

No.: 15/2016/TT-BLDTBXH

*Hanoi, June 28, 2016*

## **CIRCULAR**

### **PROMULGATING THE LIST OF ARDUOUS, HAZARDOUS AND DANGEROUS OCCUPATIONS, AND EXTREMELY ARDUOUS, HAZARDOUS AND DANGEROUS OCCUPATIONS**

*Pursuant to the Law on occupational safety and hygiene dated June 25, 2015;*

*Pursuant to the Government's Decree No. 106/2012/ND-CP dated December 20, 2012 defining the functions, tasks, powers and organizational structure of the Ministry of Labour, War Invalids and Social Affairs;*

*At the request of Director of the Department of Work Safety;*

*Minister of Labour, War Invalids and Social Affairs promulgates a Circular on promulgation of the list of arduous, hazardous and dangerous occupations, and extremely arduous, hazardous and dangerous occupations.*

#### **Article 1. The list of arduous, hazardous and dangerous occupations, and extremely arduous, hazardous and dangerous occupations**

The list of arduous, hazardous and dangerous occupations, and extremely arduous, hazardous and dangerous occupations is enclosed with this Circular.

#### **Article 2. Implementation**

1. The employees doing occupations/ works enclosed with this Circular and Decision No. 1453/LDTBXH-QD dated October 13, 1995, Decision No. 915/LDTBXH-QD dated July 30, 1996, Decision No. 1629/LDTBXH-QD dated December 26, 1996, Decision No. 190/1999/QD-BLDTBXH dated March 03, 1999, Decision No. 1580/2000/QD-BLDTBXH dated December 26, 2000, Decision No. 1152/2003/QD-BLDTBXH dated September 18, 2003 and the Circular No. 36/2012/TT-BLDTBXH dated December 28, 2013 by Minister of Labour, War Invalids and Social Affairs are entitled to personal protective equipment, salaries and social insurance benefits as prescribed in the Labour Code, the Law on occupational safety and hygiene, the Law on social insurance and their instructional documents.

2. Employers and relevant agencies/organizations are responsible for ensuring that employees performing occupations/works prescribed in Clause 1 of this Article shall benefit from personal

protective equipment, salaries and social insurance benefits as regulated in the Labour Code, the Law on occupational safety and hygiene, the Law on social insurance and their instructional documents.

3. Sector supervisory ministries shall annually check the list of arduous, hazardous and dangerous occupations, and extremely arduous, hazardous and dangerous occupations and suggest amendments thereof in conformity with the social – economic development, scientific and technological development, and management policies in each period.

### **Article 3. Effect**

1. This Circular comes into force as from August 12, 2016.
2. Difficulties that arise during the implementation of this Circular should be reported to the Ministry of Labour, War Invalids and Social Affairs for consideration./.

**PP MINISTER  
DEPUTY MINISTER**

**Doan Mau Diep**

### **LIST OF ARDUOUS, HAZARDOUS AND DANGEROUS OCCUPATIONS (CLASS-IV WORKING CONDITIONS), AND EXTREMELY ARDUOUS, HAZARDOUS AND DANGEROUS OCCUPATIONS (CLASS-V, VI WORKING CONDITIONS)**

*(Enclosed to the Circular No. 15/2016/TT-BLDTBXH dated June 28, 2016 by the Ministry of Labour, War Invalids and Social Affairs)*

#### **I. PETROLEUM INDUSTRY**

<b>No.</b>	<b>Occupation or work</b>	<b>Working conditions</b>
<b>Class-VI working conditions</b>		
1	Operating oil-drilling equipment and systems in deserts.	Working outdoor, in deserts; very arduous and dangerous works; under the impact of noise, tremor and chemicals.

