

DEVELOPING AN INTEGRATED WATER OPERATIONS WORKFORCE

Changing our Organizations to Attract
and Retain Great Employees

Utility Management Conference

February 17 2009



**metro
vancouver**

Overview

- Brief introduction to Metro Vancouver water operations
- Evolution of water treatment and systems control organizational structure and job functions
- Opportunities and challenges
- Lessons learned



metro
vancouver

System Overview

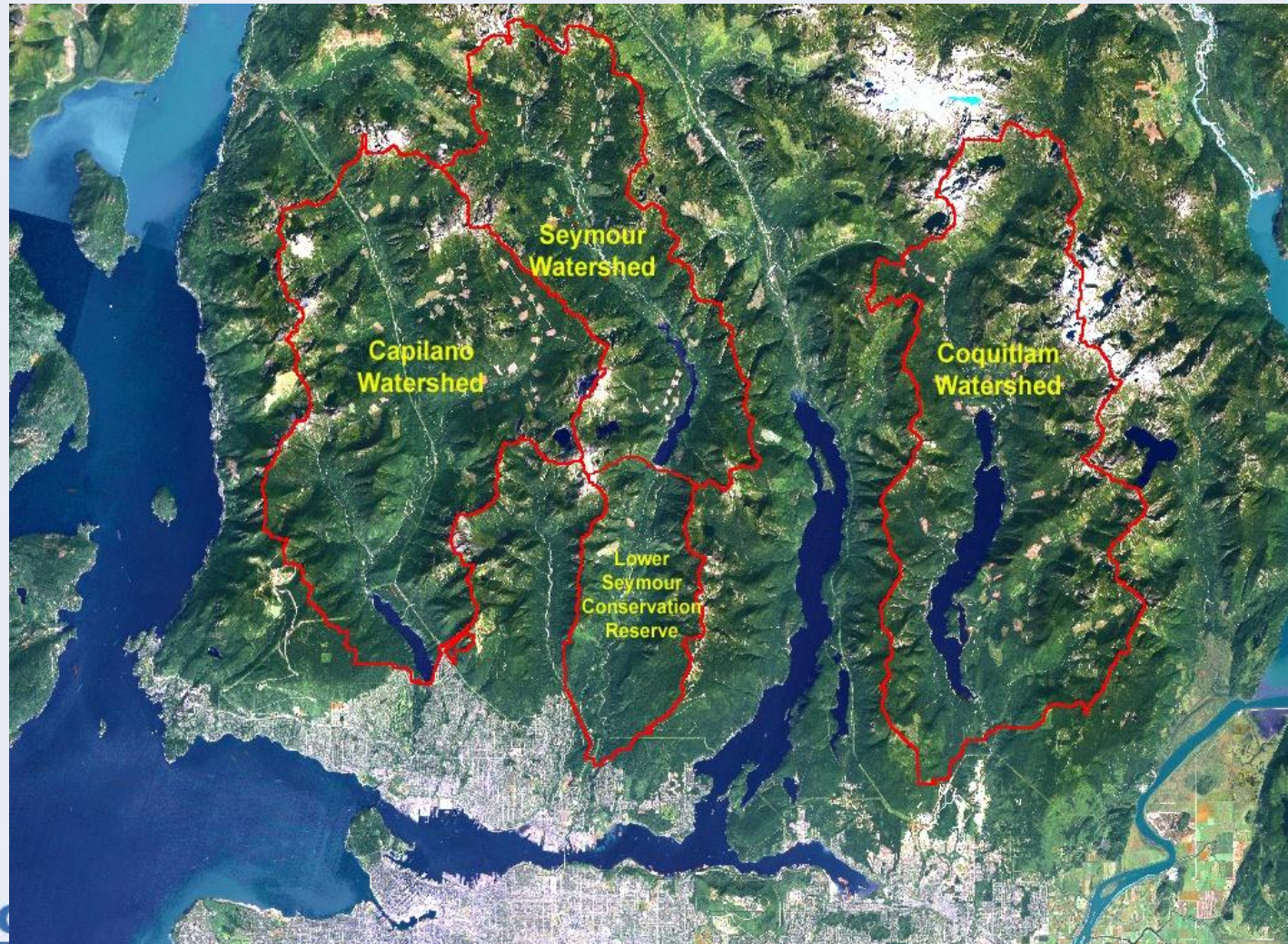
Surface water supply

3

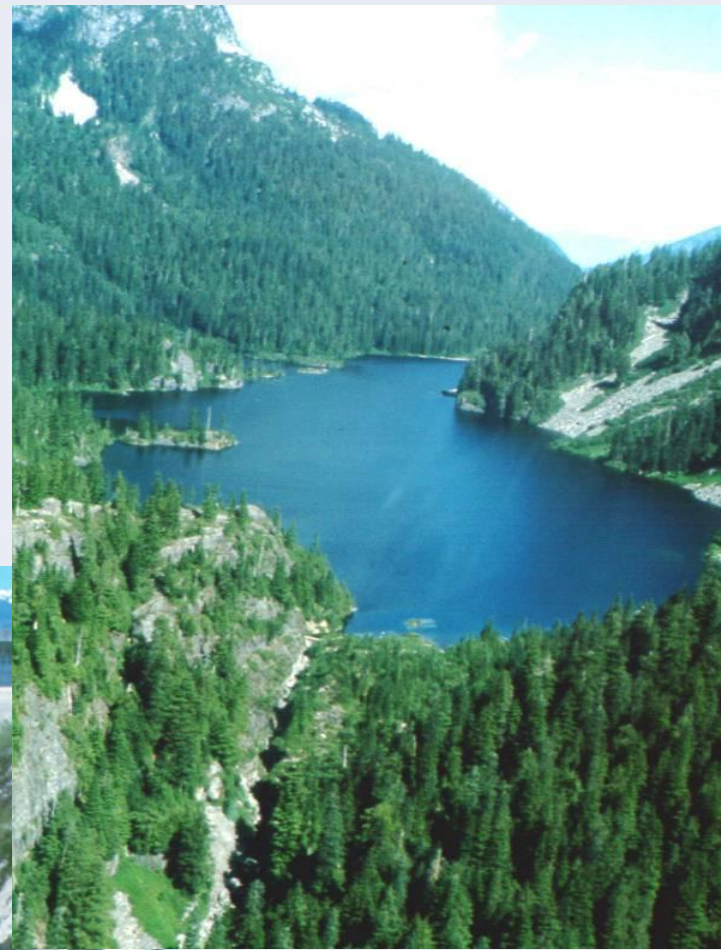
Protected mountain watersheds

585

square kilometres
in area
(225 sq. miles)



metro
vancouver



Water Treatment Overview

- Chlorination at Capilano and Seymour
- Ozone/Chlorination at Coquitlam
- 8 secondary chlorination stations

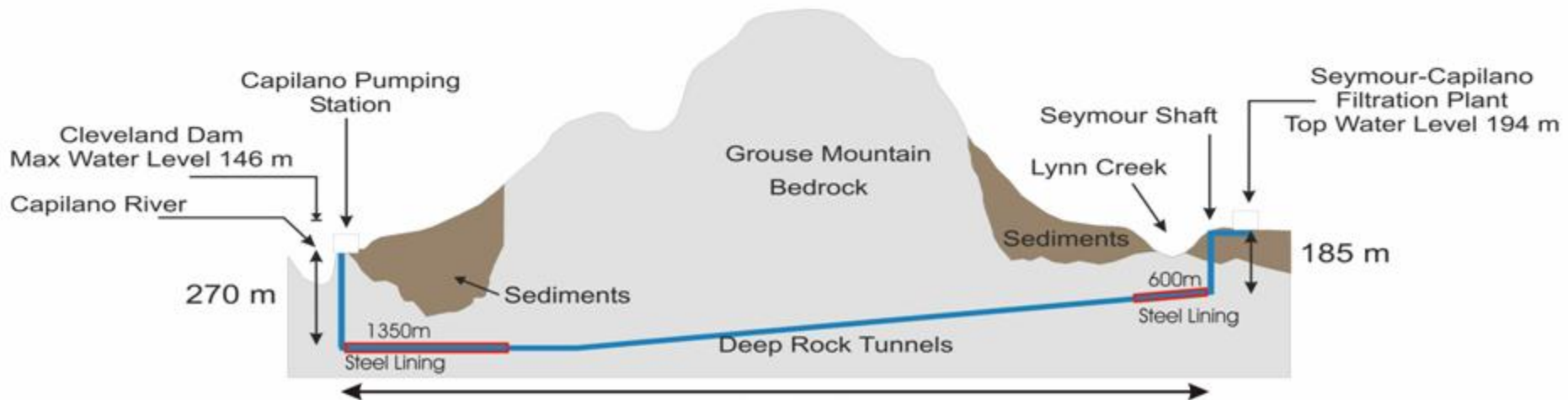
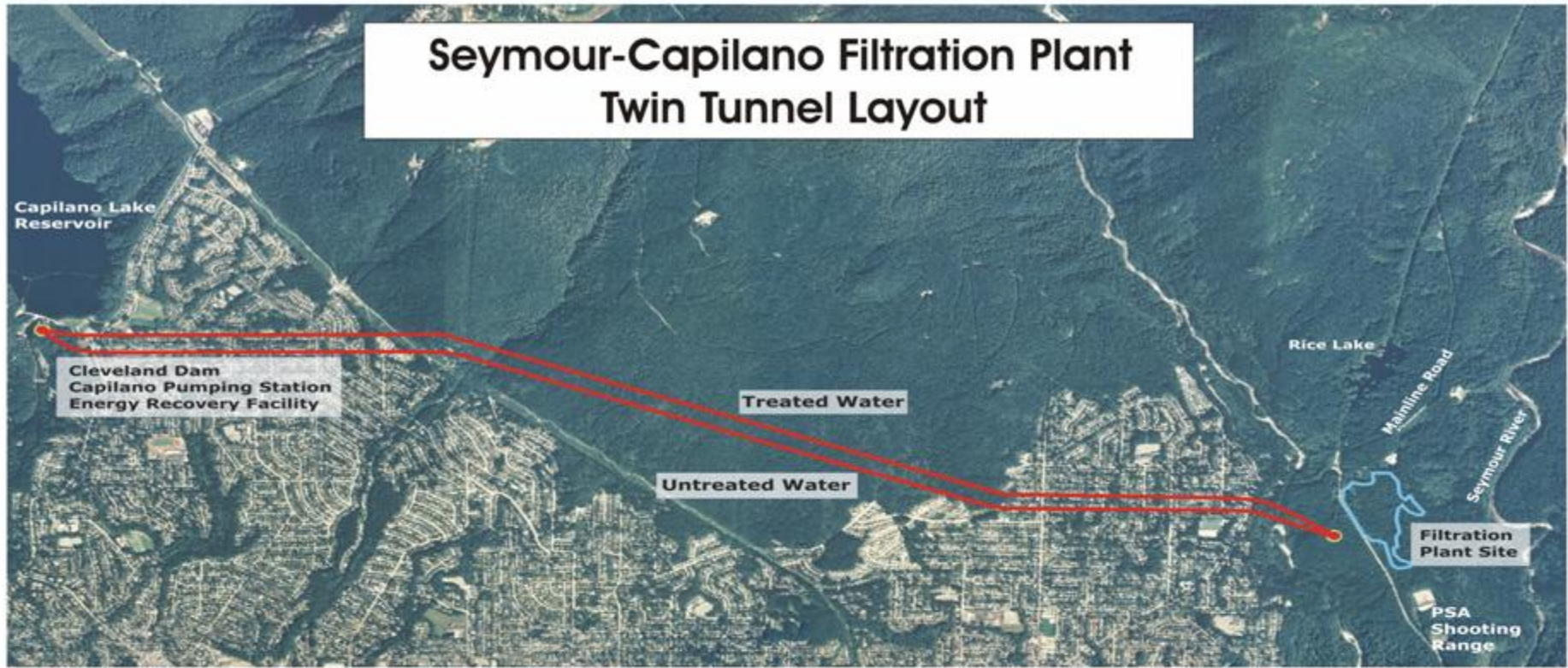


