the website of SE "NPC "Ukrenergo" (<http://tenders.ukrenergo.energy.gov.ua/>)

The tender bids were opened on 22 June 2016 at the following address: 25 Symona Petliury Street, Kyiv, Ukraine.

The expected purchase price was: UAH 176,581,000.00 including VAT.

The scope of work, list and technical characteristics of the equipment included in the purchase were determined in the tender documentation based on working draft No. 919/14.

The specified project was available for download on the official website of SE "NPC Ukrenergo for all participants during the preparation of their tender proposals.

Eight (8) organisations were admitted to the procurement procedure by the Customer. All applicants are registered in Ukraine. Foreign companies did not participate in the procurement.

Table – Tender participants

No.	Name of applicant	Country of origin
1	Private enterprise "Donkom" (EDRPOU code 33817335).	Ukraine
2	Limited Liability Company "Technostar" (EDRPOU code 30884393).	Ukraine
3	Joint Venture "Installation Management No. 6 Elektropivdenezakhidmontazh (EDRPOU code 00114005).	Ukraine
4	Kyiv Energy Construction Company Limited Liability Company (EDRPOU code 32878418).	Ukraine
5	Limited Liability Company Sich Energo (EDRPOU code 35536019).	Ukraine
6	Limited Liability Company "Zvyazoktehservis" (EDRPOU code 32829329).	Ukraine

7	Limited Liability Company "Southern Energy Company" (EDRPOU code 13877727).	Ukraine
8	Union Corporation of Manufacturing and Commercial Enterprises (EDRPOU code 21004686).	Ukraine

Note: information obtained from *the Protocol on the disclosure of tender bids, qualification bids, price bids No. 54 dated 22 June 2016*

Table – Analysis of tender proposals read aloud

Bid No. in order	Name of the applicant	Offer price, UAH incl. VAT
1	Private enterprise "Donkom" (EDRPOU code 33817335).	158,700,311.60
2	Limited Liability Company Technostar (EDRPOU code 30884393).	157,999,631.60
3	Collective enterprise "Installation Management No. 6 "Elektropivdenzakhidmontazh" (EDRPOU code 00114005).	89,722,565.63
4	Limited Liability Company Kyiv Energy Construction Company (EDRPOU code 32878418).	81,467,353.87
5	Limited Liability Company Sich Energo (EDRPOU code 35536019).	82,098,705.42
6	Limited Liability Company Zv'yazoktehservis (EDRPOU code 32829329).	106,524,770.22
7	Limited Liability Company Pivdenna Energetichna Kompaniya (EDRPOU code 13877727).	89,662,252.63
8	Union Corporation of Manufacturing and Commercial Enterprises (EDRPOU code 21004686).	112,028,033.98

Note: information obtained from *the Protocol on the disclosure of tender bids, qualification bids, price bids No. 54 dated 22 June 2016*

At the stage of opening tender proposals, the lowest price was offered by Kyiv Energy Construction Company Limited Liability Company (EDRPOU code 32878418), namely 81,467,353.87 (eighty-one million four hundred and sixty-seven thousand three hundred and fifty-three hryvnias 87 kopecks), including VAT.

Based on the results of the evaluation of the bids received, the customer rejected four of the eight bids as not meeting the terms of the tender.

In particular, the bid submitted by Kyiv Energy Construction Company LLC (EDRPOU code 32878418), which offered the lowest price for the subject of the procurement, was rejected at the stage of opening the tender bids.

Table – List of rejected bids and reasons for rejection.

No. of bid in order	Name of the bidder	Offer price, UAH, including VAT	Reason for rejection
1	Private enterprise Donkom (EDRPOU code 33817335).	158,700,311.60	1. <i>The applicant has provided a certificate confirming the availability of equipment and material and technical resources, which does not contain information about the location of the production base and assembly base</i>, which does not comply with the conditions of sub-clause 1.1, clause 1, Section I of Appendix 2 "List of documents required to confirm the qualification criteria and other requirements necessary for the acceptance of a tender offer and the conclusion of a contract for the purchase of tender documentation." 2. <i>The applicant provided a copy of the financial results report for 2013, which does not contain a mark from the state statistics authorities confirming acceptance of the report or a receipt confirming acceptance for processing</i>, which does not meet the requirements of subparagraph 4.1 p4 "Availability of financial capacity of Section I of Appendix 2 "List of documents required to confirm the qualification criteria and other requirements necessary for the acceptance of a tender bid and the conclusion of a contract for the purchase of tender documentation
2	Limited Liability Company "Technostar" (EDRPOU code 30884393).	157,999,631.60	Non-compliance of the tender offer with the qualification criteria specified in the tender documentation, namely: sub-clause 4.5. clause 4 "Financial capacity" of Section I of Appendix 2 "List of documents required to confirm

			qualification criteria and other requirements necessary for the acceptance of the tender bid and the conclusion of a procurement contract tender documentation. <i>The applicant was required to provide original certificates from all banks where accounts are held confirming the absence of debt on the loan, with the date of issue of these certificates not exceeding one month before the date of opening of the bids (22 June 2016). The certificates provided by the applicant were dated 17 May 2016</i>
3	Collective enterprise "Installation Management No. 6 "Elektropivdenzakhid Montazh" (EDRPOU code 00114005).	89,722,565.63	<i>1. The applicant has provided a certificate confirming the availability of employees with the relevant qualifications, who have the necessary knowledge and experience, drawn up not in accordance with form No. 2</i> <i>DKT</i>, which does not meet the requirements of subparagraph 2.1 of paragraph 2 of Section I of Appendix 2 "List of documents required to confirm the qualification criteria and other requirements necessary for the acceptance of a tender offer and the conclusion of a contract for the purchase of tender documentation" <i>2. Non-compliance of the tender offer with the qualification criteria specified in the tender documentation, namely: subparagraph 4.5. of Section I of Appendix 2, "List of documents required to confirm the qualification criteria and other requirements necessary for the acceptance of a tender bid and the conclusion of a contract for the purchase of tender documentation."</i> <i>The certificates provided by the participant were drawn up in violation of the requirements of the tender documentation (without indicating the name and current account of the participant"</i>
4	Limited Liability Company	81,467,353.87	The proposal does not meet the qualification criteria and conditions of the tender documentation of the competitive bidding, namely:

