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TARASOV V.K.
Candidate of engineering's sciences, associate professor of
Departments of industrial ecology and protection of labor of
Zaporozhya State Engineering Academy
(Zaporozhe, Ukraine)
RUMYANTSEV V.R.
Candidate of engineering's sciences, associate professor of
Departments of industrial ecology and protection of labor of
Zaporozhya State Engineering Academy
(Zaporozhe, Ukraine)
ruvlad64@mail.ru

WAYS OF SOLVING SOCIAL PROBLEMS IN MANUFACTURING

Досліджено вплив виробничого травматизму та професійних захворювань обслуговуючого персоналу на соціальні проблеми металургійної галузі промисловості. Показано необхідність філософського підходу до технічної діяльності для підвищення професійного інтересу й активності обслуговуючого персоналу, а також зниження текучості кадрів.

***Ключові слова**: філософський підхід, соціальна відповідальність, психологія, металургія, охорона праці, травматизм обслуговуючого персоналу, перспективи.*

Formulation of the problem

The question of labour protection in metallurgical sector of industry is studied not enough from position of psychological action of auxiliary personnel, on which substantially the philosophical and social aspects of his activity influence [1-3]. Such aspects are related to the necessity of redundancy the nonproductive cost of working time, which it is caused by traumas and professional disease of auxiliary personnel on metallurgical production. Thus there is possibility of increase of productivity of the labour and decline of cost price for metallurgical product.

Analysis of modern researches and publications

In work [4] there are examined the actual problems of forming of the legal social state, including development of social responsibility, business and civil society, to implementation of «Ukraine law about a labour protection» and international standard of SA 8000:2001 «Social responsibility» during the decision of conflicts, related to the compensation of damages to the person from productive traumatism and professional diseases of auxiliary personnel.

Within the scope of philosophical thinking [5] history of technique and form of its cognition is considered. There are shown main ideas and problems which are characteristic for its. Creation of modern technique must take into account not only experience of the past but also requirements of labour protection, id est. absence or presence of dangerous and unhealthy factors in the possible limits.

In work [6] the analysis of actual problems of development of the domestic system of safety and labour protection is executed. It is suggested to create the mechanism of the economic personal interest of possessor in creation of safe conditions of labour on a production. For this purpose suggest strengthening administrative, property and personal responsibility and responsible specialists for the unsatisfactory level of labour protection, and also increased risk for life and health of auxiliary personnel by the considerable increase of penalty approvals. However such approaches decide, mainly, organizational reasons of productive traumatism and professional diseases of auxiliary personnel and technical and psychophysiologic problems get untied partly.

Formulation of the task

The purpose of the article, in connection with the above-mentioned, is:

- is a study of ways of increase of efficiency of control and management by labour protection in metallurgical sector of industry due to the account of the use of the philosophical approach to activity of personnel: exposure of its presentation of character of labour, plans on the future, and also decision of social questions;
- is an analysis of the real losses of working time through productive traumatism and professional diseases, that conditioned by the especially heavy and unhealthy conditions of labour in the main workshops of metallurgical production;
- is an estimation of influence of positive results of improvement of conditions of labour and decline of level of productive traumatism and professional diseases on the increase of the labour productivity; fluidity of auxiliary personnel and improvement of its professional preparation and decrease of economic cost on unit of products.

Basic part of researches

Productive activity has many-sided and difficult character, which is why the most adequate base for an estimation and analysis is system approach with the use of modern philosophical methods and looks. Most necessities of engineering activity are formed for influence of concrete situation. For such work the valued there are present value guideline of career increase and aspiration of domination above nature, including actualization of person through its creation and aspiring to freedom.

Efficiency of engineering activity will be the greatest, if a performer understands the task not only as action within economy but also as transformation of social-cultural and political relations, maintenance of health and safety of industrial personnel, treason of ecological situation on a plant and in a housing area.

The process of labour metallurgical sector of industry is attributed to the most unhealthy and dangerous productions. Engineering activity is directed, mainly, on providing of normative quality of metal and rolled metal at presence of perfect not enough technology and moral out-moded equipment which has the increased level of wear. At workshops on the production of agglomerate, cast-iron, steel and rolled metal are especially heavy and unhealthy conditions of labour. For example, during the production of agglomerate the gaseous chemical matters of

first class of danger from MPC less than 0.10 mg/m^3 to the working area are secreted: chromic anhydride, manganese oxide, pair of nickel with exceeding of sanitary norms in 1.3-5.4 times; dust of manganese dioxide (more than 10.0 MPC); noise with the level to 100.0 dB, surplus heat generation and infrared radiation.