Water Treatment Overview

- 1800 ML/d (475 mgd) Seymour/ Capilano Filtration plant with UV Completion June 09

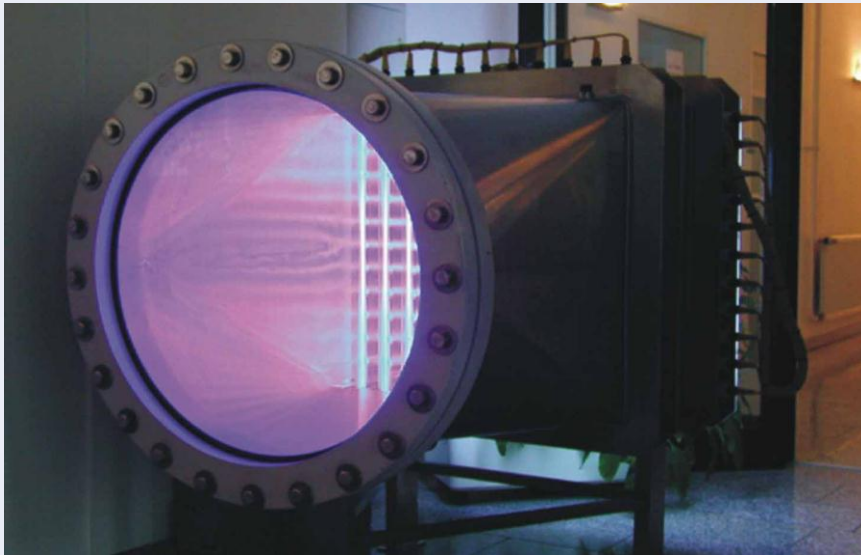


Seymour-Capilano Filtration Plant Twin Tunnel Layout

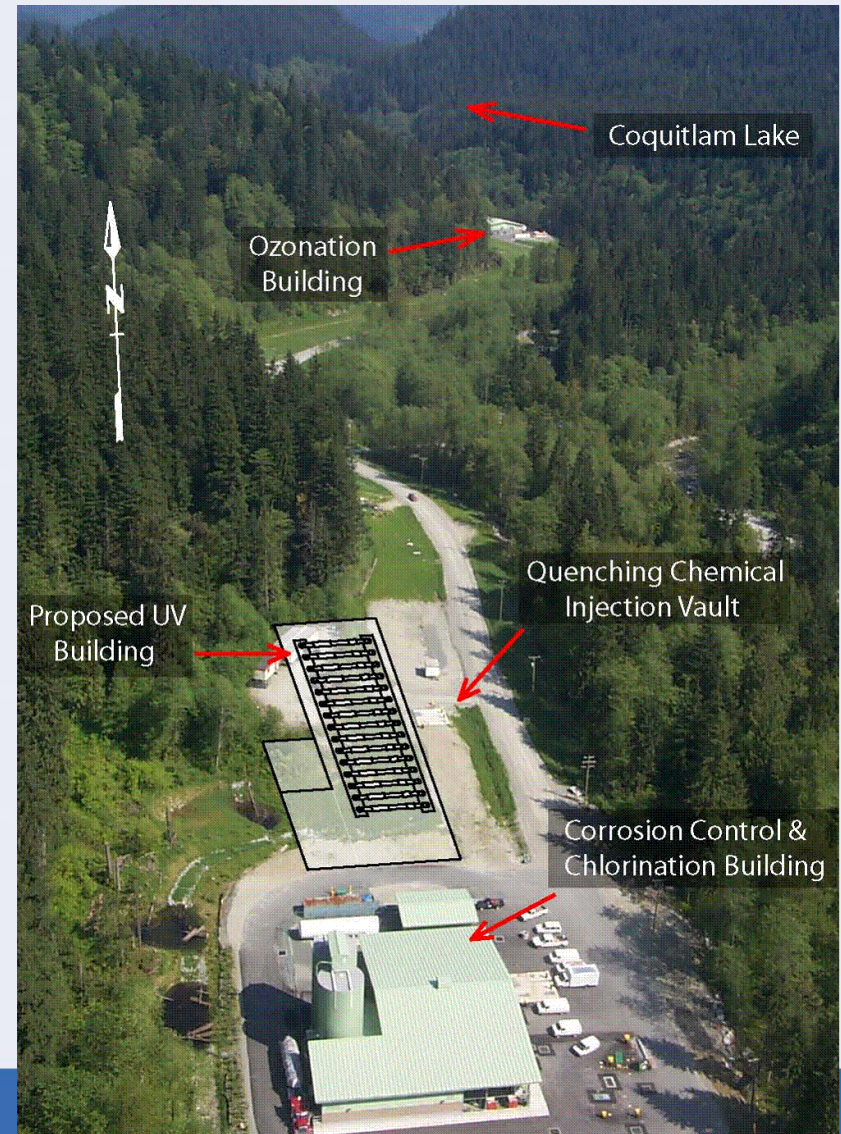


Water Treatment Overview

- Ozone/Chlorination at Coquitlam
- UV in design – Completion Date – End of 2010

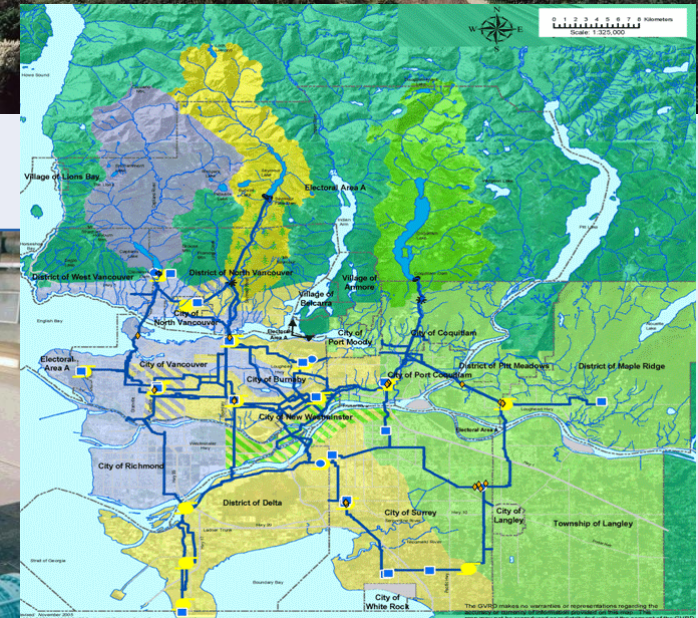


metro
vancouver



Transmission System Overview

- Over 550 km (340 miles) of large diameter transmission mains
- 22 Storage reservoirs
- 15 Pump stations
- 17 municipal customers
- 2 million people
- Daily average 1.2 billion L/day (320 Mgd)



me
van

Transmission System Overview

- Central Control Room
- 24/7
- Water Transmission
- Waste Water Collection



metro
vancouver

Trends Driving Metro Vancouver Over the Next 5-10 Years

1. Regulations Proliferate.
2. Pending Financial Crisis. Massive funding is required for infrastructure needs.
3. Increased demands for efficiency.
4. Changing Workforce. Workforce development is vital, as the work environment will continue to evolve.
