Materials of Conferences

APPROACHES TO THE ORGANIZATION AND MONITORING OF PHYSICAL IMPACTS IN KAZAKHSTAN

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Relevance. The need for monitoring of natural resources influence of physical factors on the environment in the Republic of Kazakhstan (RK) is regulated by law. However, the lack of guidance documents for industrial environmental control does not allow to organize the process of the monitoring and its control

Purpose. Develop methodological approaches to the organization and control of monitoring physical impacts on the environment and human health. Determine the types of monitoring, frequency and methodology of conducting.

Review of the literature. The concept of state environmental monitoring as “integrated system of observations on the state of the environment and natural resources in order to assess, forecast and monitor changes in their condition under the influence of natural and anthropogenic factors” is defined in the “Environmental Code”, Chapters 14, 16.

The article 131 of the Code establishes the requirements for the development of industrial environmental monitoring (IEM) program.

The results of the study. At the initial stage of the analysis of legal documents, determine the physical factors that are subject to control.

In all legal documents as a physical factor is described by the noise. In ECRK as physical factors is described as vibration, magnetic and other physical fumes (article 1 item 48). During an emergency expands the parameters analyzed physical factors, which along with the noise, vibration, include radiation, electromagnetic, temperature, light or other physical adverse effects (article 1 item 49). By the standards of environmental quality standards are established in accordance with the physical attributes of the environment, including the maximum permissible levels of noise, vibration, magnetic fields, radioactivity, heat, and other physical effects (Article 23 ECRK). By the standards of emissions are the amount of heat, noise, vibration, ionizing radiation and other physical influences (Article 25 ECRK).

Thus, different regulations and different sections ECRK defined to control different physical impacts.

Conducting environmental baseline studies for the physical factors stipulated by normative legal documents of the Republic of Kazakhstan (RGRK № 480), as well as monitoring of the effects and issues (RGRK №5 23).

Methods of monitoring regulations establishing maximum permissible levels of the corresponding physical factors are presented in Table.

We propose to carry out IEM of physical factors such as operational, emissions and impact on the areas of noise and vibration equipment, sources of electromagnetic and ionization-of ionizing (radioactive) radiation: rigs, drill cuttings, generators, pumps, etc. 1 times per year. Projects can be use materials of current control of other organizations: the Agency for Consumer Protection, Materials Inventory physical effects, PSLAL, Certification of workplaces.

With group arrangement of artificial structures to carry out measurements on the distal location of the islands in 4 geographic areas.

The list of controlled physical factors is made using natural resources.

Operational environmental monitoring of the radiation situation in the performance of planned drilling operations, as well as in areas receiving
trap and temporary storage of oily sludge, temporary storage areas of equipment with sources of ionizing radiation.

During the IEM are taken into account the observations of previous years.

The results of industrial monitoring of physical factors are made in accordance with the lists, forms and terms of the exchange of information on the management, approved by the Order of the MEP № 172-p of 31.05.2007 “United State monitoring system of environment and natural resources” and are used to assess the state of the environment within the reference to a common methodological basis.

<table>
<thead>
<tr>
<th>Physical factor</th>
<th>Operating Area</th>
<th>On sanitary protection and residential area</th>
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</thead>
<tbody>
<tr>
<td>Noise</td>
<td>SSRK 12.1.050-86 / SSRK 12.1.003-83</td>
<td>SSRK 23337-78 / CH PK 2.04-03-2011</td>
</tr>
<tr>
<td>Vibration</td>
<td>SSRK 31319-2006 / SSRK 31192.2-2005</td>
<td>SSRK 31191.1-2004 / SSRK 31191.2-2004</td>
</tr>
<tr>
<td>The electromagnetic field radio</td>
<td>SRK 1151-2002</td>
<td>SRK 1151-2002 / SRK 1151-2002</td>
</tr>
<tr>
<td>The electromagnetic field workplaces operators of personal computers and video display terminals</td>
<td>RGRK 1430</td>
<td>RGRK 1430 / – / –</td>
</tr>
<tr>
<td>Microclimate</td>
<td>SSRK 12.1.005-88 / SSRK 12.1.005-88</td>
<td>RGRK 1150-2002 / RGRK № 168</td>
</tr>
<tr>
<td>Illumination</td>
<td>SSRK 24940-96</td>
<td>BCRK 2.04-02-2011 / RGRK № 168</td>
</tr>
<tr>
<td>Ionizing (Radiation Incident)</td>
<td>Order of the Chairman of the Commit tee of State Sanitary and Epidemiological Surveillance 8 September 2011 №194 Guide P 2.2 / 2.6.1. 1195 – 03</td>
<td>RGRK 201 / Приказ 194 / RGRK № 202</td>
</tr>
</tbody>
</table>

Notes: * SRN № 3.01.032-97 / № 3.05.038-97, ** SRN № 3.01.032-97.

The frequency of monitoring and reporting Annual (in four climatic seasons (Article 269 ECRK) taking into account conditions of operation of the state conservation area north of the Caspian Sea. Propose to reduce to 2 times a year;

Reporting – Annual consolidated as part of the monitoring report in-ones for 3 months after the reporting period

Conclusions. We have recommended:

– monitor physical factors conducts as emissions, operational and impact;
– list of physical factors to determine the presence of sources;
– use materials of current control of other organizations: the Agency for Consumer Protection, Materials Inventory physical effects, PSLAL, Certification of workplaces;
– When planning to use the TEM physical effects designed scheme developed by us;
– Multiplicity of environmental control 2 times during the warmer months;
– Always conduct baseline studies.

References
1. GOST 12.1.050-86 “Methods of measurement noise in the workplace”.
2. GOST 23337-78 4 “Methods for measuring noise in residential areas and in residential and public buildings”.

5. GOST 31297-2005 Noise Engineering method for determination of sound power levels of the industrial enterprises with multiple noise sources for the evaluation of sound pressure levels in the environment.


7. GOST 24940-96 Buildings and and facilities Methods of measuring light.


9. RGRK dated 18 April 2012 № 480 On approval of rules of organizing and conducting baseline environmental studies in conducting petroleum operations in the Kazakh sector of the Caspian Sea.


14. Sanitary rules “Sanitary requirements to air quality in urban and rural areas, soils and their security, content areas of urban and rural settlements, the conditions of work with sources of physical factors that affect human” Approved by the Resolution of the Government of the Republic of Kazakhstan dated 25 January. – 2012. – № 168.

15. SN RK 2.04-03-2011 Protection against noise.

16. Sanitary rules “Sanitary requirements to air quality in urban and rural settlements, Honorary-you and their security, content areas of urban and rural settlements, the terms of the sources of physical factors-tors affecting the person” The setting of approved-leniem government of the Republic of Kazakhstan dated January 25. – 2012. – № 168.


