




INVESTIGATION AND
ACCOUNT OF MANUFACTURE
TRAUMATISM
LECTURE 2

QUESTIONS:

- 1. Causally are consequence connections of accidents**
 - 2. Classification, investigation and account of accidents and professional diseases, reimbursement of losses from production traumatism**
 - 3. Basic methods and principles of prophylaxis of production traumatism and professional morbidity**
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Added material: НПАОП 00.0-6.022-04 Порядок розлідування та ведення обліку нещасних випадків, професійних захворювань і аварій на виробництві.



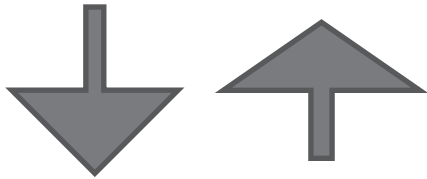
CAUSALLY ARE CONSEQUENCE CONNECTIONS OF ACCIDENTS

- ◎ **In 2007 18,8 thousand Ukrainians suffered from traumas on a production. All more industrial accidents end with death of employees. In 2007 1,1 thousands of persons perished from work accidents. Traditionally for us the extractive (6511 accident for the 2007 year) is considered the most dangerous spheres of activity, processing industry, building, agriculture and transport.**

- ◎ For the grounded development of measures on the prophylaxis of traumatism important is a timely and correct exposure of his reasons. The order of investigation and registration of production traumatism depends on his qualification. The officially ratified position operates in every case.
- ◎ The analysis of accidents allows to select three basic links - dangerous conduct; near-accident; trauma.
- ◎ It is necessary to pay a regard to direction of development of events, which can go, both marked and in reverse direction. That a man which got a trauma creates a near-accident the dangerous conducts.

SCHEMA OF EVOLUTION TRAUMA

dangerous conduct



near-accident




trauma

The first link appears one of principal reasons of trauma or formative a near-accident which further can result in an accident.



IN SAME QUEUE A DANGEROUS CONDUCT IS INVESTIGATION OF PSYCHOLOGICAL CHARACTER OF MAN WHICH CAN BE CAUSED:

- ◎ **1. By changes which happened in human society (original evolution). What for the last 20 - 30 years did considerable changes in the field of psyche and intellect, that defined creation of leading technologies and instruments.**
 - ◎ **2. The terms of labor and way of life became more cruel and in many cases more dangerous for life and health of people. The cost of error became more high is human life at implementation of some production operations.**
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- ◎ **3. Adaptation of man to the dangers is a serious danger. We live in the world of potential dangers and little by little habit to them. For it man often is it is punished.**
- ◎ **4. The illusion of impunity appears as a result higher considered. Example to it complete confidence in accident-freeness and safety of nuclear power plants to the failure on Chernobylsky AES at one time confidence in non go down of «Titanik» and others like that**

- 5. Absence of desire to study or decline of intensity of studies and self-training. Becomes the norm of „acquisition” of documents about education, but not acquisition of knowledge. A modern production requires from workers of high qualification and professional preparation.**
- 6. Intentional overstating of requirements of safety as a result implementation them becomes impossible and for workers (employees) an idea is created about impossibility of their achievement, and, consequently, and absence of necessity of their implementation.**
- 7. Conflict of safety and labor productivity. Especially it has a display on private enterprises with the low amount of workers.**

8. Blind faith in the rightness of actions of imperious structures not abilities to analyses a consequence. It is connect, except for absence of the proper knowledge's, dependences on guidance et al, yet with narrow-mindedness of information or presentation of it in a not reliable kind.

A scientific psychologists set on a border 20 centuries that practically in 80 - 90% cases of failures and catastrophes on a production dominant reason there is a human factor. To this question yet until now does not spare the proper attention.

It is necessary to mark that insignificant tendency of decline of traumatism on a production, takes a place on a background stable high level mortal cases and professional diseases.

1. CLASSIFICATION OF MANUFACTURE TRAUMATISM

- ◎ **A traumatism is name any violation of normal vital functions of organism.**
- ◎ **A production traumatism is the phenomenon, characterizing the aggregate of work accidents.**
- ◎ **A work accident is a trauma, got working on a production and caused a failure to observe of requirements of safety of labor.**

To traumatism on a production take:

- ◎ **Accidents;**
 - ◎ **Professional diseases;**
 - ◎ **Professional poisonings.**
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An industrial accident is the event or sudden affecting limited in time worker of dangerous production factor or environment, happening in the process of implementation by him labor duties or tasks of leader of works, because of which harm is caused to the health or death came.