5. Expanding Infrastructure Needs. Infrastructure management is becoming a critical issue for utilities.
6. High Customer and Stakeholder Expectations.
7. Extensive Application of Technology. Information Technology and automation expanding rapidly.
8. Increasing Demands on Limited Resources. Growing populations and restrictions on water sources.



metro
vancouver

Trends Driving Metro Vancouver Over the Next 5-10 Years

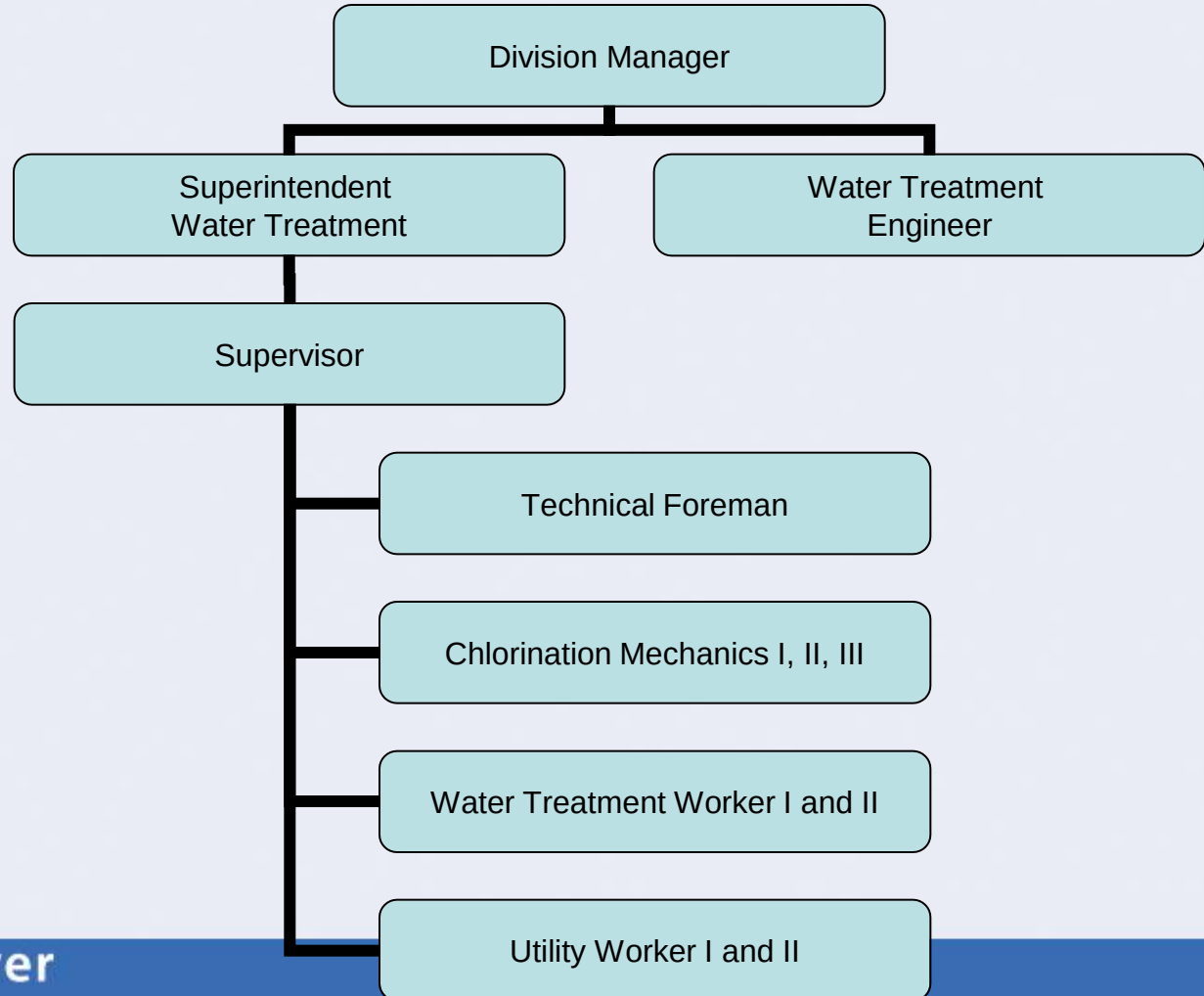
- 1. Regulations Proliferate.**
2. Pending Financial Crisis. Massive funding is required for infrastructure needs.
3. Increased demands for efficiency.
- 4. Changing Workforce. Workforce development is vital, as the work environment will continue to evolve.**
5. Expanding Infrastructure Needs. Infrastructure management is becoming a critical issue for utilities.
6. High Customer and Stakeholder Expectations.
- 7. Extensive Application of Technology. Information Technology and automation expanding rapidly.**
- 8. Increasing Demands on Limited Resources. Growing populations and restrictions on water sources.**