2	Operating oil-drilling equipment and systems in swamps.	Working outdoor, in swamps; very arduous and dangerous works; under the impact of noise, tremor and chemicals.
3	Operating oil-drilling equipment and systems on jack-up rigs, semi-submersible rigs, or drill ships	Working outdoor, at sea; under the impact of noise, tremor and chemicals.
4	Performing well logging operations in deserts.	Working outdoor, in deserts; very arduous and dangerous works; under the impact of radioactive substances, noise and tremor.
5	Performing well logging operations in swamps.	Working outdoor, in swamps; very arduous and dangerous works; under the impact of radioactive substances, noise and tremor.
6	Performing well logging operations on jack-up rigs, semi-submersible rigs, light drilling rigs, or drill ships	Working outdoor, at sea; very arduous and dangerous works; under the impact of radioactive substances, noise and tremor.
7	Repairing oil wells on desert rigs.	Working outdoor, in deserts; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
8	Repairing oil wells on swamp rigs.	Working outdoor, in swamps; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
9	Repairing oil wells on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
10	Operating, repairing and maintaining engines of drill ships.	Very arduous and dangerous works; working in confined spaces; static working posture; under the impact of tremor, noise and noxious gases or vapors.
11	Preventing corrosion for petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of dust, noise and toxic chemicals.
12	Preventing corrosion for petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of dust, noise and toxic chemicals.
<b>Class-V working conditions</b>		
1	Surveying, conducting well tests, and installing equipment in oil wells at petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.

2	Surveying, conducting well tests, and installing equipment in oil wells at petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
3	Surveying, conducting well tests, and installing equipment in oil wells on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
4	Operating rig balancing equipment on jack-up rigs, semi-submersible rigs or drill ships.	Working outdoor, at sea; arduous works; under the impact of noise, tremor and toxic chemicals.
5	Preparing and processing drilling fluids for petroleum works in deserted areas.	Working outdoor, in deserts; arduous works; under the impact of noise, tremor and toxic chemicals.
6	Preparing and processing drilling fluids for petroleum works in swamp areas.	Working outdoor, in swamps; arduous works; under the impact of noise, tremor and toxic chemicals.
7	Preparing and processing drilling fluids on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous works; under the impact of noise, tremor and toxic chemicals.
8	Pumping cement and drilling fluids on petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
9	Pumping cement and drilling fluids on petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
10	Pumping cement and drilling fluids on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
11	Operating systems and equipment for monitoring drilling and geological data at petroleum works in deserted areas.	Working outdoor, in deserts; dangerous works; under the impact of noise, tremor and toxic chemicals.
12	Operating systems and equipment for monitoring drilling and geological data at petroleum works in swamp areas.	Working outdoor, in swamps; dangerous works; under the impact of noise, tremor and toxic chemicals.
13	Operating systems and equipment for monitoring drilling and geological data on jack-up rigs,	Working outdoor, at sea, in instrument stations; dangerous works; under the impact of noise, tremor and toxic chemicals.

	semi-submersible rigs, or drill ships.	
14	Detonating explosives in wells (in exploratory drilling, extraction) at petroleum works in deserted areas.	Working outdoor, in deserts; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
15	Detonating explosives in wells (in exploratory drilling, extraction) at petroleum works in swamp areas.	Working outdoor, in swamps; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
16	Detonating explosives in wells (in exploratory drilling, extraction) on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
17	Taking samples from oil wells at petroleum works in deserted areas.	Working outdoor, in deserts; very arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
18	Taking samples from oil wells at petroleum works in swamp areas.	Working outdoor, in swamps; very arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
19	Taking samples from oil wells on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and very dangerous works; under the impact of noise, tremor and toxic chemicals.
20	Operating well control equipment at petroleum works in deserted areas.	Working outdoor, in deserts; dangerous workplace; under the impact of noise and toxic chemicals.
21	Operating well control equipment at petroleum works in swamp areas.	Working outdoor, in swamps; dangerous workplace; under the impact of noise and toxic chemicals.
22	Operating well control equipment on jack-up rigs, semi-submersible rigs or drill ships.	Working outdoor, at sea; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
23	Performing oil flow assurance for petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
24	Performing oil flow assurance for petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
25	Performing oil flow assurance on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.

