

# Canadian Boiler Society 2019 Education Days

## Energy savings from water treatment technologies

Choosing the right technologies based on your reality and return on investment


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Dubois Industrial Group Canada



**Klenzoid**  
The Water Specialists

The DuBois logo features the word "DuBois" in a blue, serif font. Above the letters "u" and "B" are three curved, blue lines that suggest steam or a protective shield.



# Roadmap for Energy Efficiency

- Maintain clean heat transfer surfaces
- Minimize heat loss
- Proactive management of water consumption
- Blowdown heat recovery
- Quantify-Identify-Rectify

# Keeping Heat Transfer Surfaces Clean

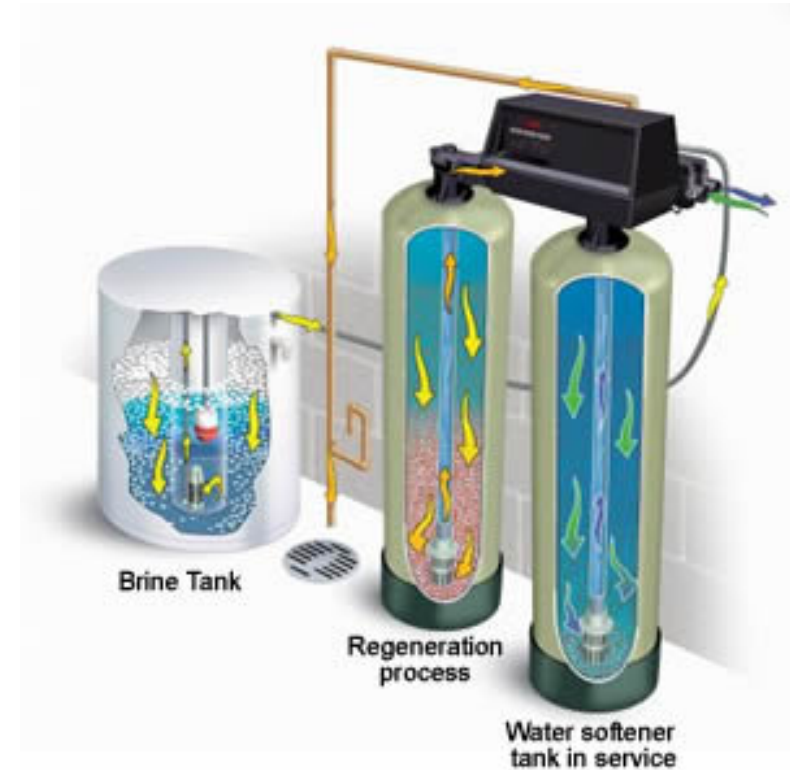
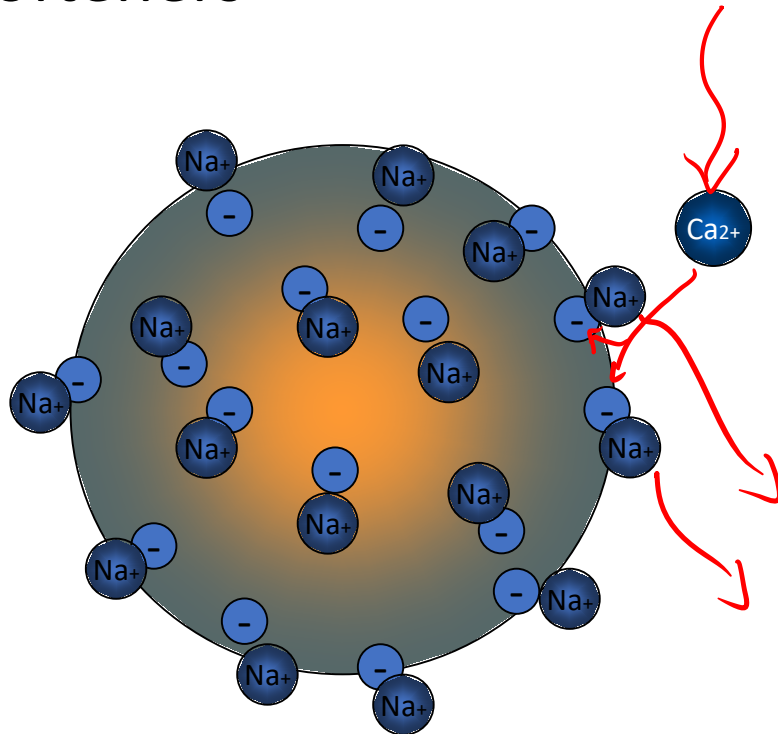
- Hardness and retrograde solubility





