СОЦІАЛЬНО-ГУМАНІТАРНІ АСПЕКТИ РОЗВИТКУ СУЧАСНОГО СУСПІЛЬСТВА

МАТЕРІАЛИ ВСЕУКРАЇНСЬКОЇ НАУКОВОЇ КОНФЕРЕНЦІЇ ВИКЛАДАЧІВ, АСПІРАНТІВ, СПІВРОБІТНИКІВ ТА СТУДЕНТІВ

(Суми, 21-22 квітня 2016 року)
Almost half of all energy produced in the country feeds the rotary machines - pumps and compressors. Their usage in all industries is a wide range, depending on their function. Moreover, the current challenges require the energy efficiency of such units’ designs, increasing the requirements for vibration performance, reliability and impermeability.

Nowadays the types of manufacturing systems, based on knowledge-based technologies, output the information to the level of the most important resource. They make it a growing factor of production efficiency. Information resource status has become an integral part of the production process alone with material factors of production.

The certified quality system and standardized security control system significantly improve the vital activity of the company, its competitiveness and investment attractiveness, and significantly expand the sales markets.

Periodical tests to check the stability of quality characteristics to match the technical documentation are made during the production process. Information about the unit functioning is largely used to upgrade the life cycle of a multistage pump. Testing its quality characteristics according to their technical requirements is a continuous process. Its stage of operation is a significant part of the product life cycle.

The change of methods and modes of mechanical processing affects the individual characteristics of surface quality, and hence on the performance properties of its parts. There is technological inheritance of surface quality and defined operational properties of some parts of technologic procedures and their manufacturing.

A mode change, and especially the type of tooling influences the properties and pump parts characteristics, and therefore their operating properties.

In this case there is a technological form of inheritance and accuracy, which determines the details of individual process operations and their manufacturing. (as an example, the center hole of pump impeller).

Technological heredity (TH) – is a transfer of errors, mechanical, physical and chemical billets properties, both useful and harmful during their transformation to the final product.
Technological heredity always exists, but the total value of its manifestations is of a great interest. TH is the basis for aggregate indicators of reliability products, so it is necessary to consider its relationship.

For impellers it is primarily the inheritance of properties of the material during the processing: blanks quality (casting) leads to repairing that changes the structure and introduces tension. Heat treatment operations with uneven heating and cooling can redistribute and add tension.

Conclusions:

1. A system that is a subject to the research of establishing final qualities through their dependence during their life cycle should be identified and described.

2. Technological regulations as a stage of introduction the certified quality system and standardized security monitoring system accelerate their implementation.

3. Harmful effects of technological inheritance, which allows to consider technological regulations, can be minimized or completely eliminated by implementing a number of decisions.