

“Happy New Year 2012!”



CARIBDA NEWS



VOLUME 2, ISSUE 1

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MESSAGE FROM THE PRESIDENT

By: Manuel Pereira, Aqualectra Production

Dear CaribDA Members and Friends,

On behalf of the CaribDA Board, I would like to thank you all for your continued support of our organization. It has been a little while since our last newsletter but behind the scenes we have been actively increasing our membership and focusing on enhancing the benefits to our members.

The last year has seen an increased focus on operator training issues in the Caribbean. Our Annual Operator Workshop was held in Antigua in April, and kindly hosted by APUA. The Workshop was well supported and enabled valuable learning, information sharing and networking amongst key operations staff from the region and beyond.

I would like to end this note by again thanking those members who have continued to support the organization and new members who have recently joined us. I encourage you to let

us know your thoughts and needs from CaribDA in the future and welcome your participation at forthcoming workshops and meetings.

This 2012 year, we are looking forward to our bi-annual Conference with plans for a Pre-Conference Operator Training Workshop the day preceding the conference.

In addition, plans are underway for an Operator Training Workshop on Pump Maintenance to be held in the Bahamas in early October in conjunction with the Caribbean Water & Sewerage Association Inc. (CAWASA) Annual Conference.

Ing. Manuel Pereira
Chairman
Caribbean Desalination Association

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CARIBDA 2012 CONFERENCE: “Save The Date”

JUNE 19-22 2012

By: Paul Choules, Water Standard

CaribDA is pleased to announce the third bi-annual CaribDA conference in Aruba. The conference will be held in conjunction with W.E.B. Aruba N.V. who will be celebrating 80 years of Desalination. The conference will start with an evening reception on Tuesday, June 19th which is sponsored by W.E.B. Aruba N.V. and close with a site visit at their facility on Friday, June 22nd, 2012. Details on the

location, booth space and hotel are now available on the website. The main sponsors of the conference are W.E.B. Aruba N.V. and Veolia Water Solutions & Technologies. Please mark your calendar now to join us at this must-see conference.



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MOBILE REVERSE OSMOSIS SOLUTIONS TO AID DISASTER MANAGEMENT

By: Linda Dudley, Ionics Freshwater Limited

DESALINATION TO THE RESCUE!....

In the aftermath of a hurricane, earthquake or a severe prolonged drought the immediate need of a family, particularly ones with young children and sick elderly relatives, is the availability of water which is safe for human consumption. In such times of emergency there is a real and deadly threat of serious illness, dehydration and thirst. It is suggested that the minimum drinking water quantity needed is 1 gallon per person per day and an absolute minimum of 2 quarts per day. This is a significant quantity to satisfy even a small island population.

Water supply disruptions are a potential risk in our region due to hurricanes, earthquakes and flooding. Hurricane Katrina in 2005 and the earthquake in Haiti in 2010 are recent examples of the severe and prolonged disruption to water supplies which can result from a natural disaster.

In these situations emergency relief from the temporary deployment of a **mobile desalination plant** supplied by truck or airlift may be the 'answer to your prayers'. The wise actions of forward thinking emergency /disaster management planners and funding provision from local governments and municipalities could save future lives.

The passage of a hurricane has the potential to damage or destroy pumping stations and permanent water treatment facilities. Water connections may take weeks or months to re-connect. Hundreds of persons could be affected for months due to disruption to the mains water supply and also sewage treatment. As

recent as in the last 12 months hurricane's Tomas and Katia have threatened the Caribbean.

Following hurricane Katrina in the USA storm surges damaged municipal water supplies. To a much lesser extent but with similar impact damage to water infrastructure was experienced in St Lucia and St Vincent in 2010 after hurricane Tomas.

In these emergency situations or during periods of a severe drought, **mobile desalination units can be temporarily deployed to provide residents with potable water from non potable sources at short notice.** These units are able to provide treatment of water to a degree which will prevent the outbreak and spread of waterborne diseases such as typhoid and dysentery.

There are a number of reputable OEM's who supply and install skid-mounted mobile reverse osmosis units capable of producing freshwater from seawater and brackish water sources. If the region were to have a natural disaster and is cut off from its normal water supplies, the Caribbean Sea could become the primary water source for an island population.

A basic unit generally will consist of a fully self contained and functional system which can be delivered in a containerized format to site and be quickly put into operation. These are portable, modular units requiring a minimal amount of site preparation. Power supply is the major potential challenge and

limitation because after an emergency event power supplies often fail. Mobile units can operate on single phase power from the grid but when power is disrupted a diesel generator is required and can be purchased or leased with the unit. The means of power generation, intake system and the drinking water distribution methods must be considered when selecting the size, location and operation of the mobile unit.