As a result of accident there are traumas. A trauma (in a translation from Greek is a wound) is a damage of fabrics and organs of man in by violations of their integrity and functions, caused the action of factors of external environment.



In dependence here character of damages they are classified (subdivide) on:

- ❖ **Mechanical (injuries, breaks, cuts et cetera);**
- ❖ **Thermal (burns, frost-bites, sun shots);**
- ❖ **Chemical (sharp poisonings, burns by acids, lye's);**
- ❖ **Electric (electric shots, electric traumas);**
- ❖ **Ray (burns, damage of fabrics, blood of productive organs);**
- ❖ **Nervously and Psychical (fright, shock);**
- ❖ **Combined.**

To the professional disease which arose up as a result of professional activity insured and is exceptionally or mainly by influence of harmful matters and certain types of works and other factors, related to work (the list of professional illnesses becomes firmly established Cabinet Ukraine).

Production (professional) poisoning also as well as professional diseases, take a place under act of harmful, above all things, chemical production factors. The professional poisonings are the special case of professional disease. It is named chronic at the protracted influence of relatively two-bits of harmful matters and sharp.

Cases which happened after non-permanent (during no more one working change) influence of dangerous factors, harmful matters, belong to the sharp professional diseases and sharp professional poisonings.

Sharp professional diseases cause the action of chemical matters, ionizing and unionizing radiation, considerable physical loadings and by the overstrain of separate organs and systems of man. Infectious, parasitogenic, allergic diseases belong also to them, etc.




**The sharp professional poisonings cause mainly
the harmful matters of narrow-beam action.**

**The sharp poisonings are attributed to the
accidents.**



On weight of consequences accidents are classified as follows:

- **Shallow traumatism (without the loss of ability to work, makes all of 70-80% accidents);**
 - **Easy (loss of ability to work not above 3th days, I.e. with the temporal loss of ability to work);**
 - **Protracted (loss of ability to work from 4 days to 4 months);**
 - **Accidents with a heavy end (complete or partial loss of ability to work, I.e. complete or partial disability). On one accident with a heavy end there are 17 ordinary accidents and 120 cases of micro-traumatism.**
 - **Group (happenings simultaneously with 2 and more by workers regardless of weight of bodily harms);**
 - **Mortal.**
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On the types of responsibility accidents are classified:

- ❖ **Through fault of employer;**
- ❖ **Through fault of a victim;**
- ❖ **Through fault of other enterprise or worker of other enterprise;**
- ❖ **Extraneous person;**
- ❖ **Mixed;**


As a result of natural calamities (insurance, payment worker from the first day of disability).

In dependence here it, the sum of payments is determined (sum of damage to the person).

At the place and to time of incident (on connection with implementation of labor duties) accidents can be divided into two groups: **accidents of unproductive and production character. On connection with production activity the last are classified: **related to the production and unrelated with a production**. Order of their investigation and registration, setting and payment of manuals on temporal disability, damages to the person different.**





Order of investigation of accidents of unproductive character and their description resulted in Statute “Order, investigation and account of accidents of unproductive character” (Decision of Cabinet Ukraine N° 270 from March, 22, 2001).





TO THE ACCIDENTS, TO RELATED TO THE PRODUCTION (INSURANCE) TAKE CASES WHICH HAPPENED WITH WORKERS IN

TIME:


