

## **SETUP FOR ELECTROCHEMICAL DECONTAMINATION OF METAL SURFACES**

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### **ABSTRACT**

The decontamination of metal surfaces by classic chemical method leads to generating of huge amount of secondary liquid radioactive wastes and at the same time the decontamination factors are not high enough.

Comparing to chemical methods the electrochemical decontamination is considered as more effective method. Electrochemical decontamination implies the dissolution of thin layer of metal surface that contained radioactive nuclides in electrolyte under the influence of electric current. However this method is not used widely due to imperfection of traditional equipment for electrochemical decontamination and generation of huge amount of secondary liquid wastes.

The main goal of our present work is the development of new equipment for highly effective electrochemical decontamination. The main advantages of this setup are the low amount of secondary radioactive waste products and minimized probability of secondary contamination during the process. The special module for “on-line” electrolyte recycling was designed.

The process can be carried out without disassembling of metal objects.

Recently new setup “MOLNIYA” was created and tested under real industrial conditions. The parameters of electrochemical decontamination of metal surfaces using “MOLNIYA” are:

- Specific energy consumption per unit of decontaminated surface – from 0,3 kW/m<sup>2</sup>;
- Specific volume of conditioned secondary wastes – about 0,5 dm<sup>3</sup>/m<sup>2</sup>;
- Decontamination rate – up to 1000 of working surfaces of remote electrode per hour;
- Low voltage.