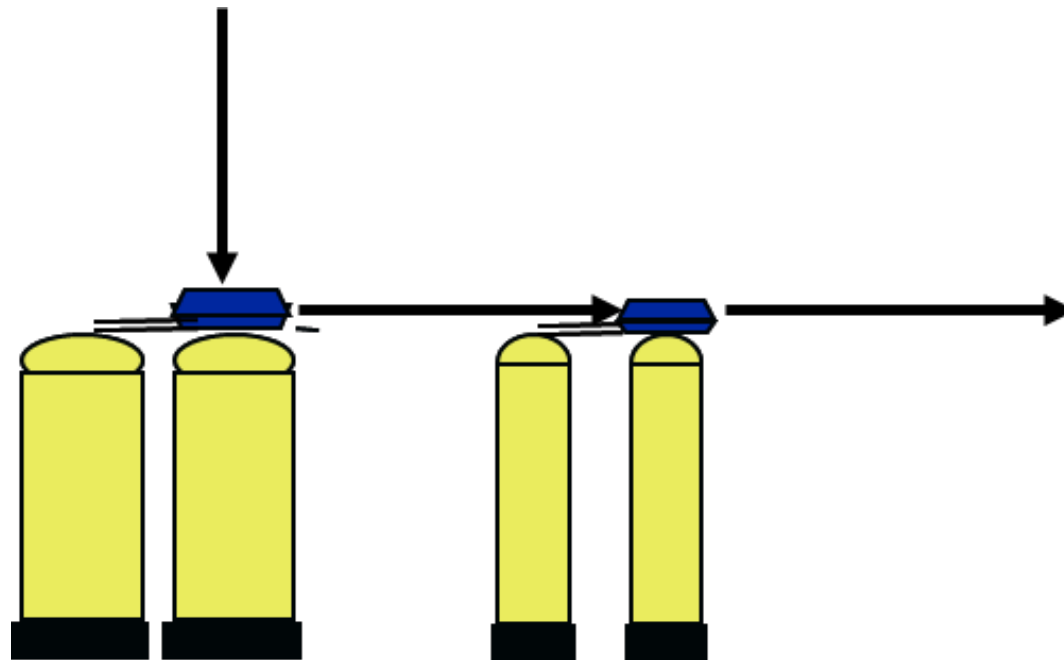
# Keeping Heat Transfer Surfaces Clean

- Softeners



# Keeping Heat Transfer Surfaces Clean

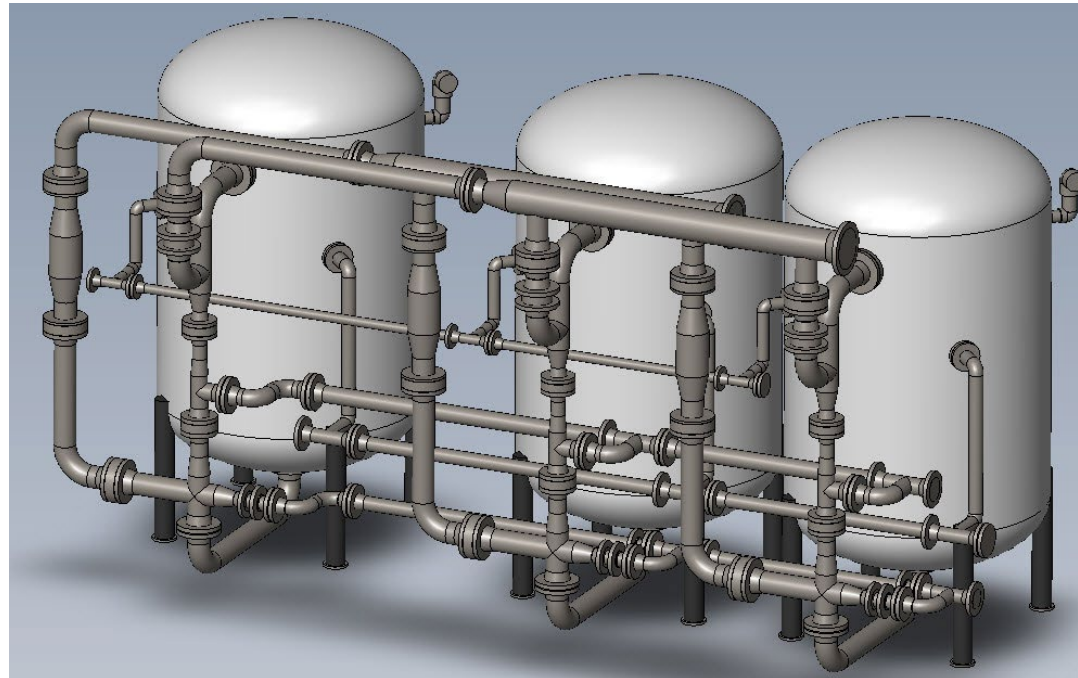
## Combination - Softeners and Polishers