Mobile RO systems are designed to fit standard size containers which are robust and easy to secure. The size of unit is dependent on the production capacity for example; a 10ft containerized unit may produce up to 1,500 gpd or a unit housed in a standard 40ft container can produce 100,000 gpd or more. The smaller unit would utilize 2.5"x 40" diameter membrane modules and the larger systems standard 8" x 40" membranes.

A typical mobile RO unit consists of the following:

- Unit housed in a container preferably with a raised floor
- Equipment and piping
- Chemical dosing unit
- Pressure vessels
- Multi-media filter
- Cartridge filter
- Membrane filtration (Reverse Osmosis)
- High pressure pump
- Instrumentation – includes a flow and pressure gauge
- Manual or a PLC

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Cont. from Pg. 2

control to provide start/stop, sequential, and alarm control.

- Post treatment - chlorine disinfection pump
- Single phase or three phase motor
- Electrical connections for lighting and utility power
- Membrane cleaning and flushing

system- pump and service tank

A number of regional OEM's have viable solutions for mobile units on a purchase or lease basis. As an active 2011 hurricane season draws to its close this year we again were reminded of the potential risk of a major hurricane event in the

Caribbean. **Be assured, the desalination industry is ready to respond and work with Governments in the region to supply, flexible and safe desalination solutions in a timely manner when needed.**

CONSOLIDATED WATER EXPANDS ITS LARGEST SWRO PLANT IN NASSAU

By: Gerard Pereira, Consolidated Water Co. Ltd. (CWCO)

Consolidated Water Co. Ltd. (CWCO), through its subsidiary Consolidated Water (Bahamas) Ltd., completed an expansion of the Blue Hills sea water reverse osmosis (SWRO) plant in Nassau, Bahamas in November 2011. After a tight nine-month project schedule, this 4.8 million gallon per day (MUSGPD) expansion increased the daily production capacity by approximately 67% to 12 MUSGPD. The Blue Hills

plant is CWCO's largest desalination facility and is also the largest SWRO plant operating in the Bahamas.

The facility is designed to minimize energy consumption by utilizing ERI's energy recovery devices to recover energy from the high-pressure brine stream. Similar to the original plant, the use of diesel-driven engines to power the high pressure pumps allows for the plant to be in

operation during times when normal electricity supply is down.

Consolidated Water is pleased to continue to provide a reliable supply of potable water to New Providence. The Blue Hills expansion allowed the Bahamas Water and Sewerage Corporation to eliminate the Andros Island water barging operation.



LETTER FROM IDA TO AFFILIATES: AFFILIATE SESSION HELD IN PERTH

A specific Affiliate Session was held in Perth as part of the IDA World Congress. The session was well attended and a general comment was that it had been a useful meeting. I was unable to participate in the second half of the session due to conflicting engagements, but indeed those who participated said that it was particularly useful as discussion was quite frank and issues strongly debated.

IDA membership has grown significantly during the last few years, and so has the number of affiliates. It is just a natural part of this growth that the relationship with the affiliates needs to be revisited and a common ground found with the affiliates to make sure that the relationship is equally satisfactory for both organizations. On its side IDA has employed a full-time staff member to ensure that the affiliates are given the sufficient attention.

IDA affiliates are very different in size and characteristics. Some organizations are larger than IDA itself and some considerably smaller. In this scenario it will most likely take some time to fully implement all the needed adjustments.

Prior to the World Congress IDA distributed to all Affiliates and discussed a protocol which could serve as a base how IDA and Affiliates could work together. CaribDA provided several comments to the document prior to the World Congress. This document was the bases for the further discussion which occurred



at the Affiliates Session in Perth.

Following the session, IDA prepared a Feedback document on the session, based on the protocol, which was distributed to all affiliates by the IDA President and of the Affiliate Committee Chairman.

Some of the key points covered are as follows: Regular and improved feedback between IDA and Affiliates, Regular participation by IDA at Regional events and Affiliate Meetings, Share of Affiliate calendar, role of Affiliates in voting for Regional Directors, possible

publishing of Vote Tally, creation of joint scholarships, Audit of the IDA Board of Governance, Promotion of Cross Membership, Annual Fee for Affiliate membership, Revenue Sharing, Exhibit space at IDA conferences for Affiliates, Site Selection of IDA congress, Specific sessions with regional input to be a focus at the IDA world congress, Young Leaders Program, Affiliates refrain from sponsoring events with organizations that are not affiliated with IDA, inclusion of total water management, etc.

