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Innovation | Technology | Leadership

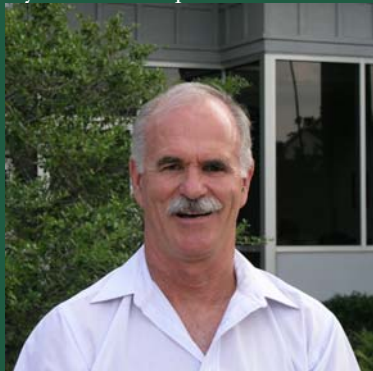
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Standby Watermakers

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Why you may not need a standby watermaker.

Over the years, so many project specifications have requested 2 x 100% duty watermakers: one for operation, and one for standby. The reason for this, of course, is to ensure the high availability of fresh water offshore.

Is this conventional wisdom wise? Not necessarily!

There are good reasons to specify only a 1 x 100% duty watermaker; deck space requirements are halved, weight is halved - particularly important for floating production systems - but these benefits cannot be realized without that "certain circumstance" of high equipment availability

It is evident that when equipment is not reliable, then the concept of having a standby is intuitive and prudent. When one unit breaks down, the standby is started up, and the usual and expected repairs of the failed unit are undertaken. This was the expected, and this was the norm if that utility was needed. Manpower and staffing was planned accordingly.

However, when equipment becomes increasingly reliable, there is less need for a standby unit. Clearly, if a watermaker is 100% reliable there is NO need for a standby.

C'treat's watermakers are the most reliable in the industry through "Quality in Design." They are easy to maintain (*all components are small and are accessible from the skid's edge*) and they are quickly maintained. (*The most maintenance intensive item, the RO pump, can be made new in less than 1/2 hour. Membranes can be trouble-shot in minutes and can be replaced or bypassed*)

It is because of C'treat's "Quality in Design" that so many of our customers have specified only 1 x 100% duty watermaker.

C'treat has had the opportunity to observe operator's practices around the world and they have shared with us, through our *Operator Support* function, their experiences in operating watermakers.

An all too frequent scenario, when duty/standby units are available, is that unit A is run until it fails, for whatever reason, and the unit may not be monitored, because there is a spare. Unit B is started up and repairs are not initiated on the downed unit because, i) the operators believe that they have time, or ii) they get back to producing oil & gas - the real reason why they are offshore.

Now unit B goes down - again. If unit A, was not repaired, then there are now two units requiring repair. So, typically a part may be scavenged from one watermaker to make the other watermaker functional. Naturally, this WILL happen if parts are not readily available on board.

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Steve Rollins

Operator Support

“C’treat Offshore is proud to announce our expanded ability to supply you with all your filtration needs. From air conditioning to oil and water we have you covered.”

Contact ITT / C’treat Offshore for more information.

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These unquantifiable human habits are difficult to put into the evaluation formula, but they have been experienced by so many of C’treat’s customers.

Having duty/standby duty pieces of utility equipment can erode the discipline of routine maintenance and even the need to review stock for spares because the knowledge of having a spare unit available prevails.

One of C’treat’s good customers in the South China Sea experienced this very scenario. Their study demonstrated that the platforms that had one C’treat watermaker had higher availability than those platforms that had two C’treat watermakers. During their investigation, they found that the platforms that had only one watermaker had a better maintenance program in effect. They followed the recommendations of the O&M manual more closely and ensured that they had adequate spare parts on board.

As a result of their study, this customer took away the standby watermakers from those platforms and installed them on other platforms that needed reliable watermakers.

More and more of C’treat’s customers are realizing that their fresh water availability requirements can be met by only one C’treat watermaker.

Your C’treat Operator Support Team

All parts or service requests via e-mail should be sent to our community e-mail address: Ctreat@ctreat.com



Beverly Corley
Sales Administrator



Bobby Cummings
Service Technician



Regan Hunter
Sales Administrator



Steve Rollins
Operator Support



Todd Evans
Service Technician

Preventative Maintenance Service “PM”

2008 was a very busy year for C'treat Offshore service; we serviced existing and commissioned new watermakers from Louisiana to China.

With over 400 systems installed worldwide and equipment ranging from one to twenty seven years of age, we continue to schedule factory trained technician visits to assure proper operation. The PM service will also include a class on Reverse Osmosis technology and C'treat Watermakers. If you feel a visit is warranted, all you have to do is send a service request e-mail to Ctreat@ctreat.com.

C'treat Offshore Watermaker Photos

Sarawak Shell

Watermaker installed: 1994
Project Completed: 2008

VISION:
TOWARDS TOTALLY RELIABLE
WATER MAKER AQ5210

EQUIPMENT: WATER MAKER AQ-5210
PROJECT LEAD: YIEK CHUNG KION
TEAM MEMBERS: Ahmad, Ambrose, Jerry, Colin, Langgie, Harry, Lawrence, Philip, Chong, Kelvin, Bong, Amirul, Zulfikri, Vincent, Jong, William, Sidi, Suffian, Tom, Michael, Anthony.