# Keeping Heat Transfer Surfaces Clean

- Condensate Polishers



# Keeping Heat Transfer Surfaces Clean

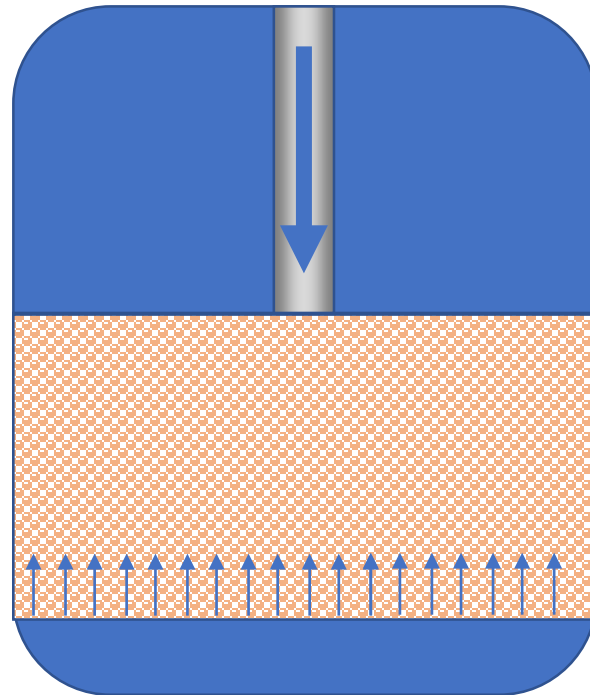
- Meter Initiated Regenerations





# Keeping Heat Transfer Surfaces Clean

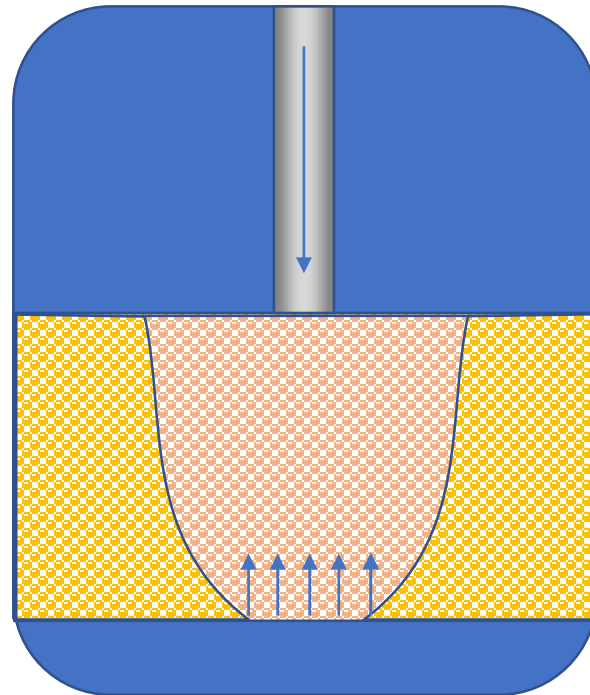
- Proper sizing of resin bed





# Keeping Heat Transfer Surfaces Clean

- Proper sizing of resin bed



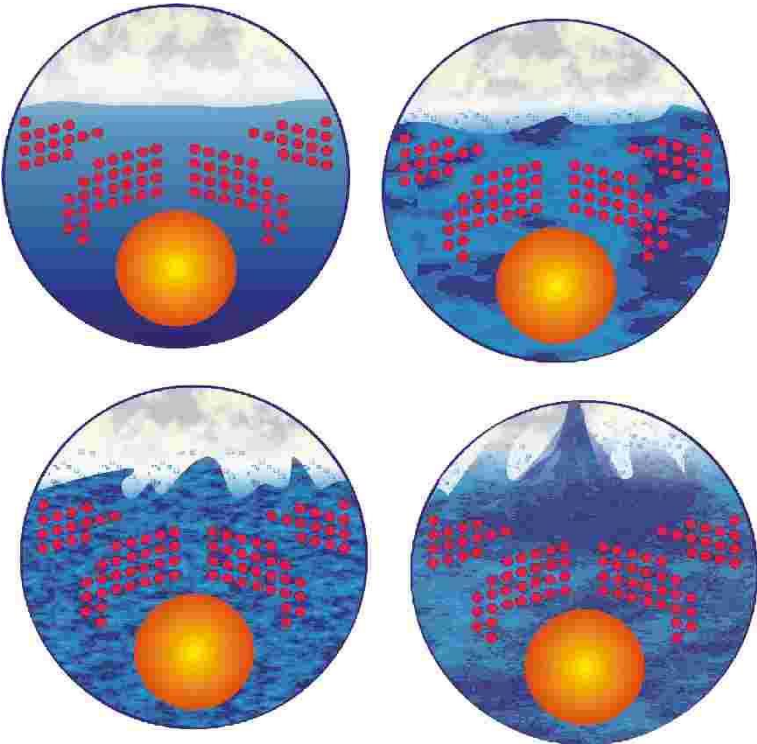
# Keeping Heat Transfer Surfaces Clean

- Proper design and control to adjust in real time to actual load - simplex, duplex, triplex & quadruplex with demand recall