metro
vancouver

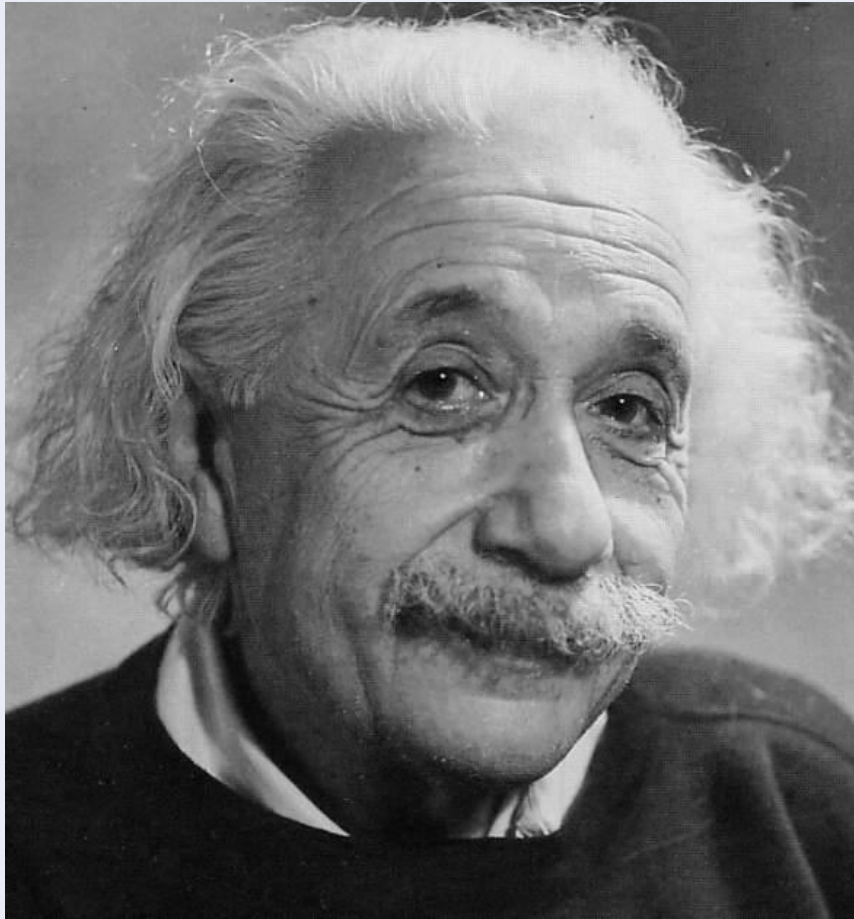
Water Treatment Organization

Small group with multiple job descriptions developed over time



metro
vancouver

Water Treatment Organization



***“If you do what you’ve
always done...you’ll
get what you’ve always
got.”***



**metro
vancouver**

Water Treatment Organization

- Opportunities:
 - New plant – highly automated, less-attended design philosophy
 - Standardize job duties
 - Flatten structure to develop and better manage shift schedule
 - Flexibility, variety and opportunities for advancement