- ☐ Implementation of labor (post) duties, including in a business trip;**
 - ☐ Stay in the workplace, in-plant, or elsewhere works during working hours, or by proxy employer in non-working time during vacation, in initial and festive days;**
 - ☐ Driving to the order of instruments of production, facilities of defense, clothes before the beginning of work and after its completion and implementation of measures of the personal hygiene;**
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- ❑ Passage on work or from work on the transport vehicle of enterprise or on the transport vehicle of other enterprise which gave him in obedience to an agreement (by a request) at presence of order of employer;**
 - ❑ The use is own transport vehicle in behalf of enterprise from permission or by proxy employer;**
 - ❑ Lead through of actions in behalf of enterprise which victim works on, which are not included in the duties of worker;**
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- Liquidation of failures, fires and consequences of natural calamity on production objects;**
 - Grant of chief help an enterprise;**
 - Following of worker to(between) object(we) service after the ratified routes or to any object by proxy employer;**
 - Following to the place of business trip and in back direction in obedience to tasks on a business trip;**
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- ❑ Disappearance a worker is related to possibility of accident with him during implementation of labor (post) duties (after announcement his dying in a judicial order);**
 - ❑ Infliction of bodily harms or murders other person during implementation or in connection with implementation of labor (post) duties a worker regardless of laying an action;**
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Sudden worsening of the state of health of worker, which happened because of influence of dangerous and harmful production factors, or if victim did not pass physical examination, foreseen a legislation, and work which was executed was contra-indicated victim in obedience to a medical conclusion about the figure of his health and other.



The worker has a right to draw an allowance on temporal disability in size of 100% earnings from 1 day, a damage to the person, caused to insured the damages of his health is made, in the case of disability worker has a right on indemnification of the lost earnings in accordance with st.21, 28 Law of Ukraine on obligatory state insurance here industrial accidents and disease, entailing the loss of ability to work.

Signs of accidents which happened on an enterprise, but unconnected with a production (not insured).

NOT DETERMINED AS THE ACCIDENTS WHICH HAPPENED WITH WORKERS RELATED TO THE PRODUCTION:

- **During the following on work or from work on foot, on public, own or other transport vehicle which does not belong to the enterprise and not utilized in behalf of this enterprise;**
- **At the place of permanent residence, on territory of the field and watch settlements;**



- **During the use by them in the personal aims of transport vehicles of enterprise without permission of employer, and also equipment, mechanisms, instruments, except for cases which happened because of disrepair of this equipment;**
- **Because of poisoning an alcohol, narcotic or by other poisonous matters, and also because of their action at presence of medical conclusion, if it is not caused application of these matters in production processes or violation of requirements of safety in relation to their storage or transporting, or if worker was in a state of alcoholic or narcotic intoxication, was removed from work;**

- **During a feausance by him crimes or other violations, if these actions are confirmed decrees;**
- **In the case of natural death or suicides which are confirmed the conclusions of medico-legal examination and organs of office of public prosecutor.**



- **Infliction of bodily harms or murder of worker other person during finding out of worker of the personal relations, if concerning these actions there is a conclusion of competent organs.**
- **In this case payment of manuals on temporal disability and setting of pensions is made on general grounds, experience of continuous work is taken into account, a damage to the person victim is not made.**

From these accidents it is possible to select accidents which though happened **out of production but related to work. In this case a victim has a right to draw an allowance on temporal disability from 1 day in size of 100% earnings, and in the case of offensive of disability because of trauma the pension of enhanceable size is appointed; a damage to the person worker is not made.**

INVESTIGATION AND ACCOUNT OF ACCIDENTS, RELATED TO THE PRODUCTION.

Accordingly st.25 law of Ukraine “ About a labor protection” an employer (proprietor) must organize investigation and conduct the account of accidents, professional diseases and failures on a production.

Investigation is carried out concordantly НПАОП 00.0-6.022-04 “Statute about the order of investigation and conduct of account of accidents, professional diseases and failures on a production”. The order of investigation and conduct of account of accidents, which happened with a student and by the students of educational establishments during an educational educate of process, labor and professional teaching in educational establishment, is determined Department of education and science of Ukraine (Decision N° 429 from 30.10.93).

Inquiry of accidents is prosecuted with the purpose of determination of their circumstances and reasons, establishment of qualification of accidents in relation to connection with a production and type of responsibility. On the basis of results of investigation measures are developed on prevention of parallel instances, and also in relation to the decision of questions of social defense of worker.




Accidents which resulted to in loss of ability to work a worker on one working day or anymore or to the necessity of translation of worker on other (more easy) working as a term no less what on one working day are subject investigation, and also in the case of death on an enterprise.

About every accident a witness, worker which rendered him, or victim, report the leader of works (or other authorized face of enterprise).



