

THE POWER EFFICIENCY RISE OF HEAT TECHNOLOGICAL SCHEME OF THE ETHYLENE PRODUCTION

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The ethylene production is the large consumer of the fuel and energy resources that is conditioned by the considerable fuel and energy consumptions at the multi – staged hydrocarbon raw materials processing. The system organization of the complex utilization of the repeated energy resources (RER) is the perspective direction of the fuel and energy cost cutting in the considered production.

The heat technological scheme of the ethylene production is included in itself several thousands elements of the polytypic equipment. To estimate the work efficiency of such complex system and to reveal the organization version of the RER utilization system are suggested on the basis of the system analysis, having included the structure analysis of the internal and external connections of the considered object, and also the thermal and thermodynamic efficiency analysis. Its calculated model has been obtained, as a result of the system analysis carrying out, in particular, in the issue of the dependences exposure between the scheme's elements, the separation of the elements' open – ended and closed sequences of the considered scheme. The thermodynamic efficiency analysis of the heat technological scheme has been conducted, that permitted to estimate the rate of the system thermodynamic perfection, to expose the losses from the irreversibility, to make the estimate of the elements efficiency in the system composition, to determine the technically well – behaved energy value, to estimate the energy conservation reserves.

The circuit solutions on the organization of the RER utilization system have been suggested, having provided the technological production and the energy resources working out in a view of the steam, hot water and cold of the required parameters on the basis of the steam – jet compressors and the absorptive refrigerating machines use.

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PROBLEMS OF THIRD-GENERATION STATE EDUCATIONAL STANDARDS IN HIGHER PROFESSIONAL EDUCATION FOR QUALIFICATION “EQUIPMENT AND INSTRUMENTS IN CHEMICAL INDUSTRIES”

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Third-generation state educational standards in higher professional education (SES HPE) are aimed at forming a regulatory system for a better quality of the Russian education in the nearest future. A Ministry, responsible for developing this regulatory system of state educational standards, think, that the main distinctions of the SES HPE will be the following:

- strong competent character of the standards;
- development of standards for different professions. The corresponding degree is received after completing a bachelor, specialist or master educational program, which are united by a common fundamental basis;
- well-grounded requirements to learning results in the main educational programs (educational results) in form of competencies, divided into general (broad-based) and professional (subject disciplines);
- absence of component structure (federal, regional, institutional), and at the same time significant enlargement of academic freedom for higher educational institutions in questions of basic educational program development;
- establish new ways of labor intensity calculation in form of credit points instead of hours.

So, the third-generation SES HPE, according to the Ministry, will become a federal quality standard system for higher education. The norms should minimize their contradictory interpretation in the Russian regions and universities. Besides, these standards should simplify integration of the Russian educational system into the European one, and help the university graduates find employment in every country, that signed the Bologna Declaration.

So far, the Russian Ministry of Education and Science has not yet developed a clear strategy regarding deadlines and stages of transition to the new SES HPE; number of professions; differences between specialized secondary qualifications and university degrees; number of graduates with a specialized secondary qualification and university graduates in the labor market. But, without having solved all these questions, the Ministry has issued a decree that, starting from 2009, introduces a two-level degree structure - bachelor and master.

Such a tearing hurry in a serious matter of transition to new educational standards is absolutely incomprehensible. According to the «List of professions» on the official website of the Russian Ministry of Education and Science, there is practically no