metro
vancouver



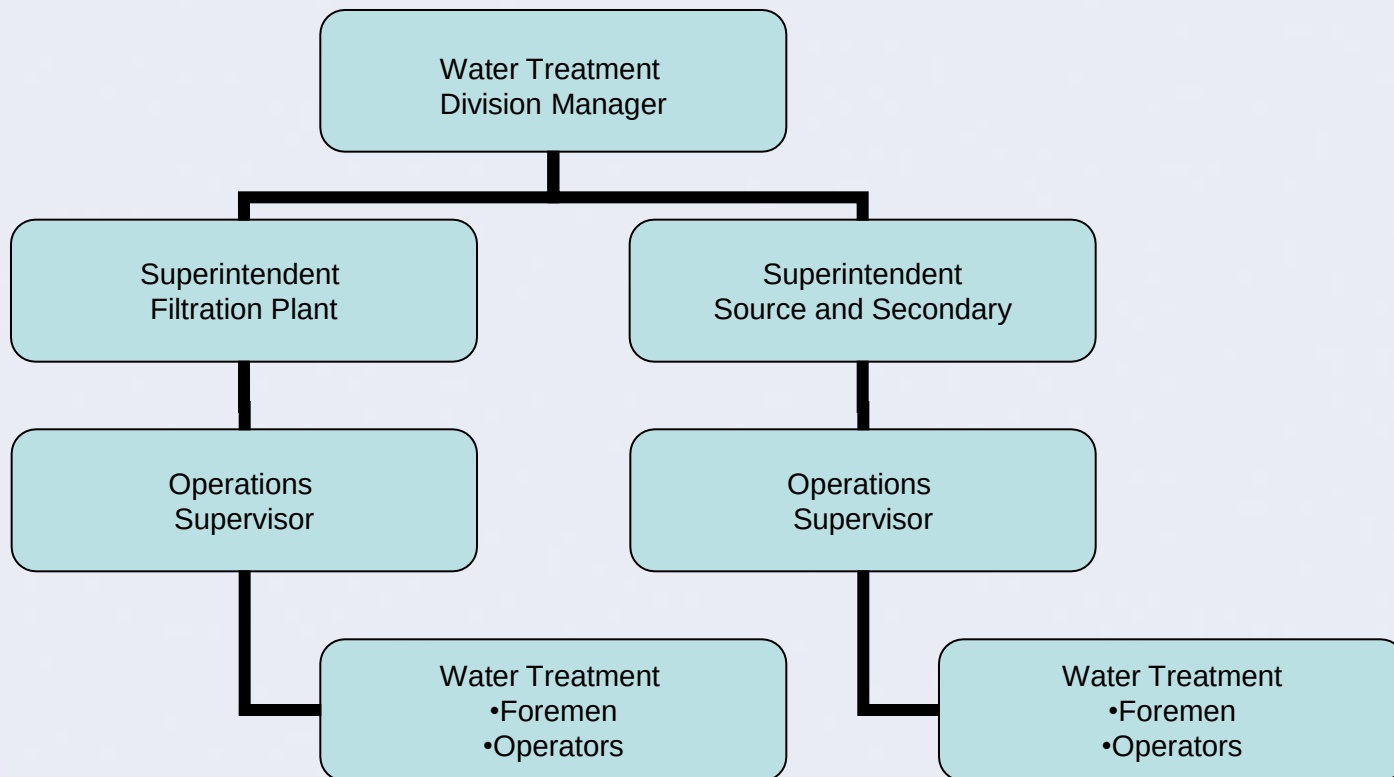
Water Treatment Organization

- Challenges:
 - New Staff
 - *Where were we going to get qualified staff to run this new plant??*
 - Existing Staff
 - Fear of change
 - Fear of going back to school, of not being successful
 - Fear of being 'left out' of future opportunities



Water Treatment Organization

Parallel structure and standardized job descriptions



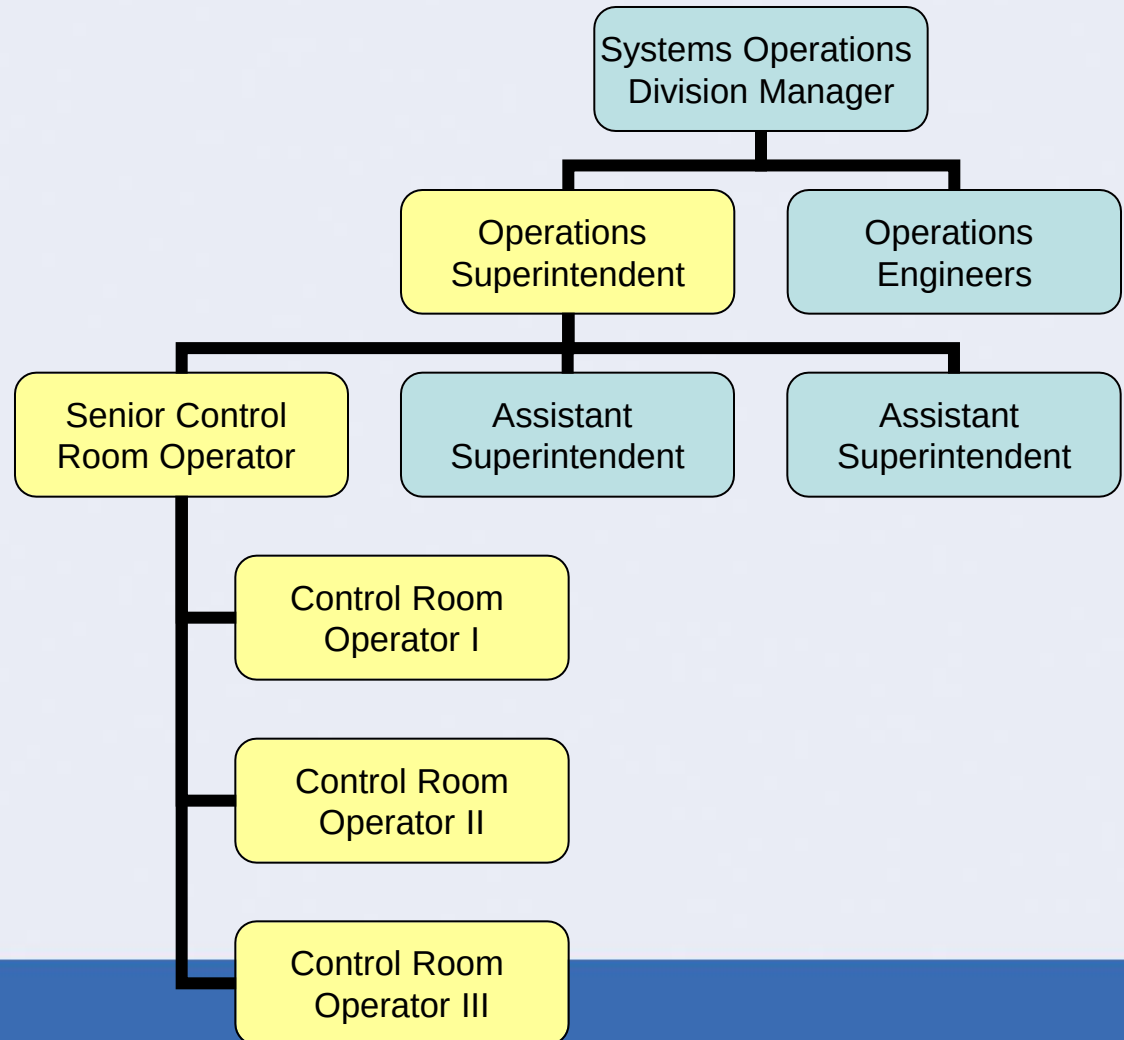
Water Treatment Organization

- Meeting the Challenges:
 - New educational/career opportunities – providing training through EPCOR (up to 2 years training out of province)
 - Developing transition plans for existing staff
 - Consulting with senior staff
 - Consulting with employees union
 - Managing training and transition process
 - More money doesn't hurt