IN THE COMPLEMENT OF COURT OF INQUIRY INCLUDED:

- **Leader (specialist) of service of labor protection or public servant (specialist) on which an employer is fix implementation of functions of specialist on questions of labor protection (presiding commissioner);**
 - **Leader of structural subdivision or main specialist (or representative of employer in the case of their absence);**
 - **Representative of trade-union organization the member of which is worker (or representative of labor collective on questions of guard of work - if worker is not a member trade unions);**
 - **Representative of the proper working organ of executive function of fund (in the case of accident with possible disability or in the case of sharp professional disease (poisoning));**
 - **Specialist of the proper establishment (establishments) of government sanitary-epidemiology service (in the case of sharp professional diseases (poisoning)).**
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WORKER IT WAS THIS HAPPENED OR HIS TRUSTED PERSON HAS A RIGHT TO TAKE PART IN INVESTIGATION.

A court of inquiry is under an obligation during three days:


- ☐ To inspect the place of accident, poll witnesses, get explanation of worker;**
- ☐ To define accordance of terms and safety of work the requirements of normatively-legal acts about the work protection;**
- ☐ To find out circumstances and reasons which resulted in an accident, define connection of him with a production;**
- ☐ To define persons which assumed violations of normatively-legal acts about the guard of work, and also to develop measures on prevention of parallel unhappy instances;**
- ☐ To make the act of investigation of accident in a due form N-5 in two copies, act in a due form N-1 or NT about victim in six copies and to pass him on assertion an employer;**
- ☐ In the case of origin of sharp poisonings the map of account of professional diseases (poisoning) is made also in a due form P-5.**

To the top copy of act of investigation of accident in a due form N-5(further is an act of investigation of accident) is added act in a due form N-1 or NT, explanation of witnesses and victim, extractions from an operating document, charts and other documents which characterize the state of workplace.

Accidents about which acts are made in a due form N-1 or NT undertake on an account and registered an employer in the special magazine.

An employer must immediately take measures in relation to the removal (liquidation) of reasons of accident and after completion of investigation for a day long to consider and confirm acts in a due form N-1 or NT.

THE RATIFIED ACTS DURING THREE DAYS ARE SENT:

- ✓ To the suffering or trusted person together with the act of investigation of accident;
 - ✓ · To the leader of workshop or other structural subdivision, where an accident happened for realization of measures on prevention similar cases;
 - ✓ · To the proper working organ of executive management of fund together with the copy of act of investigation of accident;
 - ✓ · To the proper territorial organ of GMPC labor protection;
 - ✓ · To trade-union organization the member of which is the suffering or trusted person;
 - ✓ · To the leader (to the specialist) of service of guard of work of enterprise or public servant (to the specialist) on which an employer is fix implementations of functions of specialist on questions of labor protection (together with the top copy of act of investigation of accident).
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Copy of act in a due form N-1 is sent an organ, to the sphere of Management of which an enterprise belongs. In the case of absence of such organ - to the proper local state administration or executive branch of local self-government.

In the case of exposure of sharp professional diseases (poisoning) copy of act in a due form N-1 and card of account with the form of P-5 sent the also proper establishment (to establishment) of government sanitary-epidemiology service which registers parallel instances.

Acts of investigation of accident, acts in a due form N-1 or NT together with materials of investigation, and also report about investigation of accident, subject storage during 45 years on an enterprise the worker of which is (it was) a victim. In the case of liquidation enterprises are subject the transmission of new owner, in the case of his absence or bankruptcy - to the record office.

Report about investigation of accident (form of N-2) an employer in ten days' term upon termination of period of temporal disability (or deaths) of victim sends organizations and public servants which an act is sent in a due form N-1 or NT.

Accident about which directly it was not revealed to the leader of victim or employer in good time, or if the loss of ability to work came not immediately from him, regardless of term, when he happened, investigated during a month after the receipt of statement a worker which is (it was) a victim or person, which presents his interests.



An accident which happened on an enterprise with the worker of other enterprise during the performance of objective of the leader is investigated an enterprise, where an accident happened and about him an act is made in a due form N-1 by the court of inquiry with participation of representatives of enterprise the worker of which is victim. Such accident undertakes on an account an enterprise the worker of which is victim. An enterprise, where an accident happened, saves for itself one copy of act in a due form N-1.

An accident, which happened with a worker, which was temporally translated by agreement with the leader of enterprise on other enterprise, or which executed works holding two jobs, is investigated and undertakes on the account of enterprise, where it was translated or on which he worked holding two jobs.