26	Operating, repairing and maintaining equipment for extracting and processing oil at petroleum works in deserted areas.	Working outdoor, in deserts; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
27	Operating, repairing and maintaining equipment for extracting and processing oil at petroleum works in swamp areas.	Working outdoor, in swamps; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
28	Operating, repairing and maintaining equipment for extracting and processing oil on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
29	Operating water injection pump system at petroleum works in deserted areas.	Working outdoor, in deserts; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
30	Operating water injection pump system at petroleum works in swamp areas.	Working outdoor, in swamps; dangerous workplace; under the impact of noise, tremor and toxic chemicals.
31	Operating water injection pump system on fixed platforms or water injection platforms.	
32	Handling wells at petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
33	Handling wells at petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of noise, tremor and toxic chemicals.
34	Operating oil extraction system using gas-lift technique at petroleum works in deserted areas.	Working outdoor, in deserts; under the impact of noise, tremor and toxic chemicals.
35	Operating oil extraction system using gas-lift technique at petroleum works in swamp areas.	Working outdoor, in swamps; under the impact of noise, tremor and toxic chemicals.
36	Operating oil extraction system using gas-lift technique on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; under the impact of noise, tremor and toxic chemicals.

37	Hanging cables on petroleum works in deserted areas.	Working outdoor, in deserts; arduous and dangerous works; under the impact of noise and tremor.
38	Hanging cables on petroleum works in swamp areas.	Working outdoor, in swamps; arduous and dangerous works; under the impact of noise and tremor.
39	Hanging cables on jack-up rigs, semi-submersible rigs, or drill ships.	Working outdoor, at sea; arduous and dangerous works; under the impact of noise.
40	Managing and maintaining materials, chemicals, and explosives at petroleum works in deserted areas.	The workplace is impacted by a harsh environment; arduous and dangerous works; under the impact of toxic chemicals.
41	Managing and maintaining materials, chemicals, and explosives at petroleum works in swamp areas.	The workplace is impacted by a harsh environment; arduous and dangerous works; under the impact of toxic chemicals.
42	Performing duties of warehouse-keeper, warehouse section head, or staff in charge of managing chemicals for offshore petroleum works.	Working at sea; arduous and dangerous works; under the impact of toxic chemicals.
43	Operating turbines and diesel generators on offshore petroleum works and single point mooring.	Arduous works; static working posture; under the impact of noise, tremor and chemicals.
<b>Class-IV working conditions</b>		
1	Doctors, managers, interpreters, persons undertaking odd job or catering job at petroleum works in deserted areas.	The workplace is impacted by a harsh environment.
2	Doctors, managers, interpreters, persons undertaking odd job or catering job at petroleum works in swamp areas.	The workplace is impacted by a harsh environment.
3	Doctors, managers, interpreters, persons undertaking odd job or catering job on fixed platforms, jack-up rigs, semi-submersible rigs, drill ships, or oil tankers at sea.	Stressful works; under the impact of noise and tremor.