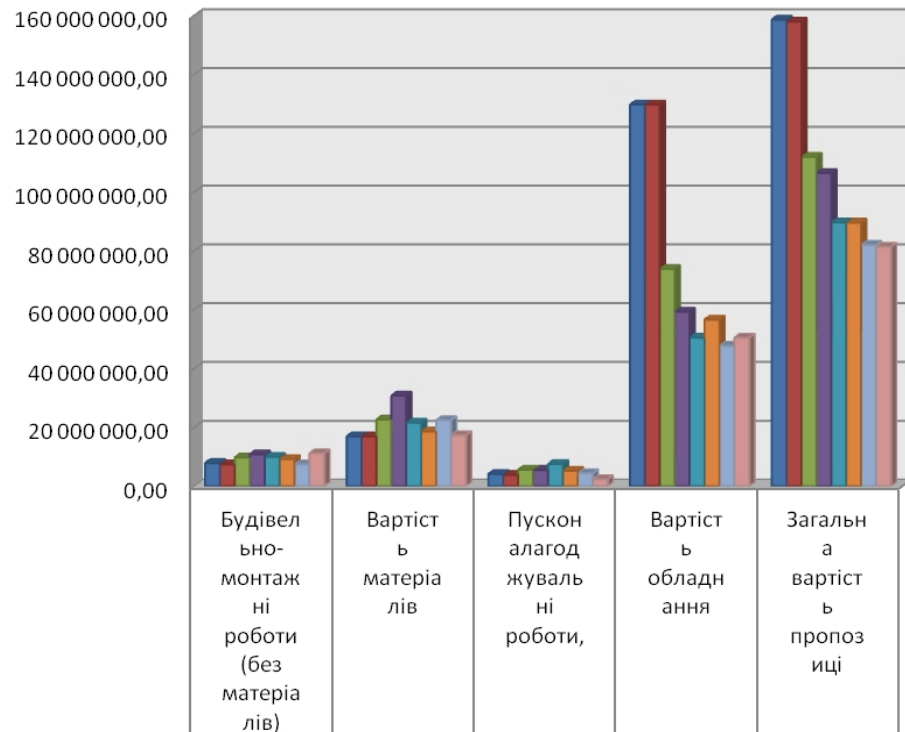
	Kyiv Energy Construction Company (EDRPOU code 32878418).		1. In accordance with paragraph 2 of Section III of the tender documentation, the commercial part must contain a certificate signed by an authorised person stating that the participant agrees with the draft contract. <i>The participant provided the said certificate, but at the same time, it was supplemented the draft contract with certain conditions, namely: conditions regarding the amount prices, the amount of advance payments, the term of validity contract, term of performance</i> 2. Non-compliance of the tender offer the qualification criteria specified in tender documentation, namely: sub-clause 4.5. clause 4 "Availability financial capacity" of Section I Appendix 2 "List of documents required to confirm qualification criteria and other requirements necessary for acceptance of the bid tender and conclusion of a contract for the purchase of tender documentation <i>The applicant had to provide original certificates from all banks where they had accounts open, confirming that they had no debt on the loan, with a term issuance of these certificates not exceeding one month prior to the date of disclosure. proposals (22 June 2016). The certificates provided by the applicant were dated 24 May 2016 and 21 June 2016 In addition, according to information obtained the customer from open sources (http://www.reyestr.court.gov.ua), the participant provided references not from all banks where accounts are opened accounts</i>
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Note: information on the reasons for rejecting the bids of the applicants was obtained from *the "Protocol for the evaluation of bids and price proposals No. 34 dated 21 July 2016.*

The final winner of the tender was determined from among four competitive bids, which, according to the results of the evaluation, were recognised by the customer as complying with the terms of the tender documentation.

Порівняння складових ціни тендерних пропозицій претендентів

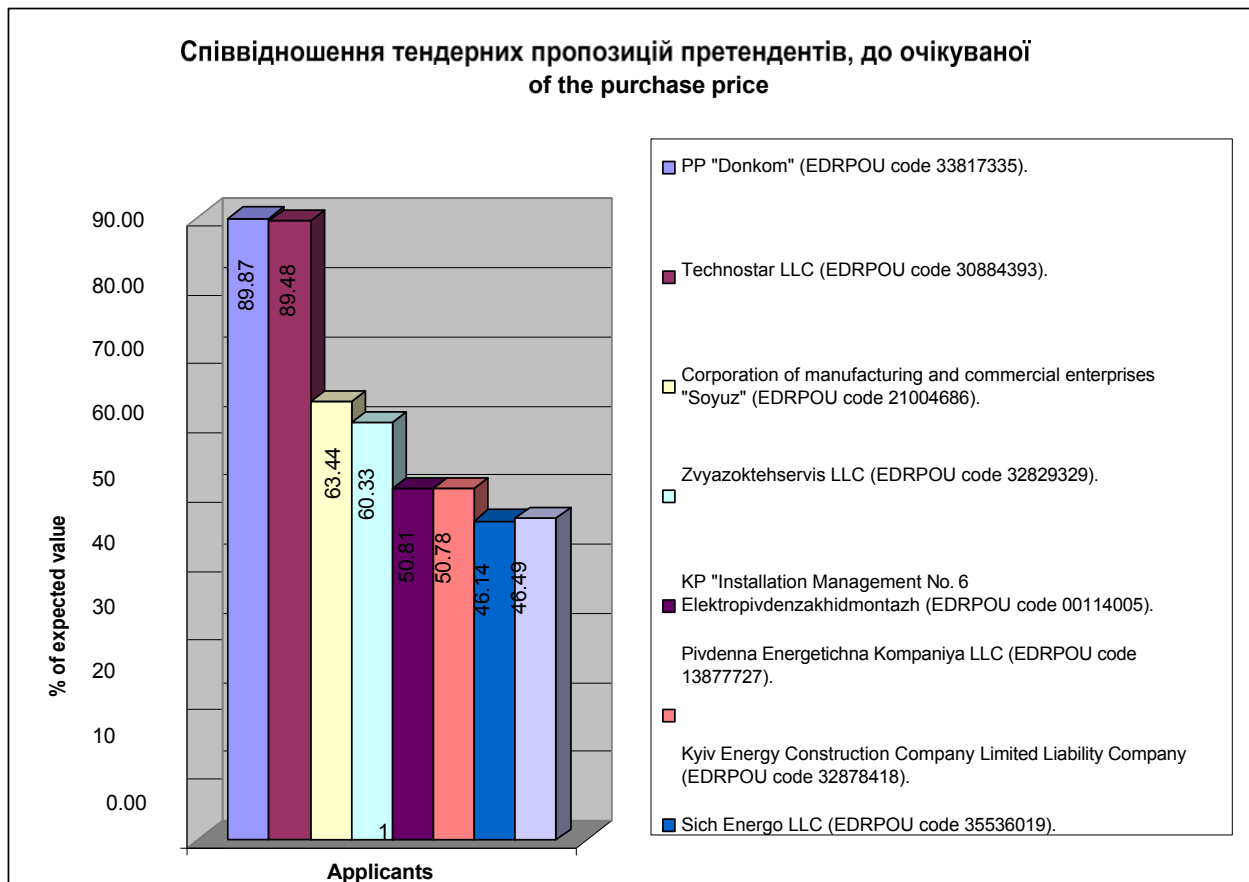
Гривень з урахуванням ПДВ



When analysing the components of the bidders' proposals, it is noteworthy that two bidders, namely Donkom and Technostar, have identical costs of materials and equipment in their proposals. This fact may indicate the possible existence of certain agreements between the bidders at the stage of submitting tender proposals. It should also be noted that both bidders were rejected by the customer at the stage of evaluating the tender proposals.

It is worth noting the significant difference in the cost of commissioning works included in the bidders' proposals. One of the reasons for this situation is the obsolescence of some of the current state building codes for the performance of commissioning works (DSTU B D.2.6-

2012). The standards of the aforementioned DSTU do not reflect the actual scope of commissioning works that need to be performed to set up modern equipment. There is a need to review and update the current standards for commissioning works at the state level.



□

Conclusions: The cost of the winning bid for the procurement item, which was accepted by the customer, amounted to only 46.49% of the expected cost. Therefore, it can be stated that the expected cost of the procurement item was overstated. The difference was mainly due to the cost of equipment, as can be seen from the following table, which compares the cost of equipment in the investor's estimate documentation, which underwent a comprehensive state examination, with the cost of equipment in the winning bids.

