

### Advances in Oxygen and Communications.

"Exploiting Emerging Technologies"

Mine Safety & Health Administration

Reuben Padilla rpadilla@pci-intl.com



- Leading manufacturer of portable air separation equipment for the Military, Medical, and Oil & Gas markets
  - Cryogenic and non-cryogenic systems
  - Eliminates the logistical supply chain
- Stable and diversified domestic and international client base
  - PCI has equipment actively operating and supported in over 20 countries
- Headquartered in Riverside, CA
- 148 Employees

## Management Team

- Chief Executive Officer Rob Ruck
  - Prior to PCI, Rob was President/CEO of Pentacon and spent 14 years at Honeywell Aerospace and AlliedSignal Aerospace in senior management positions.
  - US Military Academy West Point 1980 US Army Special Operations helicopter pilot.
- Chief Financial Officer Dave Bitter
  - Over 20 years of experience in finance, including four years with PepsiCo and seven years with Price Waterhouse.
- Senior Vice President Jay McFadyen
  - US Air Force Academy 1980 and former Air Force JAG.
- Vice President, Sales & Marketing Reuben Padilla
  - USNA 1980 & 20 year career in the U.S. Marine Corps.
- Director Engineering & Technology Tarik Naheiri
  - 20 years of experience in gas separation technologies at Air Products & Chemicals. Tarik is one of the global authorities in adsorption technologies.
- Director Operations Soeren Schmitz
  - Soeren has over 10 years experience in management consulting providing growth strategies and operations improvement methodologies to manufacturing companies in industries such as consumer goods, building products, and medical equipment.
- Chief Engineer Randy Schiller
  - 40 years experience in the mechanical engineering field, with specialization in cryogenic valves, low-noise valves, mobile liquid nitrogen pumper/converters, and air separation units.

# Products - Cryogenic

- Liquid Oxygen (LOX)/Liquid Nitrogen (LIN) Generating Plants
  - Transportable units for aviator's breathing oxygen, servicing aircraft tires/struts/accumulators, oil drilling/servicing applications, fast food freezing, cryo-grinding, liquid backup systems for gaseous operations



1.5-2 tons per day

#### <u>5-7.5 tons per day</u>





<u>Trailer mounted</u> <u>2 tons per day</u> <u>LIN/LOX plant</u>

# Products - Membranes

- Self Generating Nitrogen Servicing Cart (SGNSC)
  - Mobile cart producing 95.5% pure nitrogen used on the flight line to service tires, struts, accumulators, and other maintenance needs for aircrafts
    - 1500+ produced to date
  - Other variants available
    - High purity (99.5%) nitrogen to support F-16 and Sidewinder missiles
    - Electric drive model for tire shops
    - Dry air version to support F-22



**SGNSC** 



NCT





## Products - Adsorption

### • EDOCS-120B: Expeditionary Deployable Oxygen Concentration System

- Mobile, rugged, and easy to operate FDA approved "military use" medical oxygen generator producing 120 liters/minute
- In three months, one mobile E-DOCS-120B onsite, weighing 3,500 lbs., produces the equivalent of 800 "H" cylinders of oxygen, weighing 128,430 lbs., eliminating the need to fly-in/transport Oxygen to a medical facility



### • EDOCS-30

- Person portable oxygen generator capable of producing 30 liters/minute of medical grade oxygen and medical grade air simultaneously
- Easy to operate and enclosed in extremely durable cases which also act as shipping containers



### Water Maker Compact RO System - PCI

- The units shown consist of two independent systems.
- "RO#1" operates the upper two membranes which can produce 1800 GPD (75 GPH) of fresh water.
- "RO#2" operates the lower membrane which can produce 900 GPD (37.5 GPH).
- There is a vacant place on the frame for an additional membrane, which would make RO#2 an 1800 GPD unit as well.
- The pump for each unit runs on 440 VAC 3 phase and draws 4.1 Amps at full load.
- USN Patrol Craft
  - USS Hurricane
  - USS Squall
  - USS Chinook
  - USS Firebolt.....



## A Oxygen can be used in more than one way

- Medical gas
- Mine Safety
- Precursor for water treatment
  - Potable
  - Sterile



DOWS

Oxygen - Mobile Oxygen Storage Tank (MOST)

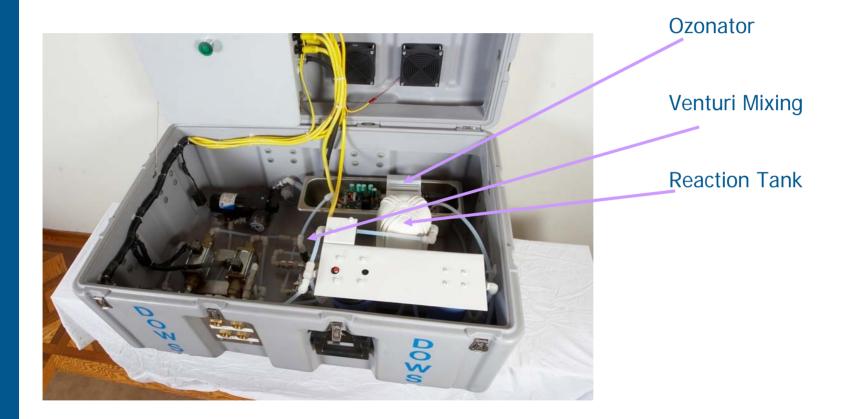




#### Post .50 cal AP round



## DOWS: Deployable Oxygenated Water System.



### Effect of type of disinfectant on inactivation of pathogens

	Bacteria	Viruses	Giardia	Cryptosporidium	Overall
Free Chlorine	E	E	F	Р	G
Preformed Chloramines	P/F	Р	VP	VP	Р
In-situ Chloramines	F	F/G	Р	VP	F
Chlorine Dioxide	G/E	G/E	F/G	F	G
Ozone	E	Е	Е	G	E
UV light	G	F	VP	VP	F

VP: Very Poor P: Poor F: Fair G: Good E: Excellent

Source:

"Waterborne viruses and parasites: resistance to treatment and disinfection"

Pierre Payment Institut Armand-Frappier, Université du Québec, Laval (Québec), Canada H7V 1B7





### **Pacific Consolidated Industries**

#### For more information:

Pacific Consolidated Industries 12201 Magnolia Avenue Riverside, CA 92503-4820

(951) 479-0860 – phone (951) 479-0861 – fax info@pci-intl.com www.pci-intl.com

World Leader in Portable Oxygen and Nitrogen Generating Systems

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