If a worker executes work under the direction of public servants of the enterprise on the selected territories, objects, areas of other enterprise, accident, which happened with a worker investigated and undertakes on an account an enterprise the worker of which is victim. The representative of enterprise takes part in investigation, where an accident happened.

Accident with students and students of educational establishments which happened during passing by them production practice or implementation of works on an enterprise under the direction of his public servants, investigated and undertake on an account an enterprise. In investigation must take part representative of educational establishment.

Accidents, which happened on an enterprise with students and students of educational establishments which passed production practice or executed work under the direction of teacher on selected an enterprise area, are investigated educational establishment together with the representative of enterprise and undertake on an account educational establishment.

Responsibility for correct and timely investigation and account of accidents, registration of acts, implementation of measures, indicated in acts, an employer, leaders of structural subdivisions and production areas of enterprise, carries.

Control after a timeliness and objectivity of investigation of accidents, by their documentary registration and account, implementation of measures on the removal of reasons is carry out the organs of State administration, organs of the State supervision after a labor protection, Fund in obedience to their jurisdiction.



A public inspection is carried out by labor collectives through select representative by them on questions of guard of work and trade unions through the elected bodies and representatives.

These organs have a right to require from an employer drafting of act in a due form N-1 or his revision, if it is set that is suffered violation of requirements of Statute or other normatively-legal acts about a labor protection.

The public servant of Gosgorpromnadzora after a labor protection has a right in the case of necessity to attract the representatives of the proper working organ of executive management of Fund and trade-union organization, the member of which is victim, prosecute an inquiry of accident (receipt of complaint, disagreement with the conclusions of investigation of circumstances and reasons of accident or his concealment etc.) to give out obligatory for implementation of order an employer in a due form N-9 in relation to the necessity of confession of accident related to the production, drafting or revision of act in a due form N-1 and taking of him on an account. In the case of disagreement of employer with an order - a question decides higher subsection of Gospromnadzora after a labor protection or an order is contested in accordance with established procedure.

In the case of refuse to make an act an employer in a due form N-1 about an accident or disagreement of employer, victim or person which presents his interests, with maintenance of act of investigation of accident in a due form N-1, questions decide in an order, by a victim legislation about consideration of labor disputes.



SPECIAL INVESTIGATION OF ACCIDENTS

Subject the special investigation:

- ✓ **Accidents with mortal investigation;**
- ✓ **Group accidents which happened simultaneously with two and anymore by workers regardless of weight of damage of their health;**
- ✓ **Cases of death on an enterprise;**
- ✓ **Cases of disappearance of worker during implementation by him labor duties.**

The special investigation is organized by an employer, or organ, to spheres of management of which an enterprise, or local state Administration or executive branch of local self-government, belongs.

In the complement of commission from the special investigation (appointed the order of leader of territorial organ Gospromnadzora after a labor protection included:

- ✓ Public servant of organ of the State supervision after a labor protection (presiding commissioner);**
- ✓ · Representative of the proper working organ of executive management of Fund;**
- ✓ · Representatives of organ, to to spheres of Management of which an enterprise belongs (or proper local state Administration, or executive branch of local self-government);**

- ✓ · Employer;
- ✓ · The member of which there is victim trade-union organization (or representative of labor collective on questions of labor protection);
- ✓ · Higher trade-union organ;
- ✓ · Specialists of the proper establishment (establishments) of government sanitary-epidemiology service (in the case of exposure of sharp professional disease (poisoning)).
- ✓ Special inquiry is prosecuted a during not more than 10 workings days. On results investigation made:
- ✓ Act of the special investigation in a due form N-5;
- ✓ · Paper of account of professional disease (poisoning) on every victim after the form of N-5 (in their case);
- ✓ · Act in a due form N-1 or NT on every victim separately (in two copies);

INVESTIGATION AND ACCOUNT OF CASES OF CHRONIC PROFESSIONAL DISEASES AND POISONINGS (DISEASE)


Professional character of disease is determined an expert commission in composition the specialists of medically - prophylactic establishment (further establishment) which gave such right for MOZ of Ukraine. In the case of necessity to work of commission the specialists (representatives) of enterprise are brought over, working organ of executive management of Fund, trade-union organization the member of which is worker was victim.

Attributing of disease to the professional disease is conducted in obedience to Order (further Order) of establishing a connection of disease with the terms of labor.