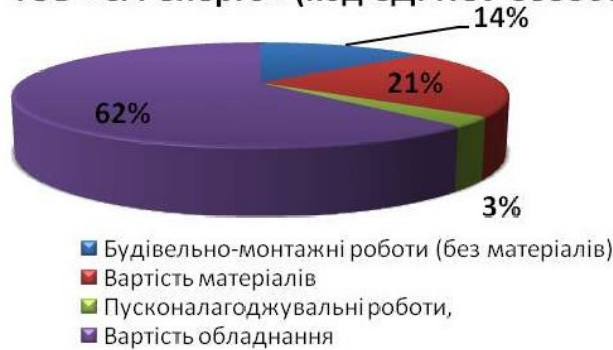
No.	Equipment name	Unit	Quantity	According to the winning bidder's proposal	According to the investor's cost estimate documentation, which has undergone expert review	Ratio (column 5 / column 6)
				Price per unit UAH (excluding VAT)	Price per unit UAH (excluding VAT)	
1	2	3	4	5	6	9
1	ZAR2 three-pole gas-insulated switch F1 420 kV (complete with spring drives, cabinet control, connecting cables)	pcs	1	2,982,700.00	4,009,118.40	0.744

2	Three-phase vacuum circuit breaker for rated voltage 35 kV, (complete with factory racks) OVB-VBF 40.12-16.25	pcs	1	315,000	570,724.38	0.552
3	Three-phase gas-insulated switch 3AP1 FG 145 kV	pcs	8	615,000	796,005.00	0.773
4	35 kV surge arresters 3EL2 051-2PF31-4XE1 (complete with factory rack)	pcs	10	20,889.00	23,606.88	0.885
5	3EL 288-4PM52-4XE1 surge arresters (complete with 3EX6 040 spark gap, 3EX5 050 operation counter, insulating tube and gasket) (1 in reserve)	pcs	10	97,350.00	328,510.00	0.296
6	3EL2 102-2PJ31-4XE1 surge arresters (complete with factory rack) (1 in reserve)	pcs	24	26,499	29,065	0.912
7	SHO-330.II-2UHL1 bushing support	pcs	15	46,564.17	74,950.00	0.621
8	SHO-110-U1 tyre supports (complete with factory stand)	pcs	27	12,283.33	8,450.00	1.454
9	SHO-35 tyre supports (complete with factory stand)	pcs	9	3,483.33	5,200.00	0.670
10	Single-pole disconnector with two sets of earthing blades (complete with factory racks and drives) RDZ.2-330.2*/2000 UHL1	pole	9	308,000.00	492,570.11	0.625
11	Single-pole disconnector with one set of earthing blades (complete with factory racks and drives) RDZ.1-330.2*/2000 UHL1	pole	3	306,000.00	429,784.15	0.712
12	Three-pole disconnector RDZ.1a-35II*/1000 UHL1 with one set of earthing blades (complete with factory stand and drives)	pcs	1	33,449.50	63,121.14	0.530
13	Three-pole disconnector RDZ.2-35II*/1000 UHL1 with two sets of earthing knives (complete with factory racks and drives)	pcs	1	37,287.50	66,127.26	0.564
14	Single-pole disconnector (complete with support racks and motor drives) with one set of RDZ.1b-110 .II*/2000UHL1 grounding blades	pole	3	120,099	164,255.00	0.731

15	Three-pole disconnecter (complete with support racks and motor drives) with two sets of RDZ.2-110.II*/1000 UHL1	pcs	5	193,325.00	1,144,731.00	0.169
16	Three-pole disconnecter (complete with support racks and motor drives) with one set of RDZ.1a-110.II*/1000 grounding knives UHL1	p	7	150	492,765	0.305
17	Three-pole disconnecter (complete with support racks and motor drives) with two sets of RDZ.2-110 grounding knives .II*/2000UHL1	pcs	7	206,074	600,000.00	0.343
18	Three-pole disconnecter (complete with support racks and motor drives) with one set of RDZ.1a-110.II*/2000UHL1 grounding knives	pcs	4	162,450.00	947,625.00	0.171
19	Three-pole step-type switch (complete with support racks and motor drives) with one set of grounding blades RDZ.1b-110.II*/1000 UHL1	p	3	155,405.75	450,000	0.345
20	Three-pole step-type switch (complete with support racks and motor drives) with one set of grounding blades RDZ.1b-110.II*/2000 UHL1	p	1	167,599.00	450,000	0.372
21	Voltage transformer NKG-362 II IU1	pcs	3	372,000	818,370.00	0.455
2	Voltage transformer NOG-123 II I U1	pcs	8	119,349.58	225,866.67	0.528
23	Voltage transformer TJO 7-35	pcs	3	31,279.50	66,993.18	0.467
24	110 kV TOG-123-II-II-U1 current transformer	pcs	24	107,445.83	246,479.33	0.436
25	TOG 362-II-IU1 current transformer	pcs	3	376,043.33	800,823.33	0.470
26	Current transformer TRO 73.11-35	pcs	3	42,084	88,163.94	0.477
27	Three-phase transformer with two oil windings TM-630/35 U1	pcs	2	163,920.00	250,000.00	0.656

The winner was Sich Energo Limited Liability Company (EDRPOU code 35536019). The total cost of the bid was: 82,098,705.42 (eighty-two million ninety-eight thousand seven hundred and five hryvnias 42 kopecks), including VAT.
Note: information obtained from *the "Notice of acceptance of tender bids No. 34 dated 21 July 2016"*

**Розподіл складових вартості пропозиції переможця
торгів в % від загальної вартості
ТОВ «Січ енерго» (код ЄДРПОУ 35536019).**



In accordance with subparagraph 1 of Section VI. "Conclusion of a procurement contract" of the tender documentation, on 12 August 2016, a contract No. 05-3/3370-16 was signed with the winner of the procurement for a total amount of 82,098,705.42 (eighty-two million ninety-eight thousand seven hundred and five hryvnias 42 kopecks), including VAT. The amount of the signed contract corresponds to the bid submitted by the winner at the procurement stage.

***Note:** When preparing the first draft of the report in October 2017, according to data from YouControl, the sole founder (owner) of Sich Energo LLC was CARMINERA MANAGEMENT INC. registered in the Republic of Panama. The Republic of Panama is included in the list of "offshore" countries (territories). The Unified State Register of Legal Entities, Individual Entrepreneurs and Public Organisations does not contain information about the ultimate beneficial owner (a natural person who has the ability to exercise decisive influence over the management or economic activities of a legal entity directly or through other persons), instead, the legal entity CORPORATION "CARMINERA MANAGEMENT INC." was indicated as the ultimate beneficial owner, which does not allow the owner's identity to be established.*

However, in November 2017, a change took place and the sole founder (participant) of the legal entity, according to youcontrol.com.ua, was indicated as the director of Sich Energo LLC, Kozis Maksym Oleksandrovych.

In accordance with the terms of the contract, the Customer transferred the advance payment to the General Contractor in full and on time, in accordance with the terms of clause 4 of the contract, namely 80% for imported equipment, 50% for domestically produced equipment, and 30% of the cost of construction and installation works:

An advance payment for equipment in the amount of UAH 29,778,194.28, including VAT, was provided on 7 September 2016

Including:

- advance payment for imported equipment = UAH 15,737,519.34 including VAT
- for domestically manufactured equipment = UAH 14,040,674.94 including VAT

An advance payment for construction and installation works in the amount of UAH 10,303,636.91 including VAT was provided on 3 April 2017.

Clause 4.3 of the contract stipulates that the general contractor undertakes to use the advance payment received to purchase and supply the materials, structures and equipment necessary for the performance of construction and installation works within **three months after**

receiving the advance payment. Within 90 days of receiving the advance payment, the General Contractor must confirm its use with certificates of completed construction and installation works, certificates of acceptance equipment transfer certificates, or an interim certificate of reconciliation of the use of funds for their intended purpose, and return the unused portion of the advance payment, as well as pay the customer interest for its use at the rate of one NBU discount rate in effect during that period.

Also, in accordance with the equipment delivery schedule attached to the contract, all equipment specified in the contract had to be delivered to the customer **no later than six and a half months from the date of receipt of the advance payment for the purchase of equipment.**

As of the beginning of June 2017 (**9 months after receiving the advance payment**), the General Contractor shipped equipment to the Customer for a total amount of UAH **10,861,307.70** including VAT, of which:

- imported equipment worth UAH 10,861,307.70 including VAT
- Domestically manufactured equipment = UAH 0.00 including VAT

The equipment was shipped at the prices specified in the contract. The general contractor received a 20% surcharge for the shipped equipment upon shipment.

According to the information received, the General Contractor encountered a problem with the shipment of equipment ordered from KT ZZVA, about which the General Contractor informed the Customer by letter No. 31 dated 24 January 2017. The reason was a change in the owners of the supplier plant and its failure to fulfil its obligations.

