# IFT NORM & ARWS



### **KNOW HOW OFFER**

#### Scope of the offer:

- 1. List of chemical substancies from which consists the working solutions IFT
- 2. Description of the production of concentrated working solutions IFT
- 3. Deatailed description of utilization and usage of working solutions IFT
- 4. Delivery of mixing equipment for production of working solutions IFT
- 5. Drawings for production of special equipment for aplication of working solutions IFT
- 6. Delivery of chemico-technological complex for well tubular decontamination (max. production 200 well tubulars/day)
- 7. Stuff training
- 8. Providing of IFT specialists needed for complete adopting of KNOW-HOW for period of 6 month

The price of KNOW-HOW is upon request.

The return of investment is approx. in 3 years with full technological utilization. We offer the rights to use this technology (know-how) including the rights with the territorial guarantees (exclusivity for a given territory).





### **Patented technology IFT NORM - ARWS**

This patented technology IFT NORM - ARWS that we offer is currently the only proven and efficient technology of this kind in the world, providing very small consumption of water and energy and can safely clean and remove debris NORM (naturally occurring radioactive materials) and sediments ARWS (asphaltresin and wax substances) from the surface. From all the other technologies used around the world it differs due to the fact, that the liquid, non-radioactive waste ARWS can be 100% separated from the solid and radioactive waste NORM in the working process.

The bases of the IFT technology are specially developed working solutions that are used in the patented, device cleaning and deactivating chemical-technological complex.

The offered technology consists of two sub-technologies:

#### **TECHNOLOGY IFT ARWS**

Is the first stage of the technological process and ensures perfect cleaning of the surface of paraffin, asphalt and tar deposits.

#### **TECHNOLOGY IFT NORM**

Is the second stage of the technological process and ensures a gradual 100% deactivation of the already cleaned surface from NORM waste radionuclides, such as radium, thorium, barium, K40 etc.



[IFT NORM & ARWS]

## IFT NORM & ARWS



The main advantages of IFT technology are:

- 1) currently unmatched technology in its field on the market because it is the only one in the world capable to 100% separate liquid - ARWS nonradioactive waste from radioactive waste NORM in its working process,
- 2) produced non-radioactive liquid-waste ARWS can be mixed back with the crude oil,
- 3) produced radioactive NORM waste is always in solid and insoluble form and is immediately ready for underground reinjection or ready to be stored on the corresponding industrial landfill,
- 4) it is ecologically closed working cycle of chemical and hydrodynamic treatment with minimal water consumption and working solutions,
- 5) guaranteed 100% deactivation of the cleaned surfaces to the level of background,
- 6) cleaned and deactivated surface of the equipment or materials is always intact and immediately ready for re-use,
- 7) huge up to 50-fold volume and mass reduction of NORM waste and ARWS,
- 8) very wide range of applications with the possibility of mobile usage in special facilities,
- 9) very low energy costs working processes take place at temperatures of max. 25°C (77°F),
- 10) fast return on investment approx. in 2-3 years with full technological utilization of the capacity.

Specific applied IFT Technology along with technological equipment complex is always produced tailored, depending on the exact requirements of the customer.



[IFT NORM & ARWS]

## **IFT NORM & ARWS**



This technology has a wide range of applications such as:

- cleaning and deactivation of industrial equipment intended for extraction, transport, processing, storage of crude oil, natural gas and uranium,
- routine maintenance of mining pipeline oil rigs, oil platforms and land-based drilling,
- deactivation and cleanup of discarded oil rigs and oil platforms,
- cleaning and deactivation 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 including collectors and transit furnaces, cleaning and refurbishment of oil refineries, power plants and heat exchangers