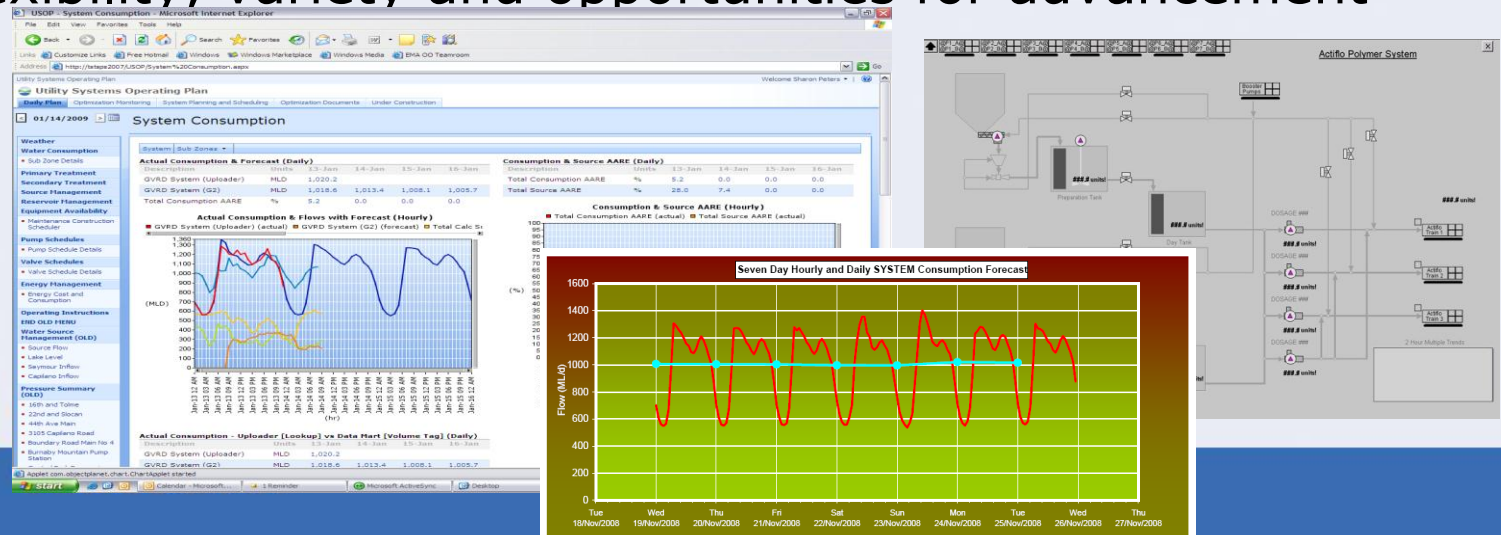
Systems Control Organization

Small group within large Division with multiple job levels for the same function



metro
vancouver

- Opportunities:
 - Changing system and changing technology
 - Same highly automated, less-attended design philosophy
 - More emphasis on analysis and optimization (Energy and Water Quality)
 - Standardize job duties and flatten structure
 - Flexibility, variety and opportunities for advancement



Systems Control Organization

- Similar Challenges:
 - New Staff
 - Loss of 3 out of 8 staff with more than 75 years operating experience within one year.
 - Existing Staff
 - Fear of change
 - Fear of going back to school, of not being successful
 - Fear of being 'left out' of future opportunities