According to the minutes of the production meeting dated 1 February 2017, in order to resolve the situation, the General Contractor (Sich Energo LLC) was instructed to submit proposals to the State Enterprise NEC "Ukrenergo" for approval proposals to replace the equipment supplied by KT ZZVA with equipment from other manufacturers.

At the time of writing this report, an additional agreement No. 2 dated 29 September 2017 to the contract No. 05-3/3370-16 dated 12 August 2016, which extended the deadline for completion of the project to 30 September 2018.

After signing Supplementary Agreement No. 2, the total cost of the contract was reduced from UAH **82,098,705.42** including VAT to UAH **81,946,692.95** including VAT, but at the same time, the total cost of equipment was reduced and the total cost of construction and installation works was increased.

Supplementary Agreement No. 2 included the following major changes in equipment and scope of work:

1. The equipment manufactured by KT ZZVA was replaced with similar equipment.
2. The cost of some of the equipment that was to be supplied by KT ZZVA (12 IMB 123 current transformers) was excluded, as this equipment will be supplied by the customer, which made it possible not to exceed the total cost of the contract.
3. In the control and automation section, Siemens microprocessor devices RZ and A, with which Sich Energo LLC won the tender for the production of ABB, which were provided for in the project, were replaced. This replacement led to an increase in the cost of this equipment by **UAH 2,564,635.20** (including VAT). It is unclear how the Customer verified the cost of the RZ and A equipment included in DU No. 2.
4. A reduction in telemechanisation equipment by UAH **763,493.52** (including VAT) by excluding part of the equipment and related works provided for in the project and the Contract.
5. Increase in the volume of construction work on building ZPU No. 2 for a total cost of UAH **606,427.02** (including VAT).
6. Reduction of total cost commissioning works on total amount **1,133,239.26** UAH (including VAT)

7. Exclusion of part of the road works for a total amount of UAH **965,515.72** (including VAT), which were provided for in the project and the Agreement.
8. Increase in the scope of work on engineering networks for a total cost of UAH **456,746.04** (including VAT).
9. Exclusion of work on temporary buildings and structures for a total amount of UAH **279,008.29** (including VAT).

Comparison of the cost of equipment to replace the equipment supplied by KT "ZZVA"

No	Name of equipment, according to the initial contract	Unit of measurement	Qty Quantity	Price according to the initial contract, UAH without VAT	Total value, UAH without VAT	Name of equipment, according to the additional agreement No. 2 (replacement of KT "ZZVA" equipment)	Price according to agreement No. 2, UAH without VAT	Total cost, according to agreement No. 2, UAH excluding VAT
1	Single-pole disconnector with two sets of earthing blades (complete with factory racks and drives) RDZ.2-330.2"/2000 UHL1	pole	9	308,000	2,772,000.00	Single-phase 330 kV disconnector, type CBD-EE 362-2000, with motor drives for main and grounding blades, external porcelain insulation	338,800.00	3,049,200
2	Transformer 110 kV TOG-123-II-II-U1	pcs	1	107,445.83	1,289,349.96	Transformer IMB 123 type (provided by the Customer)	0	0
3	110 kV 110 kV TOG-123-II-II-U1	pcs	12	107,445.83	1,289,349.96	TAG 123 type current transformer	118,190.41	1,418,284.92
4	Three-pole disconnector (complete with support racks and motor drives) with two sets of RDZ.2-110 earthing knives .II"/2000 UHL1	pcs	7	206,074.00	1,442,518.00	Three-pole 110 kV disconnector with motor drives with two grounding contacts EDC123+E, 3P, 123 kV, 2000A, 31.5 kA/3 sec	226,681.40	1,586,769.80
5	TOG 362-II-II-U1 current transformer	pcs	3	376,043.33	1,128,129.99	330 kV SF6 current transformer, TAG 362 type	413,647.66	1,240,942.98
6	NKG-362 II IU1 voltage transformer	pcs	3	372,000	1,116,000.00	330 kV gas-insulated voltage transformer, type TVG 362	409,200	1,227,600
7	Three-pole disconnector (complete with support racks and motor drives) with one set of RDZ.1a-110 .II"/1000 UHL1	pcs	7	150,377.50	1,052,642.50	110 kV three-pole disconnector with motor drives with one grounding contact EDC123+E, 3P, 123 kV, 1250A, 31.5 kA/3 sec	165,415.25	1,157,906.75

8	Three-pole disconnector (complete with support posts and motor drives) with two sets of RDZ.2-110.II*/1000 UHL1	pcs	5	193,325	966,625.00	110 kV three-pole disconnector with motor drives with two grounding contacts EDC123+2E, 3P, 123 kV, 1250A, 31.5 kA/3 sec	212,657.50	1,063,287.50
9	Voltage transformer NOG-123 II I U1	pcs	8	119,349.58	954,796.64	110 kV gas-insulated voltage transformer, type TVG 123	131,284.54	1,050,276.32
1	Single-pole disconnector with one set of earthing knives (complete with factory racks and drives) RDZ.1-330.2*/2000 UHL1	pole	3	306,000.00	918,000.00	Single-pole 330 kV disconnector type CBD-E 362-2000 with motor drive for main and earthing blades, external insulation porcelain	215,792.50	647,377.50
11	Busbar support SHO-330.II-2UHL1	pcs	15	46,564.17	698,462.55	Support busbar SHO-330.II- 2UHL1	51,220.59	768,308.85
1	Three-pole disconnector (complete with support racks and motor drives) with one set of RDZ.1a-110.II*/2000 UHL1	pcs	4	162,450.00	649,800.00	110 kV three-pole disconnector with motor drives with one grounding contact EDC123+E, 3P, 123 kV, 2000A, 31.5 kA/3 sec	178,695	714,780
13	Three-pole step-type disconnect switch (complete with support racks and motor drives) with one set of RDZ.1b-110.II*/1000 UHL1 earthing blades	p	3	155	466,217.25	Three-pole 110 kV disconnector with motor drives with one grounding contact EDC123+E, 3P, 123 kV, 1250A, 31.5 kA/3 sec	170,946.33	512,838.99
14	Single-pole disconnector (complete with support racks and motor drives) with one set of grounding knives PД3.16-110 .II*/2000 YXJ1	pole	3	120,099.00	360,297.00	Single-pole disconnector 110 kV with motor drives with one grounding contact EDC123+E, 1P, 123 kV, 2000A, 31.5 kA/3 sec	132,108.90	396,326.70

15	SHO-110-U1 tyre supports (complete with factory stand)	pcs	27	12,283.33	331,649.91	Tyre support SHO110 UHL1 complete with stand h=3000 mm, insulator C4-550-II manufactured by ZAPEL S.A.	13,511.66	364,814.82
16	Three-pole step-type knife switch (complete with support racks and motor drives) with one set of RDZ.1b- 110.II*/2000 UHL1 grounding knives.	pcs	1	167,599	167,599.00	Three-pole 110 kV disconnecter with motor drives with one grounding contact EDC123+E, 3P, 123 kV, 2000A, 31.5 kA/3 sec step-type	184,358.90	184,358.90
17	Three-pole disconnecter RDZ.2- 35II*/1000 UHL1 with two sets of grounding blades (complete with factory racks and drives)	pcs	1	37,287.50	37,287.50	Three-pole disconnecter RDZ.2-35/1000 UHL1 with manual drive PR	41,016.25	41,016.25
1	Three-pole disconnecter RDZ.1a-35 II*/1000 UHL1 with one set of grounding knives (complete with factory rack and drives	pcs	1	33,449.50	33,449.50	Three-pole disconnecter RDZ.1-35/1000 UHL1 with manual drive PR	36,794.45	36,794.45
19	SHO-35 busbar supports (complete with factory stand)	pcs	9	3,483.33	31,349.97	Tyre support SHO-35-II-1 UHL1	3,831.66	34,484.94
Total					15,705,524.73			15,495,369.67
VAT 20%					3,141,104.95			3,099,073.93
Total with VAT					18,846,629.68			18,594,443.60

Comparing the cost of equipment manufactured by KT ZZVA, which was provided for in the initial contract, with analogues included in the supplementary agreement, it can be concluded that the cost of analogues exceeds the cost of equipment provided for in the initial contract. The overall reduction in the cost of the replaced equipment was achieved due to the fact that 12 110 kV current transformers, type IMB 123 (item 2 of the table) will be provided by the Customer. Under the terms of the initial contract, this equipment was to be supplied by the contractor.

