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«Metrological Support of Innovative Technologies» ICMSIT-2020

«Analysis of the possibility of modernization of the state district power station
by building the combined cycle plant»

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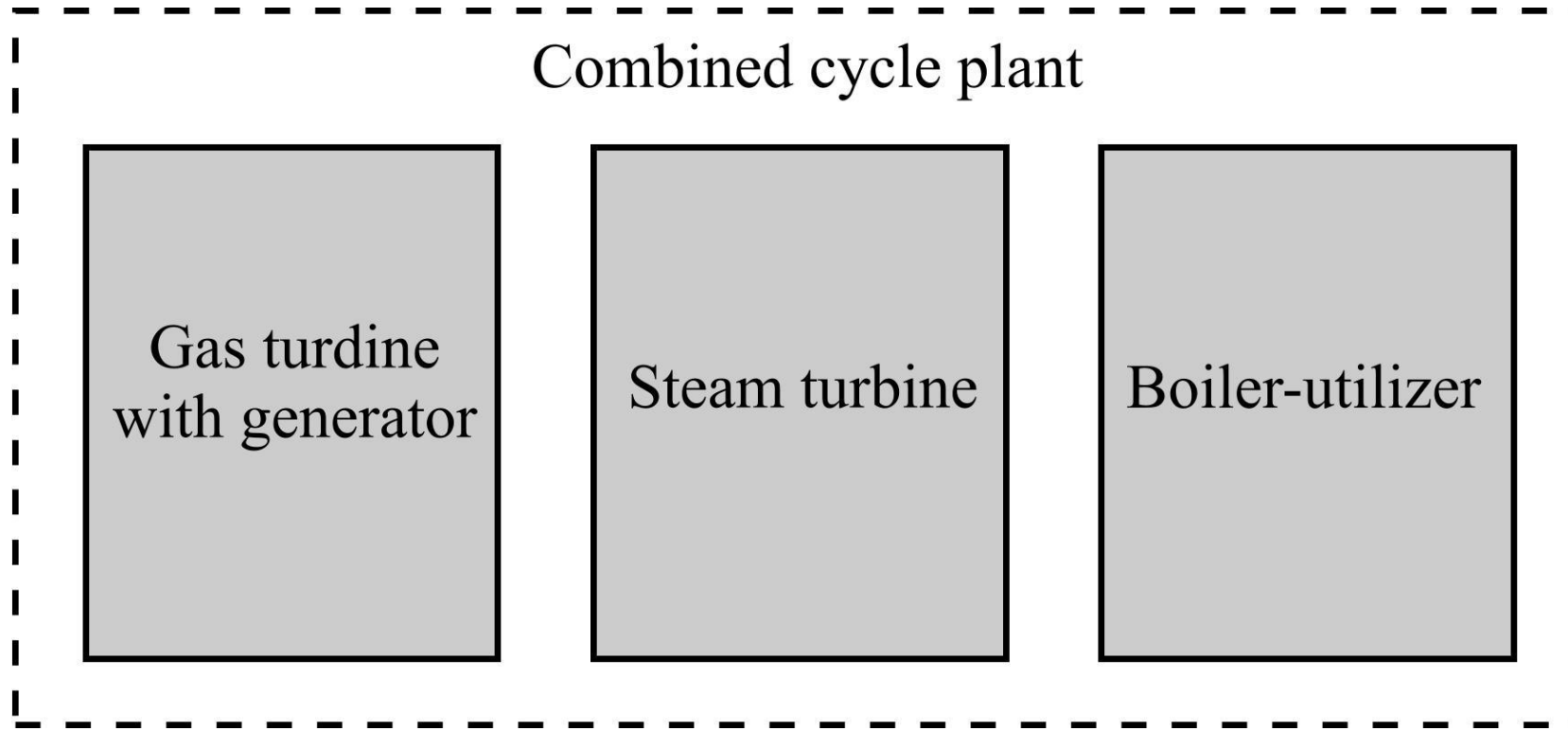
Problem statement

- A priority task for the development of the energy industry is the replacement of the spent estimated lifetime of the generating equipment by new capacities taking into account progressive technologies.
- Combined cycle technology provides excellent efficiency for any competing gas turbine systems that are likely to be available for large-scale electricity and heat production.

Solution methods

Nowadays, the best solutions in the energy industry is the technology of combined cycle gas turbines.