Connection of disease with the terms of labor of worker is determined on the basis of clinical information and sanitary-hygenic terms of work, which is made the proper establishment (by establishment) of Government sanitary-epidemiology service (further Service) with participation of specialists (representatives) of enterprise, trade unions and working organ of executive management of Fund.

In the case of origin of suspicion on a disease medically-prophylactic establishment sends a worker with documents (a list is certain Order) to the main specialist for prof-pathology cities (areas), which sends a patient in the specialized medically - prophylactic establishment in obedience to List of MOZ. Responsibility for determinations of diagnosis is laid on the leaders of these establishments. In debatable cases - a patient is sent in Institute of medicine of labor of Academy of medical sciences (Kiev), decisions of which contested in a judicial order.

On every patient Establishment is made by a report in a due form P-3, which during three days after establishment of diagnosis sent:

- To the employer of enterprise the harmful production factors of which resulted in the origin of disease;**
 - To the proper establishment (to establishment) of Government sanitary-epidemiology service;**
 - To establishment which serves an enterprise;**
 - To the proper working organ of executive management of Fund.**
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An employer organizes investigation of disease during ten working days from the moment of receiving a message. Investigations conducted a commission in composition representatives:

- Proper establishment (establishments) of service (chapter of commission) which carries out the State sanitary supervision after an enterprise;**
- Establishment which serves an enterprise;**
- Enterprises;**
- To trade-union organization the member of which is (or the authorized labor collective on questions of labor protection);**
- Proper working organ of executive management of Fund.**

A court is under an obligation of inquiry:

To conduct investigation of circumstances and reasons of disease;

To make the act of investigation in a due form P-4 in six copies, in which to map out measures on prevention of development of disease, providing of normalization of terms of work, to name persons which did not execute the proper terms (governed, sanitary regulations).

The act of investigation of reasons of disease during three days after completion of investigation is sent an employer to the patient and organs the representatives of which took part in investigation. The top copy of act is kept on an enterprise 45 years.

An employer is under an obligation in a five-day term after completion of investigation to consider materials and give out an order about measures on prevention of diseases and bringing in to responsibility of persons which violations of sanitary norms and rules are suffered through fault of.

In the case of loss of ability to work a worker because of disease, an employer sends a victim on MSEK for consideration of questions of his further ability to work.

Control after investigation of diseases, implementation of measures on the removal of reasons is carry out establishments (establishments) of service, trade unions and representative of labor collectives on questions of labor protection.

Registration and account of diseases is conducted:

- On an enterprise;**
- In the responsible working organ of executive management of Fund;**
- Establishments (establishments) of service;**
- In medically - prophylactic establishments.**

Establishments (establishments) of service on the basis of acts of investigation make the maps of account of diseases in a due form P-5. These maps and records on magnetic transmitters are kept in establishment of service and MOZ during 45 years.

INVESTIGATION AND ACCOUNT OF FAILURES

On an enterprise in obedience to requirements legislative and other normatively-legal acts on questions of defense of population and territories from extraordinary situations and labor protection must be developed and ratified an employer:

Plan of warning of extraordinary situations, possible failures, other extraordinary situations of technogenic and natural character, are determined in which, consequences are forecast, measures, forces and facilities, are determined in relation to their liquidation;

Plan of liquidation of failures (extraordinary situations) (all of possible failures are determined, the actions of public servants and workers of enterprise are determined during their origin, duty workers of professional emergency-rescue services).

To the failures of technogenic character failures belong on a transport, explosions, fire, failures with the troop landing of strongly operating poisonings, radio-active, biologically dangerous and other contaminants, sudden destruction of equipment, buildings etc.



INSURANCE RISK AND ACCIDENT INSURED

In accordance with Law of Ukraine of «The obligatory state ensuring against industrial accidents and professional diseases, entailing the loss of ability» to work and insurance risk - circumstances which an accident insured can happen because of.

An accident insured is an industrial accident or professional disease, causing to insured the professionally conditioned physical or psychical trauma at implementation of labor duties or as a result of professional activity with the offensive of which there is a right for the insured person on the receipt of the financial providing and (or) social services.

Accident or professional disease, happening because of violation of normative acts about a labor protection insured also is an accident insured.

Violation of rules of labor protection insured, entailing an accident or professional disease, does not free an insurer here fulfilling a commitment before to the victims.