The types of equipment included in the additional agreement No. 2 meet the requirements of SE "NPC".
Ukrenergo, regarding reliability during operation. CoST consultants were provided with reports from the contractor, Sich Energo LLC, on the use of advances received for equipment and construction and installation work.

These documents show that the advance payment for equipment was used in full
- for its intended purpose. This included advance payments for KT ZZVA equipment.

The cost of KT ZZVA equipment in the initial contract price was UAH 18,008,474.62 including VAT. Accordingly, the advance payment for this equipment (50% of the cost) amounted to **UAH 9,004,237.31 including VAT**. Since the specified equipment was not delivered to the facility, the funds had to be returned by the supplier (KT ZZVA) to the account of the general contractor (Sich Energo LLC) and used for their intended purpose. Information about the return of funds transferred by KT ZZVA and their further use by the contractor was not provided to CoST consultants.

The report on the use of the advance payment for construction and installation works shows that it was also used in full for its intended purpose.

In the future, additional work is likely to be required to replace the equipment supplied by KT ZZVA, which was provided for in the project, with equipment from other manufacturers.

The minutes of the production meeting dated 4 April 2017, which were provided to CoST consultants, also identified the need for additional work on the installation of an autotransformer monitoring system, which was not provided for in the main contract. According to information received from SE NPC Ukrenergo, this work was not included in Additional Agreement No. 2 dated 29.09.2017 to Contract No. 05-3/3370-16 dated 12.08.2016

After the signing of Supplementary Agreement No. 2 of 29 September 2017 to Contract No. 05-3/3370-16 of 12 August 2016, the total cost of construction and installation works increased.

Supplementary Agreement No. 2 introduced the following major changes in terms of equipment and scope of work:

1. Equipment manufactured by KT ZZVA was replaced with similar equipment.
2. The cost of part of the equipment that was to be supplied by KT ZZVA was excluded, as this equipment will be supplied by the Customer, which made it possible not to exceed the total cost of the Contract.
3. In the control and automation section, Siemens microprocessor devices RZ and A were replaced with ABB devices, with which Sich Energo LLC won the tender for production, as envisaged by the project. This replacement led to an increase in the cost of this equipment by UAH 2,564,635.20 (including VAT). It is unclear how the Customer verified the cost of the RZ and A equipment included in DU No. 2.
4. A reduction in telemechanisation equipment by UAH 763,493.52 (including VAT) by excluding part of the equipment and related works provided for in the project and the Contract.
5. An increase in the volume of construction work on building ZPU No. 2 for a total cost of UAH 606,427.02 (including VAT).
6. Reduction total cost commissioning works by total
amount of UAH 1,133,239.26 (including VAT)
7. Exclusion of part of the scope of work on motorways for a total amount of UAH 965,515.72 (including VAT), which was provided for in the project and the Agreement.
8. Increase in the scope of work on the engineering networks section for a total cost of UAH 456,746.04 (including VAT).
9. Exclusion of works on temporary buildings and structures for a total amount of UAH 279,008.29 (including VAT).

At CoST's request, the Customer informed that as of the end of November 2017, there were no certificates of completed construction and installation works for the facility. Given that the advance payments were made by the Customer in April 2017 in the amount specified in the contract, and CoST consultants recorded partial completion of construction and installation works during their visit to the site (see the site visit report), such behaviour on the part of the contractor is incomprehensible.

***Note:** after the report was completed, the Customer provided information that as of 30 January 2018, certificates of completion had been signed for an amount of UAH 3,862,038.52 including VAT.*

10. ASSESSMENT OF THE COST OF THE MAIN INDIVIDUAL PARAMETERS OF THE WORKS PERFORMED

Due to the fact that no certificates of work performed were issued for this object as of 31 May 2017, it is impossible to estimate the cost of individual parameters of the work performed. Taking this into account, a selective assessment of the cost of individual parameters included in the contract was performed.

Information for assessing and comparing the unit cost was obtained from open sources, namely for projects involving similar types of work, carried out at approximately the same time and for which tenders were announced and conducted on **prozorro.gov.ua**, namely:

1. Expansion of the 330 kV Kremenchuk substation with the installation of 4 AT inv. No. new (45231000-5 Construction of pipelines, communication lines and power lines) (hereinafter referred to as the Kremenchuk substation)
Customer – SE "NPC "Ukrenergo"
Contractor – LLC "Sich Energo"
2. Technical re-equipment of the 330 kV Hirnycha substation with replacement of the ATDCT-250000/330/150/38.5 kV (AT-2) autotransformer with a new ATDCTN-250000/330/150/38.5 kV type (with RZA) (Dnipropetrovsk region, Shirokovsky district, village of Myrolyubivka) (inv. No. 41261) (45317000-2 Other electrical installation works) (hereinafter referred to as PS Hirnycha)
Customer – Dnipro Electric Power System, a subsidiary of NPC Ukrenergo Contractor – KEBK LLC
3. Technical re-equipment of the 330 kV Pershotravneva substation with replacement of the ATDCTN-250000/330/150/38.5 kV (AT-1) autotransformer with a new one (with RZA) (Dniprovsk region, Kryvyi Rih, 2-B Arsentieva Street) (hereinafter referred to as Pershotravneva substation)
Customer – Dniprovsk Electric Power System, a subsidiary of NPC Ukrenergo Contractor – Energorishchennya Scientific and Production Company
4. Technical re-equipment of the 330 kV Poltava substation by replacing the AT-1 autotransformer of the ATDCTN-125000/300/110 type with a modern one, Pidstanichna Street, Shcherbani village, Poltava district, Poltava region). First stage. (Hereinafter referred to as Poltava substation)
Customer – Northern Electric Power System, a subsidiary of NPC Ukrenergo Contractor – NMU EPM LLC

The assessment was carried out in three areas, namely:

- cost of work, excluding the cost of basic materials;
- cost of basic materials;
- cost of equipment.

When evaluating, it should be taken into account that each of the objects is individual, despite the identity of the work, namely:

- different locations and, as a result, different costs of materials in different regions and different costs of delivery to the site;
- different technical indicators, characteristics and configuration of identical for purpose of the equipment;
- different sizes of advance payments and different terms of final settlement, which affect the selling price of materials and equipment;
- discounts available from each of the contractors
- and so on.

