



«ECOLOGICAL DAMAGE PREVENTION AND COUNTERMEASURE: OIL SPILL DISASTERS», 4 days

COURSE OBJECTIVE:

Development of professional competencies of ecology department specialists in sphere of ecological damage prevention and control including handling with consequences of oil spill disasters, pollution level minimization, application of modern monitoring technics for oil spill damage prevention.

ACQUIRED ABILITIES:

- Plan activities on oil spills prevention and remediation;
- Select methods for ecological testing of soil and water samples;
- Mapping of environmentally sensitive areas for oil spills prevention plan;
- Consider regional features of environmental objects.

COURSE CONTENT:

Module Name	Content
Ecological risks and problems while construction and operation of oil & gas facilities	Environmental risk. Environmental exposure. Human impact resistance. Cases of ecological problems arisen while construction and operation of oil & gas facilities. Natural ecosystem self-cleaning and self-recovery ability: heavy metals, oil HC, etc.
Environmental factors to be considered in prevention and remediation of oil spills consequences	Geological survey requirements. Natural conditions pre-design study for environmental impact assessment. Objects (air, precipitation, water, soil, bottom deposits, biota). Main environmental parameters. Water environment qualities. Characteristics of soils and bottom deposits. Biota parameters. LOC system, critical load.
Content and principles of oil spill contingency plan (OSCP) development	What facilities require development of oil spill contingency plan (OSCP). Planning tasks for prevention and mitigation of emergency caused by oil spills. The content of oil spills prevention and mitigation. Examples and experience of plan development (OSCP).
Measures for environmental impact prevention and mitigation	Main tasks and principles of measures for environmental impact prevention and mitigation in case of oil spill disasters. The content of environmental exposure chart atlas. Methods of pollution mitigation after oil and oil product spills.
Oil and oil product properties to be considered for planning	Oil physical properties – density, viscosity, molecular weight, no-flow point, optical behavior – refractive index, luminescence, and optical

of oil spills prevention and mitigation measures	activity. Migration forms – water dissolved: absolute molecular, colloidal and mycelial solutions; gaseous solutions, individual continuous phase.
Ecological surveys for prevention and mitigation of oil spills	Main tasks and objectives of monitoring of areas with high pollution risk. Main objects of study for oil spills prevention. In-process monitoring. Case studies with different pollutants: heavy metals, oil HC, etc.