

**THE INDUSTRIAL
WASTEWATER
ADVISOR**



Water Process Solutions

A Newsletter on Water & Wastewater Treatment for Recovery and Reuse

Greetings from the President

What's new at A₂

We are pleased to introduce our new quarterly newsletter and welcome our new readers. There are several other noteworthy "new" things at A₂:

We have a new Director of Sales and Marketing: Mr. Wayne Odegard. Wayne has joined A₂ to help us reintroduce our innovative products, technical capabilities and water treatment experience to the North American industrial market. We are looking forward to the new business and new business opportunities.

To maximize our enhanced customer support services, we have a new Customer Services contact: Ms. Cindy Martinez. Cindy has joined A₂ as the primary coordinator for our internal support and customer service functions.

We also have relocated to a new facility outside of Corpus Christi, from which we can support our expanding business. Our 12,000-ft² facility will allow us to increase our inventory, enhance our customer support activities, and increase our pilot study services.

Why all the "new" stuff? Last year was a watershed year for A₂. We began to realize the rewards of our early efforts in the industrial marketplace and began feeling the momentum of our successful applications. Finally, we are proving the great things that our products and services can do for our customers. Bringing in some key personnel and investing in the required support structures will help A₂ capitalize on this momentum and increase our success in the new year.

We are upbeat and enthusiastic about our opportunities in the new year! We wish you the same.

Brad Simmons, *President*

■ **In college, everyone seems to know that osmosis is the effortless absorption of ideas – usually achieved by sleeping on a textbook. In water treatment, osmosis is “the tendency of fluids to pass through a membrane so as to equalize concentrations on both sides.”** ■



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WATER PROCESS SOLUTIONS

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AROUND THE WORLD

Seawater is approximately 96% pure water; the rest is made up of dissolved salts. In average seawater, there are approximately 14 elements with concentrations higher than 35 parts per thousand of salts. Of these, the primary elements – those salts in concentrations of more than 1% of the total dissolved salts – consist of chlorine (Cl), sodium (Na), sulphate (SO₄), magnesium (Mg), calcium (Ca), and potassium (K).

The challenges of "salt" water are significantly different than those of fresh water. A₂ has worked with seawater applications to develop techniques for treating and/or removing salts and other impurities from "salt" water. We are presently working on seawater projects in the Far East, Central America, the United States, and in the shipping industry – around the world. As water, and the use of salt water, becomes more important, A₂ will be at the forefront of companies with products and technical expertise to deal with the special issues facing "salt" water treatment.

Who. What. Where: A₂ Fare

WHO: We recently completed a technical training course with our representatives in Mexico: Industrias Marin. The Mexico sales team is ready and anxious to support our customers with technical and commercial sales support. We wish Fernando Marin and the Industrias Marin sales team great success in their A₂ sales activities!

Jeff Monk of Monk Engineering (Houston) was recently awarded the highest A₂ sales award. The award, which honors the highest cumulative sales totals for an individual, earned Jeff an all expense paid trip to Israel! Congratulations Jeff; we are sure you will have a great time (just keep your head down!)

WHAT: A₂ has recently been awarded a large water treatment project for the City of Austin. The project includes filtration, pretreatment, ultrafiltration and RO membrane technology to treat surface water used to support the city's two power plants. The project is scheduled for completion in May 2001.

WHERE: We are very excited about our new facility in Gregory, Texas – just north of Corpus Christi, Texas. If you are in the area, please stop by and say hello.

Sightings: A₂ was seen at several of the national conventions and technical symposia recently. Among the more visible attendances were the International Water Conference, PowerGen, and WEF Tech. Upcoming events include the CTI Symposium and LOBOS Show in Corpus Christi, Texas, the LOBOS Show in Beaumont, Texas, the WQA Exhibition in Orlando, and the UltraPure Water Exposition in Philadelphia.

Information and Adaptation: A₂ Review

It is estimated that approximately 1/2 of the nations waters do not adequately support aquatic life because of excess nutrients. Based on these findings, the EPA is proposing a strategy designed and adapted to create nationwide quality criteria that recognizes regional nutrient enrichment causation factors such as climate, elevation, sediment load, bedrock type, light, and physical disturbances and help states adopt water quality standards.

The proposed criteria – designed to protect water from excessive nutrients – sets water quality standards for nutrients, including nitrogen and phosphorus. Excess nutrients can lead to algae blooms such Pfiesteria and red tide. States are expected to adopt or revise their nutrient standards by 2004, based on the new criteria.

Also included in the new standards will be limits on methyl mercury, the form of mercury found in contaminated fish. The new methyl mercury water quality criteria are based on a new risk assessment that the EPA has developed in response to a recommendation by the National Academy of Sciences.

The EPA has recognized that the new guidelines are much more complex and multivariable than existing criteria. Therefore, to assist in the interpretation and implementation of the new criteria, the EPA is developing technical guidance/manuals. For more information about the proposed standards and the technical guidance manuals, visit the EPA's web site at www.epa.gov.