All the information processed was summarised in Table 8.1

Table 8.1

No.	Name	Unit	SE NEC Ukrenergo				
			PS Chernivtsi	PS Kremenchuk	PS Girnycha	PS Pershotravneva	PS Poltava
			Sich Energo	Sich Energo	LLC "KEBK"	NVP LLC Energorishchennya	NMU LLC EPM
			05.2016 07.	08. 09	10 11.2016	10.2016 11.	42,736.00
			Cost, UAH (including VAT)				
COST OF WORK WITHOUT BASIC MATERIALS (selectively)							
1	Installation of a 330 kV, 200 MVA (250 MVA) transformer (full set of works including high-voltage inputs, cooling system, oil treatment and insulation drying if necessary)	1	536,777.12	302,982.54	409,637.39	417,929.28	477,371.09
2	Cable up to 35 kV, laid in finished trenches without covers, weight of 1 m up to 1 kg	1000	10,166.38	8,591.60	17,185.88	19,341.22	-
3	Cable up to 35 kV, laid on fixed structures and trays with fastenings at turns and at the end of the route, weight of 1 m up to 1 kg	1000 m	9,303.53	7,859.14	14,922.54	-	22,656.36
4	Cable up to 35 kV in laid pipes, blocks and boxes, weight 1 m up to 1 kg	1000 m	9,245.45	7,811.18	15,724.40	15,744.16	15,461.64
5	Installation of steel structures weighing up to 0.2 tonnes	1	3,748.87	2,925.55	5,408.11	4,052.87	1,865.72
6	Laying blocks and slabs strip foundations, weight up to 0.5 t	100 t	4,494.50	9,707.76	15,399.90	12,271.31	-
7	Laying blocks and slabs strip foundations, weight up to 1.5 tonnes	100 t	5,728.10	-	21,570.05	17,176.98	-
8	Installation of panels	m	2,330.59	1,895.11	2,944.58	3,579.97	6,715.37
COST OF BASIC MATERIALS (selectively)							
1	FBS blocks 24.3.6	pcs	462.88	0	707.92	607.94	0
2	KVVGE 7x2.5 cable	1000 m	32,392.40	32,028.18	46,689.35	38,341.36	43,578.97
3	KVVGE cable 10x2.5	1000	55,062.76	44,950.25	65,297.60		
4	UBK-2A channel trays	pcs	820.42	283.50		563.65	1,026.84
5	Galvanised metal structures	ton	40,631.68		37,772.42		50,159.47
6	NSP-3 plate	pcs	20,977.86			14,570.26	0
7	UBC-5 (UBC-5A) plate	pcs	281.86	89.10	149.53	275.56	359.00
8	Steel wires AS-500/26 (400/51)	ton	61,002.13	65,124	86,740.49	69,657.96	96,518.10
9	Bar steel 40x6 (40x4, 40x5)	ton	21,762.66	12,927.60	18,345.67	21,762.66	21,062.18
10	USO-4A rack	pcs	2,369.51				1,821.56
11	Concrete mixes B15	m3	1,268.90	778.52	1,653.32	1,287.35	1,456.57
COST OF BASIC EQUIPMENT							

1	Hardware clamp 2A4A-300-4	pcs	1	831.60		0	527.18
2	PS-70E insulator	pcs	144	192.24	187.20	224.64	158.83
3	Single-pole disconnecter 330 kV SDF 420 rated current 2000 A	pcs	369,600	632,474.50			446,462.80
4	330 kV surge arrester		116,820.00	175,623			
5	SHOP-35 busbar support	pcs	4,180.00		2,532.00	3,038.40	2,424.88
6	Support tyres SHO-330.II-IUKHL1	pcs	55,877.00				56,717.08
7	AT protection panel with microprocessor device	pcs	503,774.40	854,130.34	715,956.60	859,147.92	835,859.42
8	External installation box YAV	pcs	9,900.00		17,482.75	20,979.30	34,950.20

From Table 8.1 comparing the cost of individual parameters, we can draw fairly confident conclusions that:

- the cost of work without basic materials is the lowest or very close to the cost for the objects being compared.
- the cost of basic materials is the lowest or close to the cost for the objects being compared.
- the cost of equipment is the lowest or close to the cost for the objects being compared.

From all of the above in this section, it follows that at the time of the tender and the signing of the contract, the unit cost of works, materials and equipment included in the contract with Sich Energo LLC was not overstated, and in some items was even too low. The relatively low cost of the work is due to the high level of competition for this project, with eight companies participating in the tender.

11. REPORT ON THE RESULTS OF THE VISIT TO THE CONSTRUCTION SITE (ASSESSMENT OF THE RELIABILITY OF DATA AND THE QUALITY OF THE WORK PERFORMED)

INTRODUCTION

's visit was carried out as part of the preparation of a verification report for the project: "Installation of a third 330/110/35 kV autotransformer at the 330 kV Chernivtsi substation. Construction works with equipment supply" (inv. No. new) (45251000-1 construction of power stations and thermal stations".

The purpose of the visit was to familiarise ourselves with the situation at the construction site, to compare it with the data and information about the project disclosed within the framework of CoST, as well as to obtain additional data and information that was not provided or could not be obtained without visiting the site.

The visit to the site was agreed with the customer, SE NPC Ukrenergo.

The visit to the site was accompanied by: Vasyl Terletskyi, Deputy Head of the Electrical Substations Department of the South-Western Electric Power System of SE NOC Ukrenergo; Vasyl Vasylchuk, Head of the Chernivtsi Substation; Volodymyr Chernyshov, technical supervisor from the customer; Deputy Chief Engineer of the contracting organisation Sich Energo LLC Anatoliy Fedorenko.

The verifiers met personally with representatives of the Customer, Contractor and Subcontractors. The verifiers provided explanations regarding the purpose of CoST.

ABOUT THE PROJECT

The substation is located in the east of the district town of Kitsman in the Chernivtsi region and covers an area of about 6 hectares. The facility has two 330/110/35 kV autotransformers (AT) with a capacity of 200 MVA each. The substation was built back in 1970–1975, which means that the equipment has been in operation for over 40 years and therefore needs to be replaced (according to the head of the substation, Vasyl Vasylichuk, only about 5% of the equipment was replaced in 2010).

The aim of the project is to increase the capacity of the substation. This is because the load on the two existing autotransformers has been above the norm for a long period of time, exceeding 80%: in 2010, for example, it was 91.2% and 102.3% (AT-1 and AT-2, respectively). The installation of a third autotransformer at the Chernivtsi substation is being carried out as part of the investment programme of the State Enterprise "NPC "Ukrenergo" for 2016 and 2017, within the framework of the "Prospective Development Schemes of the South-Western Energy System for the period up to 2015 with a perspective up to 2020 and the Agreement on Cooperation between the Ministry of Energy and Coal Industry of Ukraine, the Chernivtsi Regional State Administration and the Chernivtsi Regional Council on the development of the fuel and energy complex and social infrastructure of settlements in the Chernivtsi region dated 22 March 2011.

Project parties:

- Customer: State Enterprise "National Energy Company "Ukrenergo";
- Project developer: DPVNDI "UKRENERGO MEREPROEKT" (2011);
- Contractor for the adjustment of the project estimate (2016): PJSC "PROJECT TECHNOLOGICAL INSTITUTE "KYIVORGBUD";
- Author supervision: Sich Energo LLC. Contract value: 88,289.28 UAH, including VAT
- Contractor: Sich Energo LLC. Contract value: UAH 82,098,705.42 including VAT
- Autotransformer supplier: Zaporizhtransformator PJSC (direct contract with the customer). The cost of the autotransformer according to the contract is UAH 47,238,024.00 including VAT.
- Start of work on the site – 18 November 2016.
- Period of work according to additional agreement No. 1 to the contract: 9 months (according to the Construction Organisation Project, the project implementation period is 10 months)

COURSE OF THE VISIT

During the visit to the site, CoST verifiers:

1. An inspection of all completed works, works in progress and a tour of areas where work has not yet begun.
2. The delivered equipment was inspected.
3. An inspection of the materials for further front and the possibility of performing work in accordance with the schedule.
4. The status of completed work and delivered equipment was compared with the current schedules.
5. The availability of and familiarisation with the existing documentation was checked in accordance with DBN A.3.1-5:2016 "Organisation of construction production".
6. The implementation of measures to ensure occupational safety and quality in construction was checked.
7. Discussions with representatives of the Contractor and the Customer on issues present at the site.

RESULTS

After conducting the above surveys, checks and discussions, the following can be noted:

1. The schedule for the performance of work and delivery of equipment, which is an appendix to the signed additional agreement No. 1 dated 30 June 2017, does not include a number of works provided for in the Contract and project documentation, namely:

- Installation of biological protection on the 330 kV substation (performance of work)
- Relay protection and automation (equipment supply)
- Telemechanisation (performance of work and supply of equipment)
- Electricity metering and measurement (work performance and equipment supply)
- Communication equipment (work performance and equipment supply)
- Motorways (performance of work)
- Landscaping (performance of work)
- Outdoor lighting (performance of work)

Documents explaining the reasons for the absence of these works in the supplementary agreement at the time of departure were not provided.