BEFORE **AFTER** **BEFORE** **AFTER**

ACW on going

31 Repairs

WS kick off ACW AQ5210 as the 1st TR project in Year 2008

WS handover the Water Maker to SOS Focal Point

- membrane sampling point.
- Scrape and paint on motor
- Scrape and paint on the suction line inlet valve
- bag filter bleed point
- Replaced corroded solenoid valve

Submitted by,
“C.K.Yiek”
Mechanical OT
Sarawak Shell
Sarawak, Malaysia
Commissioned 1994

Yiek,

Congratulations to you and your crew members for a job well done! It shows that you take pride in your C'treat watermaker that sustains your ability to perform your daily duties.



World Wide Representatives and Agents

For those of you who missed our very first issue of C'life May 2008 I thought I would publish our representative list again. Many of our representatives have been working with C'treat from the very beginning or since our expansion into their territories. They all recognize the unique technology that C'treat offers and share the passion for providing quality equipment and service. Those who are technical licensees have all invested in their people to ensure they have been factory trained to fully support the customers.

INDIA

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MEXICO

IPS OFFSHORE MEXICO
 TEL/FAX: (52) (833) 213 9815
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SOUTH KOREA

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CHINA

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VENEZUELA

META ENERGY
 TEL: (58) (261) 793 5594
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CHINA - TIANJIN

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MALAYSIA and BRUNEI

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CHINA - SHEKOU

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BRAZIL/BRASIL

INTERNATIONAL SALES SUPPORT
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BRAZIL/BRASIL

TORQUENGE LTDA
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UNITED KINGDOM

TRINIDAD and TOBAGO

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MARINE CRANE SERVICES LTD
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INDONESIA

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AUSTRALIA

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E-MAIL: sales@blakerspumps.com.au
Web:www.blakerspumps.com.au

C'treat Series 20 Pumps all Model Numbers

Effective immediately all replacement pump orders for C'treat Series 20 pumps will be filled by shipping an upgraded model of this pump. New part numbers for pumps will be provided at time of quote. The current pump models are being phased out and are no longer recommended for replacement pumps.

The new upgrade pump includes the following improvements:

1. High performance bolt-on mechanical process seal
2. Splined impeller connection to pinion shaft replaces the keyed connection to minimize distortion of the seal rotating face.
3. Increased size of the seal housing drain cavity to prevent seawater leaking from the process seal from contaminating the gearbox oil.
4. Multi-stage labyrinth gearbox seal and slinger to exclude contaminants and retain the gearbox lubricant.
5. Roller bearings in place of ball bearings on the high speed shaft assembly.
6. Gearbox lubricating oil cooling coil for reducing lube oil temperatures

Note that pump physical dimensions and pump hydraulics are the same as for the previous model pumps.

Watermaker Operation Log Sheet

When contacting C'treat Offshore regarding an operation issue with your watermaker please have available the most recent copy of your log sheet. The log sheet can be found in your O&M manual, or at www.ctreat.com or by contacting us at 281-367-2800 or by e-mail at Ctreat@ctreat.com. This log sheet is critical in evaluating or trouble shooting the operation of your watermaker.

Service Specials: Free Watermaker Inspection

To start off 2009 on a positive note for our Gulf of Mexico locations we are offering free service inspections if signed up by April 30, 2009. To take advantage of this offer please email request to Ctreat@ctreat.com

February 2009= full

March 2009= filling

April 2009 = filling

May 2009 = open

Water Facts: Osmotic Pressure

When a solution, such as salt water, is separated from pure water by a membrane which is impermeable to the salt, a flow of water will occur from the pure water to the salt solution. The driving force for this flow is called the osmotic pressure and its magnitude depends on the number of salt particles in the solution.

Note that the osmotic pressure depends on the number of particles and not on the total mass of particles. For example, 1 g/L of a small solute, such as sodium chloride, will exert a greater osmotic pressure than 1 g/L of a large solute, such as protein. For water to flow from the salt solution to the pure water this solution must be exposed to a hydrostatic pressure greater than its osmotic pressure. This is the principle of reverse osmosis.

End User Contact Information:

When service or equipment updates or any information imperative to the operation of the watermaker becomes available it will be forwarded to e-mails addresses on hand. Contact information for all rotating and shift personal that operate, maintain and service the watermaker is needed. Please see information required below.

- 1) Platform Name
- 2) Rotating and Shift Personal Names
- 3) E-mail Address
- 4) Phone Number

Out with 2008 in with 2009!

With this our fourth issue of C'life our first for 2009, I would like to thank those who contributed to our 2008 issues. If you missed our earlier issues and would like a copy please send an e-mail to steve.rollins@itt.com. Our earlier issues covered Ultraviolet Light "UV" technology, Chlorine, Media Filtration along with many other topics.