

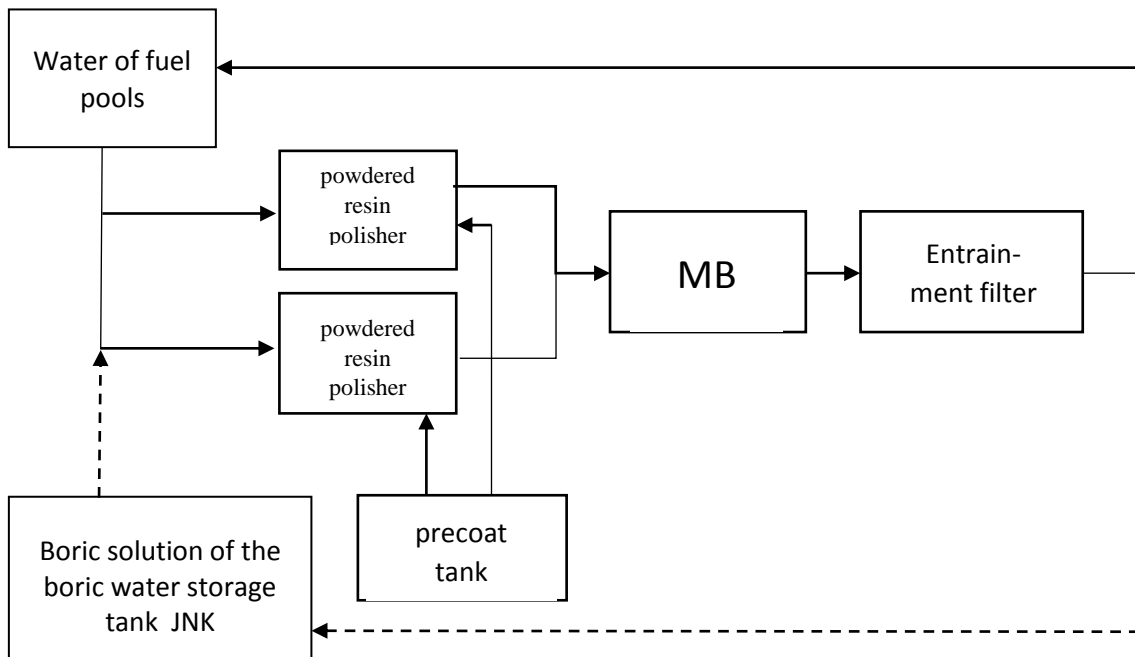
Purification system of the fuel pools and water of boric water storage tank FAL

Purification system of the fuel pools and water of boric water storage tank provides WCR quality parameters of the fuel pools and pit-tanks of low concentration boric water storage.

Functions of FAL system are:

- purification of fuel pool water from mechanic and dissolved impurities with purpose to reduction of it's activity and to improvement of transparency;
- purification of low concentration boric water storage pit-tanks from mechanic and dissolved impurities.

The FAL system contain refrigerant of boric water, pumps of boric water supply on purification powdered resin polisher, MB, entrainment filter, pumps of layer support, pump of powdered resin polisher powder with mixing device armature, pipelines. The principle scheme of FAL system is showed on the picture.



Scheme 1. The principal technological scheme of FAL system
(JNK – system of high concentration boric water storage; MB – mixed bed)

The system works constantly at reactor overload. At other reactor regimes one works at certain intervals according to the water quality parameters.

Table 1 – Diagnostic quality parameters of fuel pool water

Parameter	Control level
pH level, at least	4,2
Boric acid concentration, g/dm ³	16-20
Chloride-ion concentration, mg/dm ³ , no more	0,1
Fluoride-ion concentration, mg/dm ³ , no more	0,1
Oil and heavy oil products, mg/dm ³ , no more	0,5
Transparency, %, at least	95

At the normal operational regime water is supplied on powdered resin polishers with the help of pumps. The filters have a parallel connection, one of them is back-up. Then water goes to MB, after that it returns into the pipelines.

There is line of filters bypass. For powdered resin polishers operation there are tank of ionexchanger placement, pumps of placement and layer support.