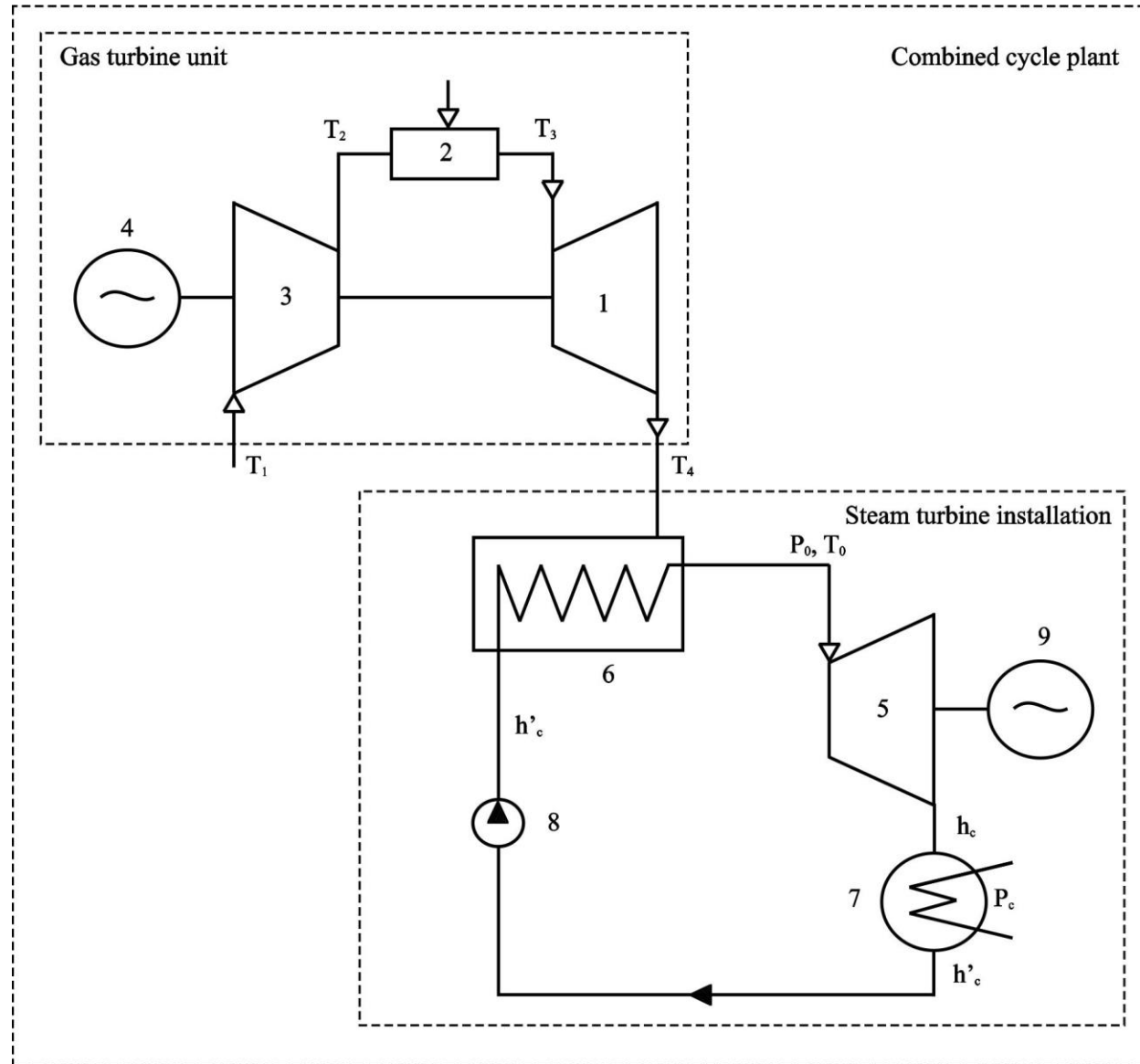
The SDPS can be modernized by construction of combined cycle plant with a capacity of 110 MW with the output of electric energy to an open switchgear of 110 kV and the thermal energy for heating needs.



CCP configuration.

Preliminary cost of the CCP-110 construction project at the SDPS

№	Type of work, equipment, costs	Price, mln. rub. (excl. VAT)
1	Equipment, including: gas turbines; boiler-utilizer; steam turbines; electrical equipment; auxiliary equipment.	3000
2	Construction and installation works	900
3	Pre-commissioning activities	100
4	Design and survey works	200
5	Unexpected expenses	300
6	Dismantling of existing power unit	500
	Total	5000



Thermal scheme of CCP.

Conclusions

Results, implementation

- The main criterion of the implementation of the variant of construction of a combined cycle plant CCU-110 is replacement of the spent estimated service life of the generating equipment by new capacities.
- The combined cycle plants are a promising direction for the energy industry thanking of their high efficiency and have an acceptable payback period as a part of programs of capacity supply contracts designed to co-finance of investments in the construction of new generating capacities.

Contacts

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