But in these cases the sum of insurance payments can worker with was victim be diminished to 50%.

By foundation for payment the victim of charges for medical help, leadthrough of medical, professional and social rehabilitation, from also insurance payments there is an act of investigation of accident or act of investigation of professional disease (poisonings) on the set norms.

REASONS OF PRODUCTION TRAUMATISM

For an analysis and prophylaxis of traumatism classification of reasons has an important value. Thus needed to take into account the complete set of factors, determining the safe and harmless terms of labor on a production.



AT ESTABLISHMENT OF REASONS OF ACCIDENT MARKED AND ENCODED THREE GROUPS OF REASONS ACCORDINGLY CLASSIFIER:

I. TECHNICAL:

Structural failings, imperfection, insufficient reliability of capital goods;

- **Structural failings, imperfection, insufficient reliability of transport vehicles;**
- **Off-grade development or absence of project document on building, reconstruction of production objects, buildings, buildings, equipment, and etc;**
- **Off-grade implementation of build is a robot;**
- **Imperfection, disparity the requirements of safety of technological process;**

Unsatisfactory technical state:

- **-production objects, houses, buildings, territory;**
- **- capital goods;**
- **- transport vehicles;**

Unsatisfactory state of production environment (unfavorable meteorological terms, enhance able concentration of harmful matters in mid air of working area; presence of harmful irradiations (radiations); unsatisfactory luminosity, enhance able sound-level and vibration and other);

II - ORGANIZATIONAL (DEPENDING HERE LEVEL OF ORGANIZATION OF LABOR ON A PRODUCTION AND ACTIVITY OF MAN):

- **Unsatisfactory functioning, imperfection or absence of control the system by a labor protection;**
- **Failings during teaching the safe receptions of work, in t.ch.:**
 - absence, or off-grade lead through of instructing;**
 - admitting to work without teaching and verifications of knowledge's from a labor protection;**
- **Off-grade development, imperfection of instructions on a labor protection or their absence;**
- **Absence in post instructions of functional duty on questions of labor protection;**
- **Violation of office and rest hours;**
 - **Absence or off-grade lead through of medical inspection (prof. selected);**

Un using of facilities of individual defense from not providing by them;

Implementation of works with power-off or defective facilities of collective defense, systems of signaling, ventilation, lighting up and etc;

Bringing in to work of workers not on specialty (professions);

Violation of technological process;

Violation of requirements of safety during exploitation of transport vehicles;

Violation of rules of the travelling road;

Non-use of facilities of collective defense (at their presence);

Non-use of facilities of individual defense (at their presence);

Violation of labor and production discipline, in t.ch.:

-non-fulfillment of post duty;

non-fulfillment of requirements of instructions on a labor protection.

III - PSYCHO - PHYSIOLOGICAL (RELATED TO THE UNFAVORABLE FEATURE OF THE PERSONAL FACTOR; DISPARITY OF ANATOMO-PHYSIOLOGICAL AND PSYCHOLOGICAL FEATURES OF ORGANISM OF MAN TO THE TERMS OF LABOR):

Alcoholic, narcotic intoxications, toxicological poisoning;

Unsatisfactory physical information or state of health;

- **An unsatisfactory psychological climate is in a collective;**
- **Injuring because of non law actions of other persons, other reasons.**

Among reasons, not borne in classifier, it is necessary also to take into account social reasons, personalities conditioned the state presently, by quality of personality:

Insufficient efficiency of norms of labor right;

- Domestic terms;**
- A level of profit is in family;**
- Level of education;**
- Belonging to one or another social layer and other**

METHODS ARE ANALYSIS OF PRODUCTION TRAUMATISM

The analysis of production traumatism is executed for establishment of conformities to the law of his forming and to development of effective prophylactic measures.

In the process of analysis of traumatism reasons of accidents must be found out and measures are developed on their warning.

For the analysis of production traumatism apply four basic methods: statistical, monographic, economic, method of physical and mathematical design.



A statistical method is based on the study of reasons of traumatism on documents, to recordings accidents (acts in a due form N-1, sheets of temporal disability) for certain period of time (month, quarter, half-year) in the case of professional diseases information of maps of account of professional diseases is analyzed in a due form P-5, which are made on the basis of acts of investigation of cases of professional disease



This method allows to define the comparative dynamics of traumatism on separate industries, enterprises, workshops, to the areas of one enterprise and to expose conformities to the law of area or decline of traumatism.