2. As of 07.07.2017, there was a delay in the current schedules for the performance of work and delivery of equipment, which are annexes to supplementary agreement No. 1, in the following areas:

- Installation of KL-35kV (work not started) - according to the schedule - start 01.07.2017);
- Construction of a new building ZPK No. 2 (only the frame of the building has been erected, work is underway on the roof) - according to the schedule, work should have been completed on 30 June 2017);
- Installation of cable trays (work not yet started) according to schedule – start of work in mid-June 2017;
- Construction of a 35 kV cell (work not yet started) according to schedule – start of work on 1 July 2017;

As of the date of the visit on 7 July 2017, these delays are not significant. However, given that as of 7 July 2017, a joint issue between the customer and the contractor regarding the replacement of the design equipment supplied by KT ZZVA, which has a delivery time of 4-6 months, and also due to the fact that some of the equipment is in the process of being delivered, it can be stated that the signed schedules will not be fulfilled, and there is a need to re-adjust the work schedules to extend the deadlines, subject to a subsequent Additional Agreement.

As of 08.07.2017, the manufacturers and types of equipment proposed by the Contractor for replacement are being approved by the Customer. After final approval, it will be necessary to:

- Conclude an additional agreement on the inclusion of the replaced equipment and corresponding changes in the scope of work in the Contract.
- Make adjustments to the working design to reflect the changes resulting from the replacement of equipment.
- Order and purchase the replacement equipment in parallel with the project adjustments.
- Perform work in accordance with the modified design.

3. According to the "general work log" available at the facility, work has been ongoing since 18 November 2016 and part of the construction work has already been completed, but as of 7 July 2017, the Contractor has not drawn up or signed any certificate of completion (KB-2v) with the Customer. Such behaviour on the part of the Contractor is incomprehensible, since the formalisation of certificates means payment by the Customer for the work performed and the possibility of writing off material resources in the accounting department in accordance with the signed certificates of work performed.
4. There are no comments regarding the quality of the material resources and equipment supplied, or the conditions of their storage at the facility
- There are no comments
5. There are no comments on the quality of the work performed and the organisation of the work process.
6. An inspection of the availability and review of the existing documentation in accordance with DBN A.3.1-5:2016 "Organisation of Construction Production" showed that there are no complaints about the contractor, namely:
- The existing project has a stamp "for work to be performed";
 - The general work log and special logs for specific types of work are kept up to date and properly completed;
 - The author's supervision log contains entries regarding deviations from the project documentation and recommendations for eliminating the identified comments.
 - Acts for the closure of concealed works are drawn up and signed in a timely manner.
 - The necessary quality certificates for material resources, etc. are available.
7. A superficial check of the implementation of occupational safety measures showed that there are no complaints about the contractor, namely:
- The necessary certificates of occupational health and safety knowledge have been obtained.
 - During performance of the work, there was no improvements of technological passages with unused materials and equipment
 - Available means of protection for workers
8. When discussing issues with the contractor, it was noted that he had complaints about the project documentation, as he had to make adjustments to the plant's tasks for the manufacture of relay protection and automation panels because there were errors in the project provided. There are also minor discrepancies with reality that could not be detected during the project development and have to be resolved quickly during construction, which affects the delay in the completion of work.
- In our opinion, minor errors in the project documentation for a project of this scale are acceptable and are present in most projects of a similar scale.
9. When talking with the contractor, it's worth noting that they thought the initial deadlines for the work, which were suggested by the client during the tender and contract signing, were really tight, and unforeseen circumstances with the ZZVA production equipment ultimately made it impossible to meet them.



Photo 1: Construction progress of ZPK No. 2, which is behind schedule



Photo 2: Earthworks for the construction of the foundation for 330 kV portals



Photo 3: Laying the foundation for the 330 kV transformer portal



Photo 4: 330 kV gas-insulated switchgear manufactured by Siemens



Photo 4: 110 kV gas-insulated switchgear manufactured by Siemens



Photo 5: AT3 autotransformer installed at the design site (not yet busbar connected)



Photo 6: Fragment of the replaced external fence of the Chernivtsi substation



Photo 7: Installed 110 kV cellular portal, multifaceted, galvanised



Photo 8: Fragment of the existing 35 kV VPR

QUESTIONNAIRE

CoST Ukraine: Visit to the observation and verification site	Details of the visit:		Date	Persons conducting the visit	Contractor: LLC Sichenero. Contract No. 05-3/3370-16 dated 12 July 2016 330 kV substation Chernivetska substation. Kitsman, 52 H. Skovoroda Street	Letter No.	
			07.07.2017	Y.V. Morgay V.V. Khmeliuk			
NOTES for use of this form	1. This form is intended for recording factual observations made during a visit to the facility. Please use the back of this form for additional notes.						
	2. The purpose of the visit is not to make technical conclusions, but rather to identify, understand and record any obvious discrepancies between what is observed and what is officially documented protocols, dimensions used, specifications, rules or related work processes.						
	3. Show respect and cooperate with the Contractor, who is responsible for the safety of the construction site and is not obligated to take instructions from anyone other than the Supervising Engineer.						
Topic	Criteria	YES	NO	No/not provided	n / a	Verifier's comment CoST	Contractor's response (if any)

				Information			
Physical construction processes	Location of works Easy to identify?	+					
	Is physical progress easy to determine?	+					
	Are the main parameters in line with the contract?	+				Delays in the implementation schedule of work	Delay due to problems with the delivery of equipment by KO "ZZVA"
	OTHER COMMENTS/GENERAL IMPRESSIONS	Delays in the work schedule					
General construction processes	Is the work still ongoing?	+					
	The contractor is carrying out work on construction site?	+					
	Does the Contractor have a project for the performance of work and has it been agreed with the Customer?	+					
	Is a technical supervision engineer present at the construction site?	+					
	Does the work appear to be planned and managed?	+					
	Is the technological process of the planned work?	+					
	Is document flow	+					
	Is there a general work log of works?	+					
	Is there a welding log available?	+					
	OTHER COMMENTS/GENERAL IMPRESSIONS						
Quality management	Is the named contractor undoubtedly reliable?	+					
	Is there general accuracy?	+					
	Is there an incoming inspection log?	+					
	Are the materials well stored and protected?	+					
	Is the contractor satisfied with the construction materials?	+					

	Is incoming quality control performed and according to which indicators?	+					Is a visual inspection carried out to check for damage, the quantity and main technical characteristics of materials supplied to construction site.
	Have concrete tests? Is operational quality control? According to what indicators?	+					Are laboratory tests of concrete control samples of concrete
	Is acceptance quality control of the work performed? According to what indicators?						Quality control of the work is performed by a representative of the customer's technical supervision, who is present at the site. The results of the control are recorded in the general log of completed work and in reports on hidden work.
	Are there any instructions from the customer to suspending work, indicating the reasons?		+				
	OTHER COMMENTS/GENERAL IMPRESSION						
Environmental protection environment and Occupational safety	Is the Environmental Protection Action Plan being implemented is being implemented?				+		
	First aid kit and instructions for providing first aid in case of accidents available?	+					
	Have any accidents been recorded at during the period of work?		+				
	Is there an occupational safety logbook available?	+					
	Is waste management available?	+					
	OTHER COMMENTS/OVERALL IMPRESSION	In our opinion, the customer and contractor have delayed the resolution of the issue					

		replacing equipment, which will lead to a significant delay in the completion of work and a possible increase in the cost of work due to the constant rise in the price of material resources. The first letter from Sich-Energo LLC Sich-Energo LLC to the Customer regarding problems with the supply of equipment manufactured by ZZVA is dated 24 January 2017.	
OTHER	Another problem (1)		
	Another problem (2)		

CONCLUSIONS BASED ON THE RESULTS OF THE VISIT

As of 7 July 2017, there was a slight delay in the current schedules for construction and installation works and equipment delivery.

