

## WATER PROTECTION FROM DISCHARGES

### 2.3. Treatment of industrial and surface waste water from power companies

#### 2.3.1. Technologies of treating industrial and surface waste waters from power companies

##### 2.3.1.3. Chemical waste water treatment

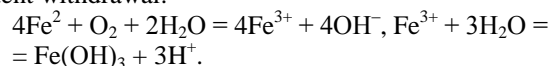
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Neutralization, oxidation and deoxidation are commonly referred to chemical waste water treatment methods. These methods are applied for removal of the dissolved substances both before giving on biological clearing, and in the closed cycles of water use.

Waste water containing acids or alkalis is neutralized by mixing of acidic and alkaline drains, with addition of reagents submitted in various aggregate conditions. At that the quantity of reagents added is determined by achieving waste water pH equal to 6,5 ... 8,5.

For oxidation process different oxidizers are applied, including chlorine, sodium and calcium hypochloride, oxygen, ozone, etc. In chemical reactions toxic pollutants convert into less toxic. For example, to remove iron from water air oxygen is used for oxidation of bivalent iron compounds into tri-

valent with settling out of iron hydrated oxide and its subsequent withdrawal:



Oxidation by ozone in some cases yields successful clearing of waste water from phenol, oil products, arsenic and other toxic substances.

Chlorine and substances containing «active chlorine» are rather effective for waste water treatment from hydrogen sulfide, hydrosulfide, and cyanide. It should be noted that application of chemical reagents in waste water treatment almost always gives high results. However, high cost of chemical reagents prevents their extensive introduction into waste water treatment.