

relief depression depend not only on the technogenic fluxes intensity and slope, but also on soil texture, redox conditions, location of site in the system of elementary landscapes.

Even if the theoretical models can be useful for the comparison of different alternatives and trends, the complete definition and the success of a remedial solution for a contaminated area is a very complex combination of aspects including chemical, biochemical, subsoil and aquifer physical parameters. Therefore only experience, monitoring and possible modifications during the activity, can provide the effectiveness of the final result.

Computer simulation may be used for developing the practical issues in risk assessment procedures for the pollution by wastewater sluges or radio-active materials. The role of such kind pollution mapping in order to promote environmental safety associated with chemical spills, under-ground storage tanks exploitation and landfills is also important.

SOME ASPECTS OF HERMETIZATION

Student: E. Boldyriev

English lg. adviser: N. Sazonova

Problems of hermetic sealing have arisen in an extreme antiquity, when the primitive person has started to close up cracks in a cave. In process of development of a civilization these problems became more and more actual and complex. Boats, vessels, dwellings, aqueducts had to condense necessary.

The new stage in development of condensation has begun with the invention of a wheel: plugs of wheels demanded some greasing which would be late in a backlash. There is a prototype of an omentum it is greased hemp.

With development of technics of a problem of hermetic sealing continuously becomes complicated. One of the most important and challenges of modern mechanical engineering is the problem of hermetic sealing of rotors of centrifugal pumps and compressors in which the pumped over liquid or gaseous environment is under greater pressure, thus

it is necessary to prevent its flowing out through inevitable backlashes between a rotating shaft and the motionless case.

Condensation of rotors should satisfy to two main conditions: to possess tightness at high pressure differences and to provide working capacity of mobile connection of a rotor with stator at greater relative speeds. Search of the compromise between these opposite requirements has led to formation of two basic groups of condensation: contact and contactless.

Quality of condensation renders essential influence on cleanliness of an environment, and in many cases on safety of people's lives.

According to the American researchers only in the USA cost of liquids lost through condensation makes nearby 300 million dollars a year.

Considering quantity of the pumps working in all industries, it is easy to present value of condensation not only for preservation of an environment, but also for increase of economic efficiency of various manufactures, for energy and resources savings. In the West these positions for a long time are also strongly acquired, therefore manufacturers of pumps, compressors and others rotor machines do not save money for purchase of reliable condensation, understanding, that such expenses are quickly payed off.

In Ukraine the unique appreciable action promoting development of hydromechanics (a science about problems of hermetic sealing), are on a regular basis spent to Sumy on the basis of faculty of General mechanics and dynamics of machines of the Sumy State University scientific and technical conferences on problems of impermeability, vibration reliability and ecological safety of the pump and compressor equipment. The beginning of these conferences took place in 1976. Since then conferences became international. Also on a speciality "Dynamics and durability" the general rate of lectures on hydromechanics is developed. Bases hydromechanics as separate scientific and technical discipline are generated.