4	Operating LPG and LNG storage systems.	Dangerous works; facing risk of explosion, poisoning, chemical asphyxia and frostbite.
5	Operating turbines and diesel generators onshore petroleum works.	Arduous works; static working posture; under the impact of noise and chemicals.
6	Operating gas input/output system at docks.	Dangerous works; in contact with chemicals.
7	Operating gas distribution systems at gas processing plants, gas storehouses or ports, gas distribution stations or centers.	Dangerous works; under the impact of toxic chemicals; facing risk of explosion.
8	Operating cracking systems using Residue Fluid Catalytic Cracking (RFCC) technology and treating RFCC naphtha.	Working outdoor; arduous and dangerous works; under the impact of noise, dust and heat.
9	Operating the system for processing of polypropylene from propylene which is a by-product of oil refining.	Working outdoor; arduous and dangerous works; under the impact of dust, noise, chemicals and radioactive ray.
10	Operating crude oil distillation and kerosene processing systems.	Working outdoor; arduous and dangerous works; under the impact of dust, noise, chemicals and radioactive ray.
11	Operating naphtha hydrotreating system and catalytic reforming system for the purpose of raising the octane rating of fuel.	Working outdoor; arduous and dangerous works; under the impact of dust, noise and chemicals.
12	Operating naphtha isomerization units.	Working outdoor; arduous and dangerous works; under the impact of dust, noise and chemical vapor.
13	Operating propylene or LPG treating and recovery systems.	Working outdoor; arduous and dangerous works; under the impact of dust, noise and chemical vapor.
14	Operating the LCO (light cycle oil) hydrotreating system.	Working outdoor; arduous and dangerous works; under the impact of dust, noise and chemical vapor.
15	Operating sodium hydroxide (NaOH) supply system.	Working outdoor; arduous works; under the impact of noise and toxic chemicals.



16	Operating Ethanol production machines and equipment.	Working outdoor; arduous works; under the impact of noise, toxic chemicals and radioactive ray.
17	Operating ammonia storage tanks and flare systems.	Working outdoor; arduous works; under the impact of noise and toxic chemicals.
18	Repairing, maintaining and testing equipment for processing petroleum, petroleum products and petrochemicals.	Working outdoor; arduous and dangerous works; under the impact of toxic chemicals, noise, tremor, dust and radioactive substances; facing high risk of explosion.
19	Operating equipment systems for prevention and control of fires and explosions, and emergency response in processing of petroleum and its products.	Arduous and stressful works; facing high risk of fire and explosion.
20	Operating and making current repairs of electrical, refrigeration, communication or boiler systems on fixed platforms, jack-up rigs, semi-submersible rigs, drill ships, oil tankers or single point moorings at sea.	Arduous works; working at sea; under the impact of noise, tremor and noxious gases or vapors.
26	Response to emergencies (fire, explosion, blowout, oil spill) on fixed platforms, jack-up rigs, semi-submersible rigs, drill ships, oil tankers or single point moorings at sea.	Dangerous and stressful works; under the impact of noise and tremor.

## II. STORAGE

No.	Occupation or work	Working conditions
<b>Class-IV working conditions</b>		
1	Directly performing storage works at storing warehouses/ rooms, or storage technical workshops.	Working under the impact of dust, chemicals, molds and fungi, and harmful microorganisms.

## III. TRANSPORTATION

No.	Occupation or work	Working conditions
<b>Class-V working conditions</b>		

1	Operator of Vietnam Coastal Communication System.	Stressful works; under the impact of noise.
2	Technician of Vietnam Coastal Communication System.	Stressful works; static working posture; under the impact of noise and electromagnetic field.
3	Seafarers working on ships for search and rescue, and salvage of sunken property, or salvage ships.	Very arduous and dangerous works; under the impact of bad weather; stressful works.
4	Supervisor or operator of the Vessel Traffic Service system.	Stressful works; under the impact of noise and ultra-high frequency electromagnetic field.
5	Technician operating the Vessel Traffic Service system.	Stressful works; static working posture; frequently working on a radar tower with a height of 50m; under the impact of noise and ultra-high frequency electromagnetic field.
6	Seafarers working on public vessels or boats of port authorities.	Very arduous and dangerous works; under the impact of bad weather, tremor and noise; stressful works.
7	Seafarers working on supply ships/boats, ships/boats for inspecting maritime signaling systems, lighthouses and navigational channels, or transporting maritime pilots.	Very arduous and dangerous works; under the impact of bad weather, tremor and noise.
8	Inspecting ships/vessels, irrigational works, maritime signaling systems.	Dangerous works; under the impact of dust and noxious gases or vapors.
9	Inspecting marine works.	Working offshore; under the impact of bad weather.
10	Installing, maintaining and repairing marker buoys, maritime marks and signals.	Working outdoor; arduous and dangerous works; under the impact of noise and tremor.
11	Managing and operating maritime signals and marks on navigational channels, estuaries, and along rivers on which waterway transport activities are performed.	Working outdoor; dangerous works; under the impact of bad weather and tremor.
12	Workers in charge of managing and operating lighthouses.	Working outdoor; dangerous works; under the impact of bad weather.
<b>Class-IV working conditions</b>		
1	Workers in charge of inland waterways.	Working outdoor; arduous works; under the impact of bad weather.