The analogical state in relation to a quantity and level of unhealthy factors is looked at workshops for melting of cast-iron and steel. So, at the conditions of martin workshops action of row unhealthy matters on industrial personnel has unidirectional and additive character which substantially strengthens negative influence on its health. To them take a sulphureous anhydride, nitrogen dioxide and carbon oxide. A dust on the basis of silicon dioxide has a concentration of 102.2 mg/m^3, which exceeds in 25.6 times a sanitary-possible value. It should be noted also substantial exceeding of noise-level on 16.0 dB and temperatures of microclimate which arrives at 47,5 °C, at a legitimate value on the warm period of year at the heavy category of labour, which is evened 26 °C. Infrared radiation from the surface of liquid steel, slag and melting space of the furnace aggregates in a period loading of charge, selection of samples, producing billed of steel and slag folds about 7000 W/m^2 at a sanitary-possible value which is consisted 140 W/m^2.

Usually at such conditions labour in metallurgical sector the risk of professional diseases rises, the level of control of safe action of auxiliary personnel goes down and grows substantially of origin of productive traumatism.

The improvements of conditions of labour of industrial personnel and increase of safety of technological process promote also the decision of many social problems. The social implication of labour protection in metallurgical sector consists in the increase efficiency of production for the decline of level of traumatism and professional diseases of industrial personnel; here it follows to distinguish three aspects:

a) increase of the labour productivity due to the increase of fund of working time;

- is a decline of quantity of microtraumas by warning of premature fatigue of industrial personnel, providing of possibility of input of possible conditions of labour, which promote the increase of efficiency of the use of working time;

- is reduction of losses of working time for the decline of level of temporal disability of auxiliary personnel by diminishing of productive traumatism and professional diseases;

b) maintenance of labour resources and increase of professional interest, and also activity of auxiliary personnel at:

- is an improvement of the state of its health and increase of active labour experience;

- is an increase of its professional level at possibilities of increase of qualification and mastery;

c) decrease of economic cost on unit of product by the increase of ability of industrial personnel for the improvement of sanitary-hygenic parameters of working environment.

The results of researches showed that exceeding of possible level of

temperature in the environment of stay of auxiliary personnel on 1,0 °C results in the increase of losses of working time on 4,1 day on 100 workers in year because cardiovascular diseases. The presence of surpluses of warmth in a working environment substantially reduces an ability and labour productivity of industrial personnel. So, at the temperatures of air at workplaces, which is evened 26-30 °C, the ability of personnel folds in 20-50 % its level for temperatures 18 °C. It should be noted that for the hot workshops of metallurgical production the level of temperature in a working environment in summer arrives at 40-50 °C. Except for that, for the presence of equipment of large sizes, traveling bridge cranes and mobile mechanisms which carry out the periodic ceiling of area of action of lamps, dust level of the light openings, and also the insufficient state of care for lighting devices the sufficient level of evenness and stability of illumination of working environment is not provided. As a result, the labour productivity of auxiliary personnel additionally goes down on 4-8 % and probability of productive traumatism rises. The increase of noise-level at work of various metallurgical equipment, and also facilities of the voice signaling and aerodynamic emissions, arrives at the value of 100-110 dB, that can result in the loss of temporal disability on three days and more on 100 workers on a year. Except for that, it is set that efficiency of the use of equipment and increase of fund of working time considerably depends from the sanitary-hygenic state of working environment. Presence of the simultaneous action on the industrial personnel of a few unhealthy factors: the increased temperature of working environment, heat radiation, dust, unhealthy chemical matters in a kind aerosols and gases, noise and vibration, - cause to 20-30 % downtimes of equipment for a productive traumatism and professional diseases.

Due to the improvement of conditions of labour of auxiliary personnel there is arrived at considerable cost effectiveness because decrease of the cost on benefits and compensations. An about 60-80 % industrial personnel in the conditions of metallurgical sector of industry work in unfavorable conditions at a brief workweek (36 hours) with a markup 12-24 % to the wage, and also by additional vacation and going out on the first or second lists, id est. substantial means is paid for actually unproven calendar time. Without regard to that the improvement of conditions of labour of industrial personnel needs considerable capital investments for introduction of modern technologies and modernizations of equipment with the increased level of defense of personnel from the action of unhealthy and dangerous factors of productive environment the noted charges comparatively are quickly recompensed and there is possibility of diminishing of discharges on an ecological tax and also discrease of cost in an insurance fund.

The social value of charges on a labour protection of industrial personnel shows up also in fluidity of workers. Statistics testifies that from the general quantity of personnel, that leave at metallurgical sector on private wish about 21 % workers not enough by the conditions of labour: by unfavorable sanitary-hygenic factors, monotony of work, and also presence of stresses. However for metallurgical sector there is a quantity of industrial personnel which leave below

than in other sectors of industry, as many workers the increased wage and illusion of the early retiring attracts at the unfavourable loss of health. At the same time trace conformity to law, that workers which dismiss on grounds of redundancy on plants does not go back into a metallurgical production, if find corresponding in relation to a wage (even more subzero) work with the normal conditions of labour. Fluidity of workers inflicts a substantial losses to the plants, as a worker which gathers leave from a plant usually works with the less productivity, and for the new workers for mastering of profession it is been necessary set time. At the same time foreign experience shows, that such situation reduces the image of plant or firm, for returning of which to the possessors it is necessary to carry out investing of additional funds on creation of condition for increase of safety of labour and corresponding advertising of the improved conditions of labour.

