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Consultation

Feasibility Studies

Design

Implementation Operation





MANAGMENT **D**ESIGN **I**MPLEMENTATION

WATER AND WASTE WATER TREATMENT









NEW TRENDS IN WATER TREATMENT

The company IPR Aqua, Ltd. is focused on water treatment and waste water treatment for both industrial and drinking water purposes.

The core of the company is based on experienced employees who have acquired their knowledge from local and abroad projects as well.

What we offer

Complete management of water, especially:

- Feasibility studies
- Project design
- Construction and operation of water treatment plants
- Construction and operation of waste water treatment plants

Feasibility study

The aim of the study is to suggest optimal technical solution at a basic design level.

Using the technical solution investment and operation costs is determined. This is the key information for customer's decision of investment realization. The study is also a capable source for further designing.

If there is enough information about the intended project, the feasibility study may be done usually without any physical tests. However, if the information is missing, we are able to perform laboratory or even pilot-plant tests. In that case, there is a quite huge certainty the final technology works.

As we use process engineering and physical chemistry approach, the scope of the study is not limited for water treatment only, but generally for process engineering.

Project design

Although we are focused on the process part of the design documentation, we are capable to ensure all-inclusive documentation matching local law (e.g. in CZ 499/2006 Sb. Regulation). The design documentation is a very important part of the project - it's underrating usually brings project delay and investment costs increase.

Management

Our employees are experienced in project management, thus to ensure all permissions need by local authorities. Usually the main benefit for the customer is to acquire favorable effluents limits.

Implementation

Like a producing company our core business are turnkey solutions including:

- Transportation of technology and assembling
- Piping
- Wiring
- Tests
- Commissioning and operator training

During the project we are very open and not promising unreal; our aim is to suggest a real-based project schedule, so the customer may rely on declared milestones. The mutual cooperation is critical at this time.

Operation and service

The company through it's employees owns the required certificates to take the responsibility over WWTP and sewage. Further, there is sufficient technical background in the company to ensure warranty and post-warranty service.

Waste Water Treatment

To keep the environment clean the waste water has to be treated. The WWTPs may be split into two basic types - Municipal WWTP and Industrial WWTP.

Industrial WWTP

We are focused on industrial waste water, there we find out and apply the appropriate technology to help you fulfill even strict effluent concentration limits.

The WWTP is usually a combination of several operations based on chemical, physical and biological processes.

This approach separates the pollutant in a concentrated form or converts into less harmful or fully safe product.

The WWTP technology may be found in a wide spectra of industry, like:

- Treatment of waste water from surface proofing
- Treatment of waste water from varnishing
- Treatment of waste water form chemical industry
- Treatment of waste water from automotive
- Treatment of waste water from remediation
- Treatment of waste water from pharmacy
- Treatment of waste water from producing of explosives
- Treatment of waste water from mining

Technology

Upon customer's request we suggest the technology to meet the actual situation. The final technology may be either stationary or semi-mobile. In the second case, the technology is assembled and delivered in 10-40 feet ISO containers.

Water Treatment

Water treatment is a process where some physical, chemical and biological properties of the source water are changed. The treated water is usually a part of some further process or technology. Commonly water for chemical processes, cooling, washing and steam-production has to be pre-treated. Last but not least is the case of drinking water. The origin of raw water may be surface, underground, sea and, in very special cases, even drinking water.

Some examples of widely used techniques

- Traditional
 - Precipitation
 - Sedimentation
 - Filtration
 - Ion exchange
- Modern
 - Membrane technology
 - EDI

Water softening

Usually ion exchanger technology is applied, where ions of magnesium and calcium are substituted by sodium ion. The process is fully automatic.

Nitrates removal

Nitrates are quite dangerous in drinking water, especially for children and even more for babies. The ionic technology is used again and the nitrates are replaced by chlorides. Reverse process is done by common salt.

Iron and manganese removal

For removal of iron and manganese a combination of airscrubbing, pH correction, oxidation, filtration is used. The whole system is fully automatic controlled by a PLC unit with optional remote control.

Disinfection

There are several methods for water disinfection based on chemical or physical processes. Most common is UV light treatment and oxidation from the chemical methods. But chlorination of drinking water is still the most common.