2	Workers in charge of surveying, restoring and maintaining inland waterways.	Working outdoor; arduous works; under the impact of bad weather.
3	Workers in charge of install inland waterway signals.	Working outdoor; under the impact of bad weather.
4	Captain, chief mechanic working on ships in charge of managing inland waterway.	Working outdoor; arduous works; under the impact of bad weather.
5	Information service staff of Vietnam Coastal Communication System.	Working under the impact of noise and electromagnetic field.
6	Operating, maintaining and repairing radars at radar stations of maritime navigation systems on navigational channels.	Working under the impact of electromagnetic field; frequently working at height.
7	Workers in charge of managing and operating navigational channels.	Working at shifts; under the impact of electromagnetic field; stressful works.
8	Receiving, transmitting and processing maritime security and safety information.	Stressful works; under the impact of electromagnetic field.

#### IV. CHEMICALS

No.	Occupation or work	Working conditions
<b>Class-V working conditions</b>		
1	Producing and packing Na <sub>2</sub> SiF <sub>6</sub> .	Arduous works; frequently contacting with toxic gas (HF), noise, and high concentration of dust.

#### V. SCIENCE – TECHNOLOGY

No.	Occupation or work	Working conditions
<b>Class-VI working conditions</b>		
1	Operating and maintaining nuclear reactors (power reactors, research reactors).	Frequently contacting with radioactive sources.
2	Performing safety assurance works at nuclear reactors.	Frequently contacting with radioactive sources.
<b>Class-V working conditions</b>		

1	Performing ore dressing and processing of radioactive ores and rare earth ores.	Frequently and directly contacting with radioactive substances (U, Th, Ra, Rn, etc.), radioactive ore dusts, noise and hazardous substances.
2	Adopting manufacturing technology of nuclear materials or nuclear fuel.	Frequently and directly contacting with radioactive substances (U, Th, Ra, Rn, etc.) of high intensity, noise, flammable or explosive gases and toxic chemicals.
3	Treating, storing and managing radioactive waste, used radioactive sources and nuclear fuel.	Frequently and directly contacting with radioactive substances (U, Th, Ra, Rn, etc.), radioactive ore dust, noise, flammable or explosive gases, and hazardous substances.
4	Directly operating and maintaining radiation equipment; performing experiments in nuclear physics and radiation chemistry.	Frequently contacting with radioactive sources.
5	Exploiting and using neutron sources of nuclear reactors.	Working in confined spaces; continuously working in a mixed neutron and gamma radiation environment.
6	Producing radioactive isotopes and making up radiopharmaceuticals.	Frequently contacting with radioactive sources.
7	Performing sample analysis using nuclear techniques, calibration and radioactivity.	Working in direct contact with radioactive substances.
8	Analyzing ore samples and radioactive elements adopting physical and chemical methods.	Frequently and directly contacting with radioactive substances (U, Th, Ra, Rn, etc.), radioactive ore dust, noise, flammable or explosive gases, and hazardous substances.
9	Dismantling nuclear facilities and equipment, managing radioactive decontamination works.	Directly contacting with radioactive substances and materials contaminated with radioactive substances.
10	Measuring and evaluating radiation safety for radiation facilities, nuclear facilities, and radioactive ore extraction and processing facilities.	Frequently contacting with ionizing irradiation.
11	Testing, verifying, repairing and maintaining radiation equipment and radioactive sources.	Working in direct contact with ionizing irradiation.

