



HOME

COMPANY PROFILE

MISSION STATEMENT

FAQS

LINKS

AWARDS

CONTACT US

CAREERS

INDUSTRIAL SOLUTIONSAMMONIA
REMOVAL
PROCESSANIMAL WASTE
RECOVERY
PROCESS

CAST SYSTEMS

EFFLUENT WATER
TREATMENTETHYLENE
GLYCOL
RECOVERY
PROCESS**FGD
WASTEWATER
TREATMENT**FOOD AND
BEVERAGELANDFILL
LEACHATE
RECOVERY
PROCESSMETAL RECOVERY
PROCESS

PLATING

PRE-TREATMENT
SYSTEMS

PRIMARY

FGD WASTEWATER TREATMENT

- » **WHAT IS FGD?**
- » **FGD REGULATIONS**
- » **TRADITIONAL FGD WASTEWATER TREATMENT AND STEPS**
- » **FGD TREATMENT DRAWBACKS**
- » **FGD TREATMENT ADVANTAGES**

What is FGD?

Flue gas desulfurization (FGD) wastewater contains high total suspended solids of 250-20,000 mg/L and total dissolved solids of 15,000-35,000 mg/L. Among the FGD wastewater constituents are chlorides, boron, arsenic, calcium, mercury, magnesium, selenium and also aluminum, nitrates and ammonia. Wastewater flow rates can range from 100 to 1000 gpm with the average flow rate of 450 GPM.

FGD Regulations

Historical FGD wastewater regulations have focused on COD, TSS and TDS and **FGD wastewater treatment** has focused on removing these solids. Recent regulatory interest on FGD wastewater treatment is looking to reducing metals, ammonia and selenium loading in streams, rivers and estuaries.

Traditional FGD Wastewater Treatment and Steps

Traditional FGD wastewater treatment for COD, TDS and TSS consists of a number of process steps including:

- » Flow equalization
- » Primary clarification of suspended solids
- » pH elevation and CaSO₄ desaturation
- » Sludge recirculation to enhance desaturation
- » Heavy metal precipitation with organo-sulfide chemical addition
- » Coagulation with ferric-chloride addition
- » Polymer addition to enhance flocculation of solids
- » Solids separation and thickening
- » Final clarification
- » Solids dewatering

SEPARATION SYSTEMS

For ammonia and selenium removal additional biological treatment after the solids dewatering would be needed to remove these contaminants.

RCAST SYSTEMS

FGD Treatment Drawbacks

SOUR WATER

The drawbacks of these traditional FGD wastewater treatment systems are:

SYSTEM INTEGRATION

- ✧ Multiple process steps involving chemical, physical, and biological processes
- ✧ Large land requirements for the wastewater treatments
- ✧ Large tankage and pumping requirements particularly for biological processes
- ✧ High energy costs
- ✧ High capital costs
- ✧ Advanced FGD Wastewater Treatment

WASTEWATER EVAPORATORS

ZERO LIQUID DISCHARGE SYSTEM

WINERY WASTEWATER TREATMENT

CASTion offers an advanced FGD wastewater treatment that can remove both the suspended and dissolved solids as well as the ammonia and selenium present in FGD wastewater treatment. Coupled with reverse osmosis and other off the shelf filtration components, CASTion's advanced *FGD wastewater Treatment systems* are a two stage CAST/RCAST units with a pH adjustment. The reject water from the reverse osmosis unit is dewatered in the CAST units to remove the selenium and 80% of the ammonia is removed by using CASTion's RCAST with the wastewater recycled back into the power plant. CASTion's RCAST can also be retrofitted to an existing FGD wastewater treatment system to remove only the ammonia.

CONTACTING CASTION



Call us today at
800-628-7528
or click below
for more
information

[CLICK HERE TO CONTACT US](#)

FGD Treatment Advantages

The advantages of CASTion's FGD wastewater treatment system are:

- ✧ Small footprint
- ✧ Simple Chemical/physical operations
- ✧ Lower energy and operating costs
- ✧ Lower capital costs

© 2008 Castion Corporation, A ThermoEnergy Company

[home](#) | [company profile](#) | [mission statement](#) | [faqs](#) | [links](#) | [awards](#) | [contact us](#) | [careers](#) | [privacy policy](#) | [site map](#)
[ammonia removal wastewater](#) | [metal recovery](#) | [waste water recycling](#) | [wastewater treatment plant sludge reduction](#)
[nanofiltration recovery](#) | [wastewater microfiltration](#) | [wastewater treatment systems for plating](#) | [beverage industry wastewater](#)
[waste water treatment winery](#) | [industrial wastewater treatment](#) | [effluent treatment](#) | [wastewater evaporator](#)
[fgd wastewater treatment](#) | [municipal solutions](#) | [industrial solutions](#)