Expertise & Experience

Reduction of Water Consumption Using A₂ Water Treatment System

Recent environmental regulations and power deregulation have encouraged California businesses to consider alternative systems to meet water and wastewater demands and power requirements. In the past, the issues of power and water were considered different; in fact, most businesses would not equate water conservation and zero discharge with power production. However, A₂ has changed that with the introduction of a water reuse/zero discharge/power generation process that solves water management and energy cost and availability issues.

Recently, one of the major produce processors in California was faced with a difficult problem: how to reduce water usage and water effluent. This producer was not just interested in the costs associated with water management; they were interested in being a good local citizen. A₂ was invited to present ideas regarding the use and reuse of water and the reduction of wastewater.

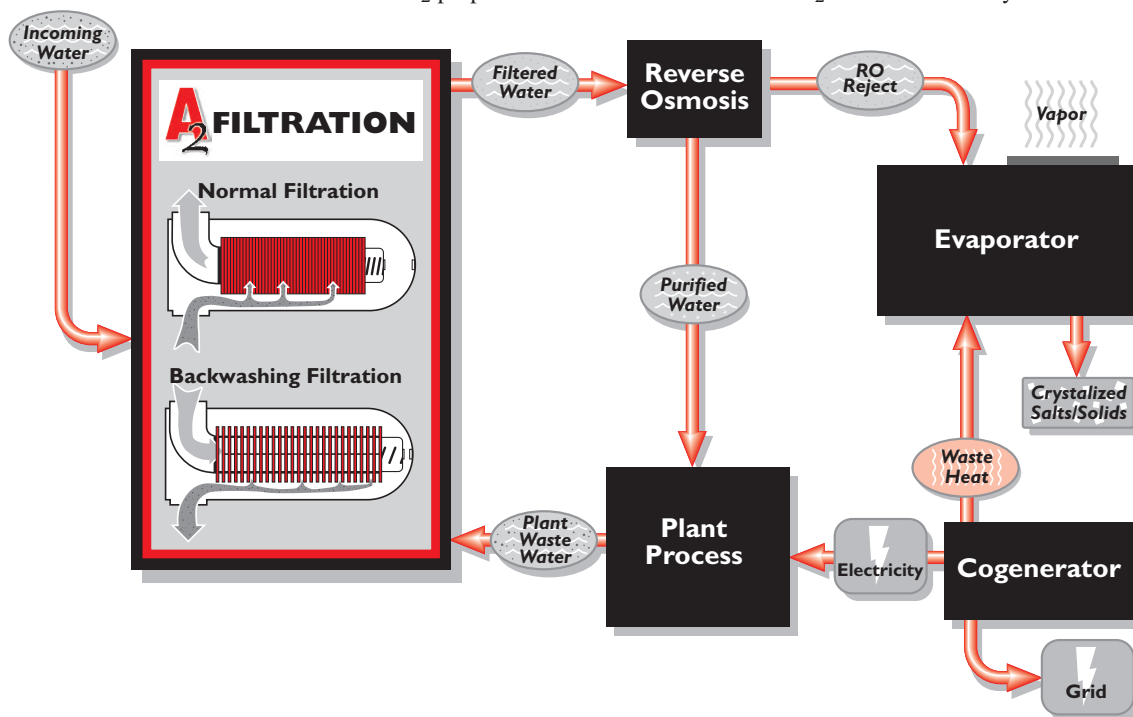
During the fact-finding process, A₂ realized that this company faced serious cost increases related to power and the associated costs of unreliable power availability.

To satisfy requirements for water management and resolve the energy cost and availability difficulties, A₂ proposed an innovative solution:

use Spin Klin™ filtration with RO membrane technology to create a water reuse loop inside the facility and use SynThermic™ Evaporative technology to deal with zero discharge requirements outside the facility.

Once A₂ designed the water management system, focus was shifted to the energy costs and availability issue. To resolve this difficult issue, A₂ proposed cogeneration to create power for the facility. An additional advantage of using the cogeneration set was the abundance of waste heat energy for the evaporator.

The results have been fantastic. This producer has reduced water consumption, become a zero discharge facility, supplies its own power and sells excess power to the "grid" – all through the use of the A₂ water treatment system.





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INDUSTRIAL WASTEWATER
THE ADVISOR **A Renewable Resource**



Like all renewable resources, we will be back again soon. Our next quarterly issue will include the following information:

- *Success with Surface Waters: How an A₂ water treatment system replaced a traditional clarifier for treating surface waters.*
- *The Taj Mahal? No, just the new A₂ "digs" in Gregory Texas – just north of Corpus Christi.*
- *We Need More: The power industry is scrambling for more resources – water is part of the mojo required to make new plants possible.*

If you would like more information about any of the topics in our newsletter or if you would like to learn more about the technical capabilities of A₂ Water Process Solutions, please contact Wayne Odegard of A₂ at (281) 334-3246.