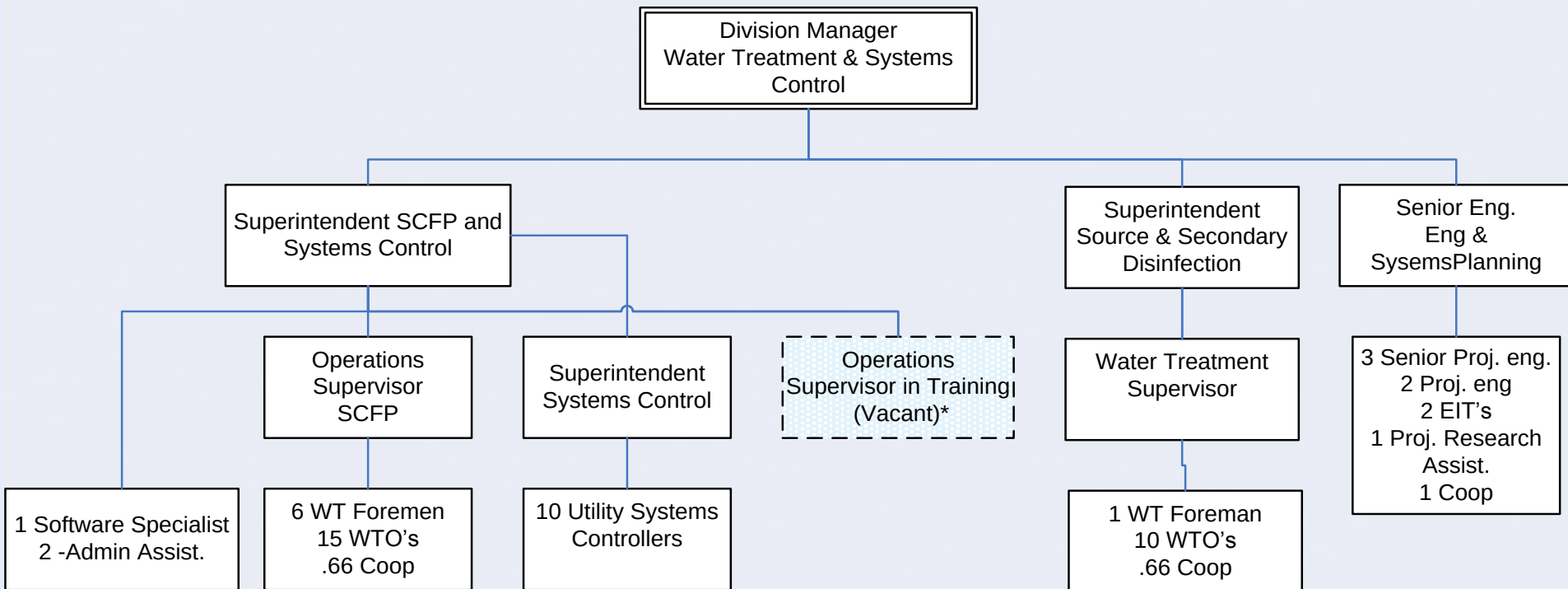


metro
vancouver



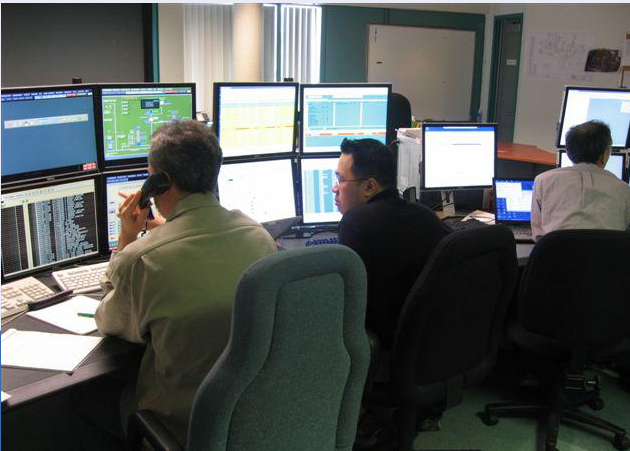
Water Treatment and Systems Control

Combining Water Treatment and Systems Control



Water Treatment and Systems Control

- Meeting the Challenges:
 - New position description with future integration of WT staff in mind.
 - Developing transition plans for existing staff
 - Consulting with both employees and employees union
 - “On Boarding”
 - Managing training and transition process
 - Training, training, training – Developing Division-wide procedures and training systems



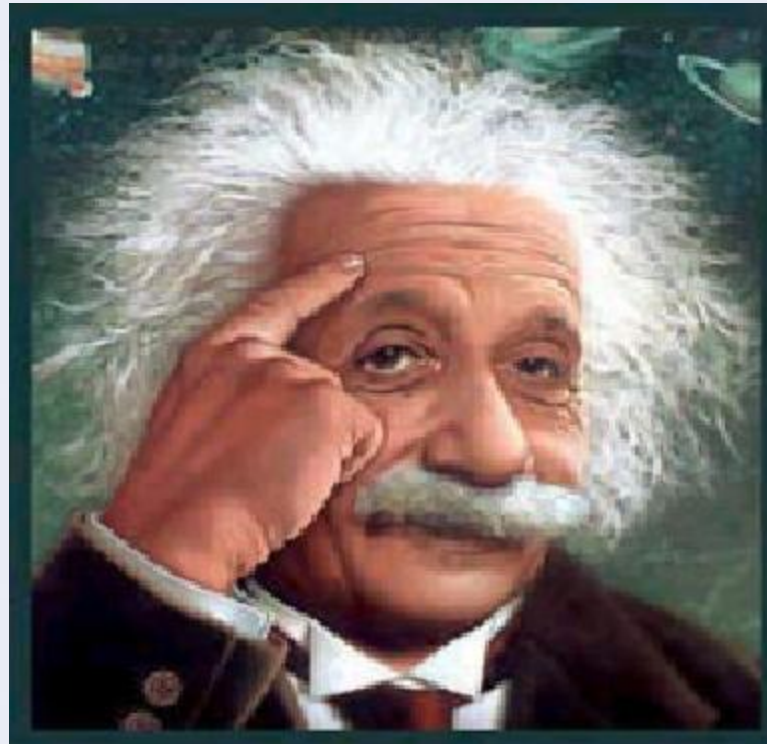
Water Treatment and Systems Control

- Looking to the Future:
 - Plant commissioning and start-up
 - System Control Centre moving to the plant for more integrated operations
 - Developing workforce integration strategy:
 - Succession planning
 - Cross-training opportunities
 - Cross-certification opportunities
 - Operations Supervisor-in-Training position
 - Staff rotation



Lessons Learned

"Make it as simple as possible, but not any simpler"



metro
vancouver

Lessons Learned

- Don't over design your structure or your process to address problems that may not emerge
- Don't control the process too much - be clear on the outcomes you want, be willing to let go of some of the details
- Be trustworthy – do what you say you will do
- Trust your employees – provide the carrots without hidden sticks
- Actively manage transition to prevent negative consequences



Vision – “It’s all about the people”

- We exist today in a dynamic environment. I believe the future success of the division rests with the people in it. Over the coming years the key word will be adaptation.
- The best thing we can do now to prepare is create a flexible, intelligent, strong and open team that will be ready to embrace whatever comes.
- The only certainty is, “ What we think today is not what it will be tomorrow”.

Questions?



metro
vancouver