Due to the fact that as of 07.07.2017, most of the main equipment (330kV, 110kV, 35kV disconnectors, 330kV, 110kV current transformers, 330kV, 110 kV, 330 kV and 110 kV busbars) is at the stage of approval of the replacement of the manufacturer and approval of technical characteristics, due to problems with the supply of the KT ZZVA plant, there are risks of an increase in the time required to complete the work and the total cost of the project.

***Note:** as of February 2018, the Customer has notified the Contractor of its intention to terminate the contract and announce a tender for the remaining work.*

12. REFLECTION OF ISSUES OF CONCERN OR INTEREST

Having familiarised ourselves with the state of affairs at the construction site, we would like to highlight what we believe to be the key problems that arose during the implementation of the project.

Design stage:

The project was developed in 2011 and was not implemented for a long time (about 3 years). According to the Customer, this delay was due to lengthy project approvals by other agencies. This circumstance led to the need to spend additional funds to adjust the estimate in the amount of UAH **227,966.40** and to undergo a re-examination of the project in the amount of UAH **89,650.00** including VAT.

In addition, the significant delay in the implementation of the project led to an increase in the total estimated cost from UAH **134,176,729.00** including VAT (2011) to UAH **335,866,781.00 including VAT** (after adjustment in 2015). In other words, the estimated cost of the construction project increased by UAH **201,690,052.00** including VAT.

However, it can be stated that the adjusted cost estimate of the project developed by PJSC "PTI "KYIVORGBUD" and re-approved in 2015 turned out to be overestimated, despite the positive conclusion of the state expert review. We came to this conclusion by comparing the approved cost estimate after adjustment in 2015 and the cost

contracts signed as a result of tender procedures. Currently, the cost of the project consists of:

- The cost of design and expert review (taking into account the 2015 adjustment), for a total amount of UAH 2,166,470.58 including VAT.
- Construction and installation works with the supply of basic equipment, for a total amount of UAH 82,098,705.42 including VAT.
- Supply of an AT-3 autotransformer, in the amount of UAH 47,238,024.00 including VAT.
- Author's supervision of construction, in the amount of UAH 88,289.28 including VAT.

That is, the total cost of the facility under the signed contracts as of today is **131,591,489.28 UAH** including VAT.

Note: The specified cost does not include the costs of maintaining the Customer's service (Chapter 10 of the Design and Construction Documentation). According to the consolidated cost estimate approved in 2015, the cost of such expenses amounted to UAH 37,234.48 including VAT.

Insufficient control by the Customer at the design stage leads to the approval of an incorrect estimated cost of the construction project. This situation, in turn, may result in either a shortage of funds for the implementation of the construction project and additional costs for redesign, or an overestimation of the actual construction costs.

Tender procedures and construction project implementation stage:

In open tenders for design work, it is worth noting the rather low level of competition, since in both 2011 and 2015 only two organisations participated in them.

A large number of participants took part in competitive tenders for construction and installation works with the supply of basic equipment (except for JSC), which led to fierce competition and, as a result, to the minimisation of the proposed cost by the participants.

During the tender procedure, 50% of the participants' tender proposals were rejected. It should be noted that some of the reasons on the basis of which the bidders' proposals were rejected had no or insignificant impact on the final cost and compliance of the proposals with the technical and economic requirements for the subject of the procurement. For example, one of the reasons for rejecting the proposal of KP "Installation Management No. 6 Elektropivdenzakhidmontazh was that the certificate confirming the availability of employees with the relevant qualifications, knowledge and experience was not drawn up in the form required by the tender documentation.

At the same time, there were no complaints from bidders regarding the rejection of their bids.

During the implementation of the project, a problem arose with the supply of equipment from KT ZZVA, which led to the need to replace such equipment. The equipment proposed by the general contractor as a replacement is generally more expensive than the equipment specified in the contract. A written response has been received from SE "NPC "Ukrenergo" stating that the contract price will not be increased. The option of using the equipment in stock at SE "NPC "Ukrenergo" is also being considered.

As of 04.10.2017, an additional agreement No. 2, which amended the specifications for the contractor's equipment supply in terms of replacing the KT ZZVA equipment. In order to prevent an increase in the total cost of the contract, SE Ukrenergo will provide the contractor with 12 IMB123 current transformers. Significant changes were also made regarding the scope of work, types and list of equipment provided for in the initial contract.

It should be noted that in the current situation, the prices for the replaced equipment were proposed by the contractor and included in the additional agreement in the absence of competition.

This circumstance, in turn, in the absence of strict control and verification by the Customer, allowed the contractor to overstate the cost of such equipment.

It should be noted that the procedure for approving the changed equipment by the Customer took quite a long time (the problem with the equipment became known in December 2016), which in turn significantly delayed the completion of the construction of the facility and necessitated adjustments to the work schedules in the direction of extending the deadlines, leading to an increase in the overall cost of the project.

Since advance payments were provided to the General Contractor on time and in the amount specified in the contract, it is unclear why the contractor is behind schedule on work that does not depend on the availability of KT ZZVA equipment and on the delivery of equipment specified in the contract (except for equipment to replace KT ZZVA). Given the high inflation rate in the country, the contractor is exposing itself to risks by falling behind schedule in ordering and delivering equipment and materials and performing work.

13. CONCLUSIONS

CoST notes the high level of openness of the Deputy Contractor; the verification team received answers to all questions, and no request for information from CoST was left unconsidered or without the provision of all necessary information.

As of early July 2017, the execution of works and delivery of equipment were behind the latest agreed schedule. In view of this, additional agreement No. 2 of 29 September 2017 to contract No. 05-3/3370-16 of 12 August 2016 extended the deadline for completion of the project to 30 September 2018.

A significant amount of work and equipment was also excluded from the contract, which meant that the total contract price did not increase. However, the cost of individual items of equipment and types of work increased.

After analysing the changes made to the contract, it can be concluded that the project will not be implemented in full, as envisaged in the initial contract.

There are no significant comments on the quality of work and organisation of work by the contractor directly at the facility.

It should be noted that at the time of writing this report, the site was under construction, so in the future, adjustments to the scope of work and its cost, the emergence of additional work and an increase in the total cost of the contract are possible, which at this stage can only be assumed.

Since the Client has informed the CoST National Secretariat that it has sent the Contractor a notice of its intention to terminate the contract and is initiating a new tender for the remaining work, monitoring of the project will continue until its completion.

14. RECOMMENDATIONS

Recommend that the customer take organisational measures to respond more quickly to non-standard situations that arise during construction, as delays in resolving issues lead to both missed deadlines and increased costs for construction projects.

It is necessary to work together to eliminate the problems of insufficient and ineffective communication between the contractor and the customer.

Recommend that the customer amend the terms of the tender in relation to the grounds for rejecting tender proposals in order to prevent a situation in which the most economically advantageous proposal, which meets the technical and economic requirements for the procurement, is rejected on formal grounds.

Recommend that the contractor take all possible measures to comply with the work schedules in terms of the timely procurement of materials, equipment and organisation of work, as well as to cooperate more actively with the customer in order to speed up the resolution of issues that arise during the construction process and affect the project implementation timeframe and cost.

Recommend that the customer be more careful in determining the estimated cost of construction at the design stage.

Recommend that the customer determine the contract price as dynamic, since when working on existing facilities of the Ukrainian power system, the deadlines for the work often do not depend on the contractor, and additional work that was not provided for in the project documentation always arises. With the extension of the deadlines for the performance of work and changes in the scope of work, for objective reasons, the cost of work increases through no fault of the contractor, while the customer can no longer increase the total price of the contract and is forced to look for other ways, such as excluding part of the work that still needs to be performed or supplying part of the equipment for which funds are still being spent.

Construction Sector Transparency Initiative

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CoST Ukraine would like to thank all participants of the Initiative's Advisory and Monitoring Group:

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