12	Packing, storing and transporting radioactive substances and radiopharmaceuticals.	Frequently and directly contacting with radioactive substances and radioactive dust; facing risks in transportation.
13	Using radiation sources or equipment with the ratio of radioactivity higher than or equal to 10.	Frequently contacting with radioactive sources.
14	Taking charge of radiation safety for facilities using radiation sources or equipment with the ratio of radioactivity higher than or equal to 10.	Frequently contacting with radioactive sources.
15	Searching, positioning and coping with radiation emergencies, and performing decontamination of radiation exposure in the environment.	Arduous works; working mainly in outdoor radiation environment.
16	Recovering radioactive sources, escorting radioactive sources when they are transported.	Directly contacting with radioactive substances, radioactive materials and/or nuclear materials with a radiation dose which may cause danger.
17	Dismantling nuclear facilities, nuclear equipment, managing radioactive decontamination works.	Directly contacting with radioactive substances and materials contaminated with radioactive substances.
18	Measuring and evaluating radiation safety for radiation facilities, nuclear facilities, and radioactive ore extraction and processing facilities.	Frequently contacting with ionizing irradiation.
19	Testing, verifying, repairing and maintaining radiation equipment and radioactive sources.	Working in direct contact with ionizing irradiation.
<b>Class-IV working conditions</b>		
1	Directly doing radiation jobs, doing jobs using other radioactive sources with the ratio of radioactivity of less than 10.	Working in direct contact with radioactive sources.
2	Performing electromagnetic compatibility testing.	Working in direct contact with electromagnetic field.

## VI. SPORTS

No.	Occupation or work	Working conditions
<b>Class-VI working conditions</b>		
1	Rock climbers or rock climbing instructors.	Working outdoor; very steep and very dangerous workplace; intense, exhausting and stressful works.
2	Water scooter riders and instructors.	Working outdoor and in the water; intense, exhausting and stressful works.
3	Paragliding players and instructors.	Outdoor, intense, exhausting, dangerous and stressful works.
<b>Class-V working conditions</b>		
1	Powerboat instructors.	Outdoor, intense, exhausting, very dangerous and stressful works.
2	Boat racing instructors.	Outdoor, intense, exhausting, very dangerous and stressful works.
3	Weightlifting coaches.	Intense, exhausting, dangerous and stressful works.
4	Gymnastics coaches.	Intense, exhausting, very dangerous and stressful works.
<b>Class-IV working conditions</b>		
1	Dancers and dancing coaches.	Intense, exhausting and stressful works.
2	Fencing coaches.	Intense, exhausting, dangerous and stressful works.
3	Roller-skaters and roller-skating instructors.	Intense, exhausting, dangerous and stressful works.

## VII. MINING

	Occupation or work	Working conditions
<b>Class-V working conditions</b>		
1	Workers in charge of mixing and pouring concrete inside the pits.	Working in confined spaces, lacking oxygen; static working posture; under the impact of noise, heat and dust.
2	Performing mine gas monitoring in the pits.	Frequently working in the pit, in confined and dangerous spaces, lacking oxygen; static working posture; under the impact of noise, heat and dust.
<b>Class-IV working conditions</b>		

1	Operating coal preparation equipment by adopting flotation or magnetic separation in coal preparation plants.	Frequently working under the impact of noise, dust and chemical hazards.
2	Doing industrial cleaning jobs in workshops for repairing mining equipment and vehicles.	Manual works; under the impact of noise, lubricants and industrial waste.
3	Protecting resources and boundaries of coal mines.	Working outdoor; constantly moving; dangerous works.
4	Workers in charge of charging batteries and repairing mining lamps; repairing and delivering batteries and mining lamps.	Manual works in frequent contact with lead and acids.
5	Workers in charge of repairing machinery loading/unloading coal in coal preparation plants.	Working at height; dangerous works; static working posture.
6	Keeping industrial explosives storages.	Working outside the pits. Arduous and dangerous works; contacting with toxic chemicals.