For the estimation of levels of traumatism use the relative indexes (by coefficients) of frequency, weight and losses.

As a coefficient of frequency of traumatism the number of accidents, being per mil of workings for certain period, is accepted:

Where T is a number of accidents for period covered; $K_u = \frac{T}{P} 1000;$
P is a middle list number of workings for that period.

The coefficient of weight of traumatism is characterized by the middle amount of days of disability, being on one accident:

$$K_T = \frac{D}{P};$$

Where D is a total amount of days of disability on all of accidents for period covered.

As a coefficient of losses (index of general traumatism) the amount of man of days disability is accepted, being on 1000 persons. Group and mortal accidents do not join in these indexes:

$$K_{\Pi} = K_{\Psi} \cdot K_{\Gamma} = \frac{D}{P} \cdot 1000$$

Change of indexes of frequency, weight and losses during the row of years characterizes the dynamics of industrial traumatism and efficiency of measures on warning of traumatism.

At the deep static analysis of traumatism besides the exposure of reasons of traumatism the analysis of accidents on sources and affecting character is made also organism, to the types of works or production operations, character of traumas, information is analyzed in victim (profession, experience, half, age), incidents given in time (month, time of working day, changing). The got information orient researchers in the danger of production situation, in the questions of development of individual protective adaptations, allow to execute preventive measures.


To the varieties of statistical analysis behave a group and topographical. The group method of studies of traumatism is based on repetition of accidents of not dependent from weight of damages. Present material of investigation is distributed on groups with the purpose of exposure most of often repetitive cases (identical on circumstances).



A topographical method consists of study of reasons of accidents at the place of their incident, which are systematic inflicted conventional signs on the plans of area, workshop, enterprise. A method is given by the evident picture of hearths of traumatism without the study of situation and causality, causing an accident.

The statistical methods of research give the general picture of the state of traumatism, set his dynamics, expose certain dependences, but here terms an accident happened in which are not studied deeply.

A monographic method is included by the detailed research of all of complex of terms an accident happened in which: processes, equipment, materials, protective facilities, terms of production situation et cetera Not only reasons of accidents but also hidden (potential) dangerous and harmful factors which can result to in traumatism come to light as a result of research.



An economic method consists in determination of economic harm from a production traumatism, and also in the estimation of efficiency of expenses, directed on warning of accidents with the purpose of the optimum distributing of facilities on measures on a labor protection.



The method of physical and mathematical design is conducted on the difficult standards of technique. Along with the traditional methods of analysis of traumatism it is possible to mark some new directions: characteristic for research of terms of safety of labor and warning of traumatism, for example, drawing on the complex of methods of mathematical statistics, for example methods of dispersion and cross-correlation analyses;



Method of scientific prognostication of safety of labor. He serves for the probabilistic estimation of dynamics of traumatism, prediction of unfavorable factors of new productions, technologies and development for their requirements of safety;

Development of the automated systems of operative account and warnings of traumatism, which owe half one of links of automated control the system by a labor protection;

Development of methods of complex estimation of safety of technological processes and equipment on the stage of their planning, making and exploitation;

Ergonomic method, based on the complex study of the systems « a man is a machine is a production environment» taking into account functional possibilities of man in the process of labor;



Deterministic methods, allowing to expose objective appropriate intercommunication of terms of labor and caused conditionality of cases of traumatism (for example, the method of network design is used at the analysis of cases of traumatism, being the result of action of a few factors, methods of supervisions, questionnaires - reasons of psychological is physiological character are set, mainly,, a method of expert estimations is taking away of judgments, utilizing the generalized experience and intuition of specialists, protractedly engaged in the questions of labor protection.

For an operative account and treatment of information the hand and machine systems, PCM, can be utilized in a traumatism and profdiseases.

Prognostication of traumatism is carried out usually with the use of statistical information on $K_{\text{ч}}$, K_{T} , $K_{\text{п}}$ for a few years of work, that does possibility to extrapolate a curve, describing application of the indicated indexes on the nearest calendar period.

Prognostication of traumatism and professional diseases, and also loud speakers of change of terms of labour, is one of bases of creation of control the system by a labour protection (SMLP).

A lecture is finished!

Thank you for attention!