In a present time social problems in metallurgical industry of Ukraine compel the domestic possessors of plants also to invested considerable means for inhibition of accordance of conditions of labour on them to the international standards of safety and decline of losses, related to the improvement of labour a guard. So, on OAJ «Metallurgical combine «Zaporozhstal′» it is improved system of drawing ventilation of sources of dust selection on a sintering machine N 1 and modern effective gas-cleaning apparatus is applied, modernization of cathouses of blast-furnace workshop is executed, shelter on the casting chamfers of steel and slag with aspiration of thermal and gas excretions, Analogical action are set in relation to a labour protection of industrial personnel OAJ «Zaporozhye plant of ferro-alloys» and OAJ «Electrometallurgical plant «Dneprospetsstal′».

Charges on the improvement of condition of labour in a metallurgical production consist of nomenclatural measures on a labour protection which are foreseen by a collective contract between administration and workers, and also perspective developments, related to development of production. Thus important is an improvement of technology of productive process and technological equipment, As a result, it is look the improvement of quality of products, decline of its prime price, including due to the improvement of conditions of labour and unproductive cost of auxiliary personnel.

Conclusions

1. Comprehensive analysis of reasons of decline of the labour productivity in metallurgical sector of industry, including. For the problems of labour protection, specifies on the necessity of account of aspects of philosophical and social direction. The negative consequences of productive traumatism and professional diseases substantially influence on consciousness of industrial personnel, promoting to the same its safe action.

2. The complex approach to the conditions of labour and treatment toward them of industrial personnel reduces the risk of productive traumatism and provability of pathological changes in the organism of workers, prompts diminishing of economic charges on unit of products, to the increase of the labour productivity and image of plant. Thus maintenance of labour resources is arrived and increase of professional activity of workers, and also the social problems of

industrial personnel are allowed.

3. The economic value of labour protection shows up in the decline of discharges on benefits and compensation, increase of ability of industrial personnel and also increase of fund of working time.

4. Perspective direction of researches is a deeper study influence of problems of labour protection on fluidity of workers by realization of questionnaire, expert estimations and statistical analysis of work of plant.

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***ТАРАСОВ В.К.,** кандидат технических наук, доцент кафедры окружающей среды Запорожской государственной инженерной академии (Запорожье, Украина)*

***РУМЯНЦЕВ В.Р.**, кандидат технических наук, доцент кафедры окружающей среды Запорожской государственной инженерной академии*

(Запорожье, Украина) ruvlad64@mail.ru

ПУТИ РЕШЕНИЯ СОЦИАЛЬНЫХ ПРОБЛЕМ НА ПРОИЗВОДСТВЕ

Исследовано влияние производственного травматизма и профессиональных

заболеваний обслуживающего персонала на социальные проблемы металлургической отрасли промышленности. Показана необходимость философского подхода к технической деятельности для повышения профессионального интереса и активности обслуживающего персонала, а также текучести кадров.

***Ключевые слова**: философский подход, социальная ответственность, психология, металлургия, охрана труда, травматизм и профессиональные заболевания, перспективы*

***TARASOV V. K.**, Candidate of Engineering's Sciences, Associate Professor of the departments of industrial ecology and protection of labor, Zaporozhye State Engineering Academy*

(Zaporozhe, Ukraine)

***RUMYANTSEV V. R.**, Candidate of Engineering's Sciences, Associate Professor of the departments of industrial ecology and protection of labor, Zaporozhye State Engineering Academy*

(Zaporozhe, Ukraine) ruvlad64@mail.ru

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Problems of labour protection in metallurgical sector of industry is follows to study from position of psychological action of industrial personnel, which substantially influences on the unproductive cost of its working time, related to the traumas and professional diseases. The conditions of labour in metallurgical sector are attributed to the most unhealthy and dangerous productions. Therefore engineering activity is directed, mainly, on providing of normative quality of metal at not enough to perfect technology and presence of morally out-mode equipment with the increased level of wear. The improvement of labour conditions, increase of safety for labour process promotes to decision of many social problems. The social implication of protection of labour consists to the increase of efficiency of production due to the decline of productive traumatism and professional diseases. Thus it is necessary to advance technology of productive process and technological equipment, which results in the improvement of quality for products, decline of its prime price, in that case due to the improvement of labour conditions and nonproductive cost. There was investigated influence of traumatism and professional diseases of auxiliary personnel on the productive and social problems of plants of metallurgical sector. The necessity of the philosophical approach near technical activity for the increase of professional interest and activity of personnel, and also decline of personnel defections are shown

Keywords: philosophical approach, social responsibility, psychology, metallurgy, protection of labour, traumatism, efficiency.

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