IDA concludes with the following message:

Finally as we are pleased to address Affiliates request and give consideration to the feedback received. It is expected that this approach will be mutual and will be reciprocated to reflect what we intend to be a true and respectful partnership spirit. We anticipate this will involve access to Affiliates board meetings, feedback from IDA to affiliates, regular sharing of information and liaison on a cooperative and transparent basis.

MEMBERSHIP UPDATE

By: Paul Choules, Water Standard

I would like to remind you all that the annual membership is now due. Renewal notices were sent out so please rejoin now if you have not already processed your renewal.

We hope that you will continue your membership and let us know if you have any suggestions on how we can improve your membership benefits.

Please send your suggestions to our administrative office at: adminassist@caribda.com.

Since our last newsletter we have welcomed 8 new members!

Nigel Boodansingh

Consolidated Water Co., Ltd

Linda Dudley

Ionics Freshwater Limited

Robert Campbell

Campbell Applied Physics

Keith Laguaite

Fluidra USA

Andrew Conger

Victaulic Company

Matthew Laguitton

Degremont

Clifford D. Dillon

Consolidated Water Co., Ltd. (Belize)

Kent Turner

IDE Americas, Inc.

WE NEED YOUR INPUT FOR THE CARIBDA NEWS

- **Members contributions are welcome. Please contact us** contact us by email at adminassist@caribda.com
- **Take this opportunity to place your company or plant in the news**
- **Share your experiences with others**
- **If you are interested in joining the editorial staff, please contact us**

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Manuel Pereira - President	2010-2012	Aqualectra Production	599-525-0011	mpereira@aqualectra.com
Linda Dudley - Vice President	2010-2012	Ionics Freshwater Limited	246-425-6910	linda.dudley@btopenworld.com
Gerard Pereira - Treasurer	2010-2012	Consolidated Water Co. Ltd.	345-945-4277	gpereira@cwco.com
Anders Hallsby - Secretary	2010-2012	NALCO Company	630-305-1871	gahallsby@nalco.com

BOARD OF DIRECTORS

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William Anderson	2010-2012	Energy Recovery Inc.	510-483-7370	wanderson@energyrecovery.com
Paul Choules	2010-2012	Water Standard	713-400-4764	pchoules@waterstandard.com
Emilio Gabbrielli	2010-2012	Toray Membrane USA, Inc.	+55 21 8221 9896	gabbrielli.emilio@toraywater.com
Shawn Meyer-Steele	2010-2012	Seven Seas Water Corporation	305-859-2329	smsteele@7seaswater.com
John Thompson	2010-2012	Desalination Company of Trinidad & Tobago Limited	868-636-3725	john.thompson@desalcott.com

CALENDAR OF EVENTS 2012

JUNE 19, 2012

CaribDA 2012 Pre-Conference Workshop, Aruba

Understanding and Preventing Corrosion in Caribbean SWRO Plants

In conjunction with our Aruba Conference, CaribDA has the pleasure to announce that Dr. Glenn Byrne of Rolled Alloys will present a one day workshop discussing the different types of corrosion affecting SWRO plant high pressure piping, how to recognize the source and type of corrosion and how to prevent corrosion. Dr. Byrne has extensive experience in all phases of metallurgy and now leads a team that works proactively with specifiers and fabricators to refine and optimize purchase specifications and fabrication procedures and processes, welder training and qualification to optimize the sea water corrosion resistance and performance of corrosion resistant alloys in SWRO applications.

In order to provide a workshop that is of the greatest benefit to the membership, we ask that you submit in advance questions / concerns / topics of interest / pictures, etc. so that Dr. Byrne can be prepared to help you solve your problems. Please send your information to adminassist@caribda.com by May 1, 2012.

JUNE 19-22, 2012

CaribDA 2012 Conference & Exposition, Aruba

in conjunction with the W.E.B. Aruba N.V.'s 80th Year Anniversary Celebration

OCTOBER 2012 - TBD

CaribDA Workshop, Bahamas

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- Water Tech

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CARIBDA

CARIBBEAN DESALINATION ASSOCIATION
2409 SE DIXIE HWY
STUART, FL 34996 USA

PHONE: 772-781-8507

FAX: 772-463-0860

EMAIL: ADMINASSIST@CARIBDA.COM

WEB: WWW.CARIBDA.COM