## VIII. NATURAL RESOURCES AND ENVIRONMENT

No.	Occupation or work	Working conditions
<b>Class-VI working conditions</b>		
1	Surveying, measuring and drawing maps of sea and island natural resources.	Arduous and dangerous works; frequently working at sea; under the impact of bad weather, tremor and noise.
2	Diving to take research samples, collect figures about natural conditions and seabed environment.	Arduous and dangerous works; static working posture; under the impact of high pressure.
<b>Class-V working conditions</b>		
1	Operating ships for surveying sea and island natural resources and environment	Arduous, dangerous and stressful works; frequently working at sea; under the impact of bad weather and noise.
2	Seabed drilling (on jack-up rigs, buoys, ships, vessels)	Outdoor and stressful works; under the impact of noise and tremor.
3	Monitoring of natural conditions, dynamics, environment and ecology of sea.	Outdoor and stressful works; under the impact of noise and tremor.

4	Measuring spectroscopy of gamma-rays in ships.	Outdoor and stressful works; under the impact of noise and tremor.
5	Conducting marine geophysical surveys by ships (seismic, magnetic, gravity, sonar, and electromagnetism).	Outdoor and stressful works; under the impact of noise and tremor.
6	Conducting geophysical surveys in radioactive zones in water resources sector.	Working outdoor at highland regions; constantly moving; under the impact of radioactive substances.
7	Conducting well logging in water resources sector.	Very dangerous works; in contact with high-intensity radioactive sources.
8	Investigating water resources at highland, forest, island and border regions, and at sea.	Working outdoor, at regions with difficult topography; muddy workplace; arduous works; under the impact of bad weather, noise and tremor.
9	Working out routes for preparing maps of water resources, monitoring of water resources, searching for water sources at remote, highland, border or island regions.	Working outdoor; arduous and dangerous works; constantly moving at high and sloping mountainous regions.
10	Monitoring and taking samples of radioactive environment, sediments, dioxin/furan, and other toxic chemicals.	Working outdoor, at steep and dangerous regions; manual works; constantly moving; in contact with toxic chemicals.
11	Carrying out analysis of environmental parameters of oil, water, gas, radioactive, sediment, sewage sludge, hazardous waste, dioxin/furan and other toxic chemicals.	Directly contacting with chemicals; working at radioactive environment; under impact of radiation rays and noise.
12	Monitoring of water resources at remote, highland, border or island regions.	Working outdoor; arduous and stressful works; constantly moving.
<b>Class-IV working conditions</b>		
1	Monitoring at coastal regions (measuring magnetic variations during both day and night, monitoring tidal fluctuations, gravimetric reference stations, measuring and connecting geodetic	Outdoor and stressful works; under the impact of noise and tremor.



	points serving marine investigation projects).	
2	Operating drillers to extract water resources.	Working outdoor; arduous works; muddy workplace; static working posture; in contact with chemicals contained in bentonites.
3	Operating drilling rigs or trucks of 7.5 tonnes GVW or above to extract water resources.	Dangerous works; under the impact of tremor and noise.
4	Analyzing and testing physical – mechanical features of soil & rock, material physical – mechanical features, and physical chemistry of water.	Frequently contacting with dust and toxic chemicals.
5	Monitoring of water resources at monitoring stations in flat or midland areas.	Working outdoor; arduous works; constantly moving.
6	Selecting, classifying, maintaining, repairing or restoring materials stored at National Center for Water Resources Planning and Investigation.	Frequently contacting with CO and formaldehyde.
7	Taking/ pouring laboratory water in research on water resources.	Working outdoor; manual and arduous works.
8	Pumping water into/from boreholes.	Working outdoor; manual and arduous works.
9	Instructing and inspecting monitoring techniques at monitoring stations and points at mountainous and island regions.	Arduous works; constantly moving.
10	Monitoring of water-flow rate and hydrologic factors at water resource monitoring stations in mountainous regions.	Arduous and dangerous works.

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