Technology IFT NORM - ARWS

A technology unmatched in its field finally launched on the world market.

The only technology in the world which allows 100% separation of the liquid, non-radioactive ARWS waste from the solid and radioactive NORM waste.

The IFT technology is based on unique active solutions that are applied in the special equipment designed to remove ARWS and NORM decontamination from surfaces.

IFT NORM-ARWS is currently the only proven and 100% functional technology of this kind in the world. It safely removes ARWS and NORM sediments from the cleaned surface without mixing or emulsifying with the cleaning solution. In practice this delivers a technological revolution in terms of the removal of surface radioactivity, totally separating the liquid non-radioactive ARWS waste from the solid, insoluble radioactive NORM waste.

The main advantages of IFT technology are:

1) The non-radioactive liquid-waste ARWS can be safely added to the crude oil.
2) The NORM waste is always in solid and insoluble form and ready for immediate disposal by standard methods (e.g. underground reinjection or land storage).
3) Its ecologically closed working cycle of chemical and hydrodynamical treatment, which minimizes water and working solutions consumption.
4) A guaranteed 100% radioactive decontamination of the cleaned surfaces - to natural background level.
5) It does not damage the cleaned and decontaminated surface of the equipment or materials, allowing re-use.
6) It delivers a huge reduction (up to 50-fold) in the volume of NORM waste.
7) A wide range of applications with the possibility of mobile usage in special facilities.
8) Low energy costs - the working processes take place at temperatures of max. 25°C (77°F).

Our products:

Complex IFT-SA (with variations IFT-SB, IFT-SC)

- 4th generation complex.
- IFT-SA is an ecologically safe industrial chemical-technological system, designed for special cleaning and decontamination of well, drilling and collector pipes intended for oil, gas and uranium mining and transportation.
- Purpose of IFT-SA - Cleaning and decontamination of contaminated surfaces of wells, drilling and collector pipes used in oil and gas industry from:
  - ARWS - asphalt-resin and wax substances and corrosion.
  - NORM - naturally occurring radioactive materials.
- New generation of hydro-dynamic and electrophoresis washing for removal of mineral sediments and NORM contamination.
- Parameters of treated pipe:

Length	5 - 10.5 m	
Diameter	from 2.5" - 4.5"	IFT-SA
	from 5" - 7"	IFT-SB
	from 7.5" - 10"	IFT-SC

- Production of the complex depends on the level of mineral contamination and radiation.
- The time needed for manipulation and cleaning of 1 well pipe is on average 6-10 minutes.
- Semi-automatic operation – operator is not in direct contact with the treated radioactive material.
- Reduction of number of operators – 50% in comparison with 3rd generation.
  IFT-SA requirement is 5-7 operators.
- Consumption of the working solution is not influenced by the operator – lower consumption and higher efficiency.
- IFT-SA is placed in 25 High Cube sea containers 40´.
- Package includes equipment, initial working solutions (chemicals), complete assembly, training, 1 year warranty, 10 year guarantee on repairs and spare parts.

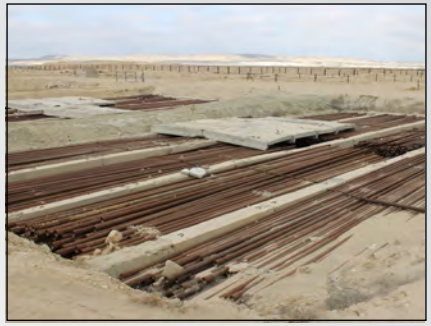
Chemical solutions IFT

IFT-KCD
Working solution IFT- KCD - 2 phase solution:

- 1st phase - designed for cleaning, deparaffination and removal of oil-asphalt-tar sediments, corrosion and encrustation from surface of equipment.

- 2nd phase - designed for 100% NORM decontamination- removes contamination by radionuclides of the class NORM from surfaces.

IFT-N
Working solution IFT- N - designed for neutralization and passivation of surface after cleaning and deactivation.



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This technology has a wide range of applications such as:

- Cleaning and decontamination of industrial equipment intended for the extraction, transport, processing and storage of crude oil, natural gas and uranium.
- Routine maintenance of mining pipeline oil rigs, oil platforms and land-based drilling
- Decontamination and clean-up of discarded oil rigs and oil platforms.
- Cleaning and decontamination of military equipment, nuclear submarines and nuclear-powered ships and their decommissioned parts.
- Cleaning and decontamination of rail tankers and wagons.
- Routine maintenance of the transit pipelines and equipment including collectors and transit furnaces.
- Cleaning and refurbishment of oil refineries, power plants and heat exchangers.

NORM AND ARWS DECONTAMINATION TECHNOLOGY

IFT-LLC
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