# Reach Optimal Cycles of Concentrations



# Reach Optimal Cycles of Concentrations

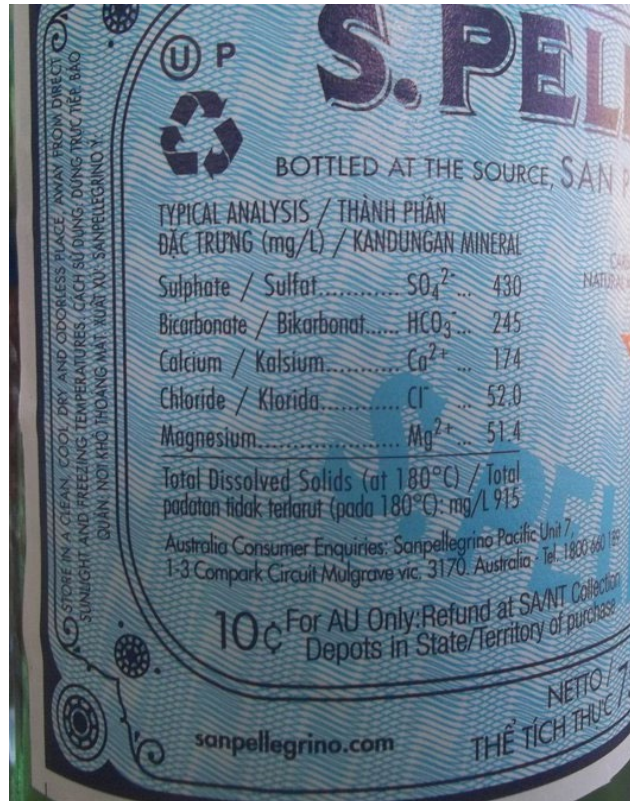
- Return condensate whenever possible





# Reach Optimal Cycles of Concentrations

- Always use the best possible water source



Kingston, Montreal, Halifax



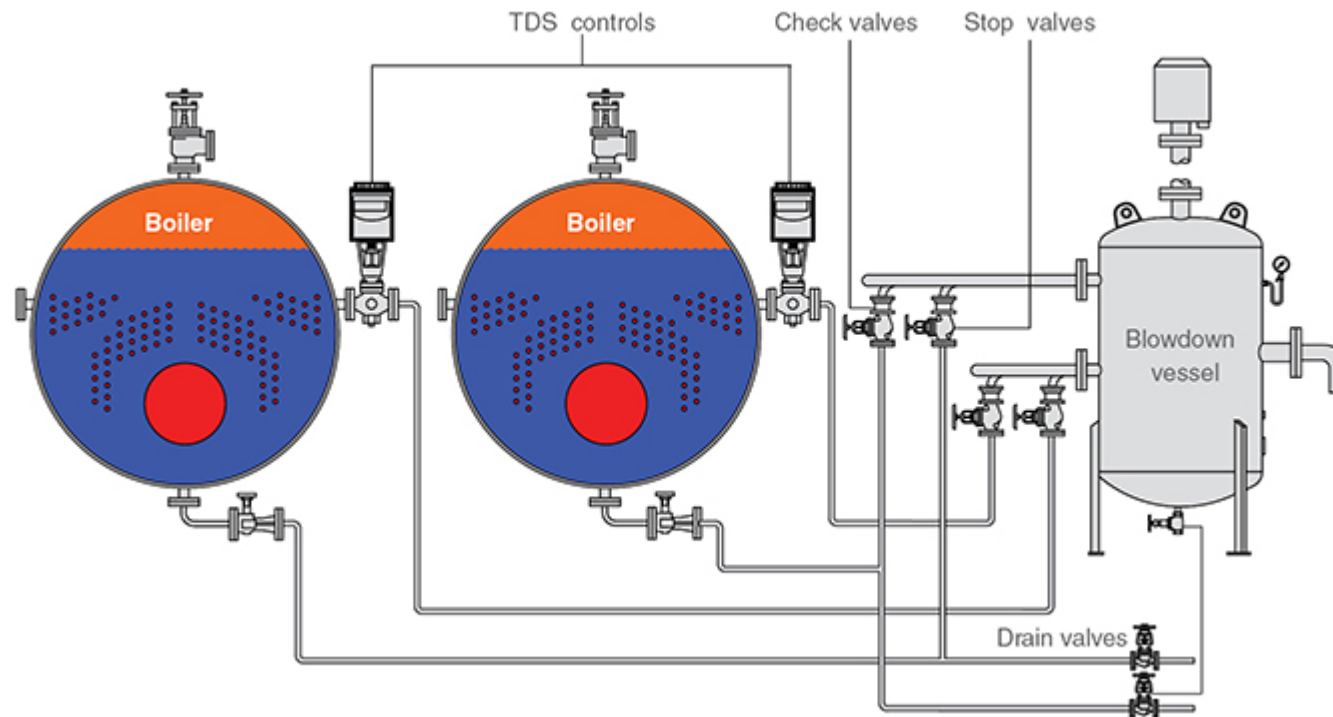
# Reach Optimal Cycles of Concentrations

- Improve incoming water quality to achieve higher cycles
  - Reverse Osmosis
  - Dealkalizer(Cl cycle or acid cycle)
  - Demineralizer



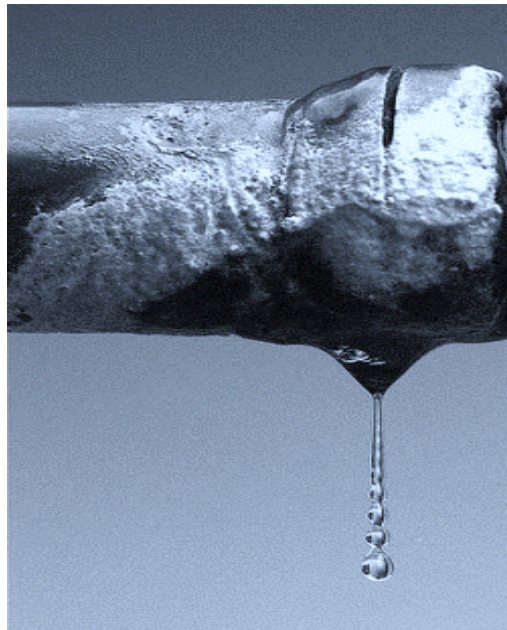
# Reach Optimal Cycles of Concentrations

- Controllers to achieve optimal cycles



# Effective Water Management

- Small losses, larger losses and the effect of time





# Effective Water Management

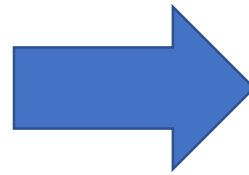
- Record your data
  - Make up water volume
  - Feedwater temperature
  - Cycles of concentration
  - Make-up to condensate ratio

# Quantify, Identify, Rectify





# Quantify, Identify, Rectify



# Quantify, Identify, Rectify

Site Systems ▾

Legionella

Water Safety Plans

Executive Summary

Service Date : July 27, 2018

Served By : Adam Weatherbee

Report Number : 4301336

Print

Chillers

Cooling Towers

Steam Plant

Products

Recommendations and Comments

General Comment  
Thanks.

Percent In Control (Trailing 12 Months)

Today's Water Analysis

Test	RTE Chiller
Appearance	clear
Conductivity	620
Molybdate	90 90 - 120
Status	online
pH	8.6 8 - 10.5



# Thank you

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