



Municipal and Intergovernmental Affairs

Clean and Safe Drinking Water Workshop 2014

**THE PATH TO WATER TREATMENT through RFQ/RFP
DESIGN-BUILD**

Presenter: Chris Power, P. Eng.

Director of Municipal Infrastructure and Engineering Services

**Team: Melanie Doyle, Dave Dewling
Yousaf Khan, Chris Langdon**

Water Quality Issues

Common water quality issues in NL

- Boil Water Advisories
- Contaminants: Turbidity, arsenic, lead, fluoride, barium
- Disinfection Byproducts (DBP's):
 - Trihalomethanes (THM's)
 - Haloacetic Acids (HAA's)
- Aesthetics: Colour, pH (too low), manganese, iron, copper, TDS, chlorides

Addressing Water Quality Issues

- Is your town considering implementing infrastructure to address WQ issues?

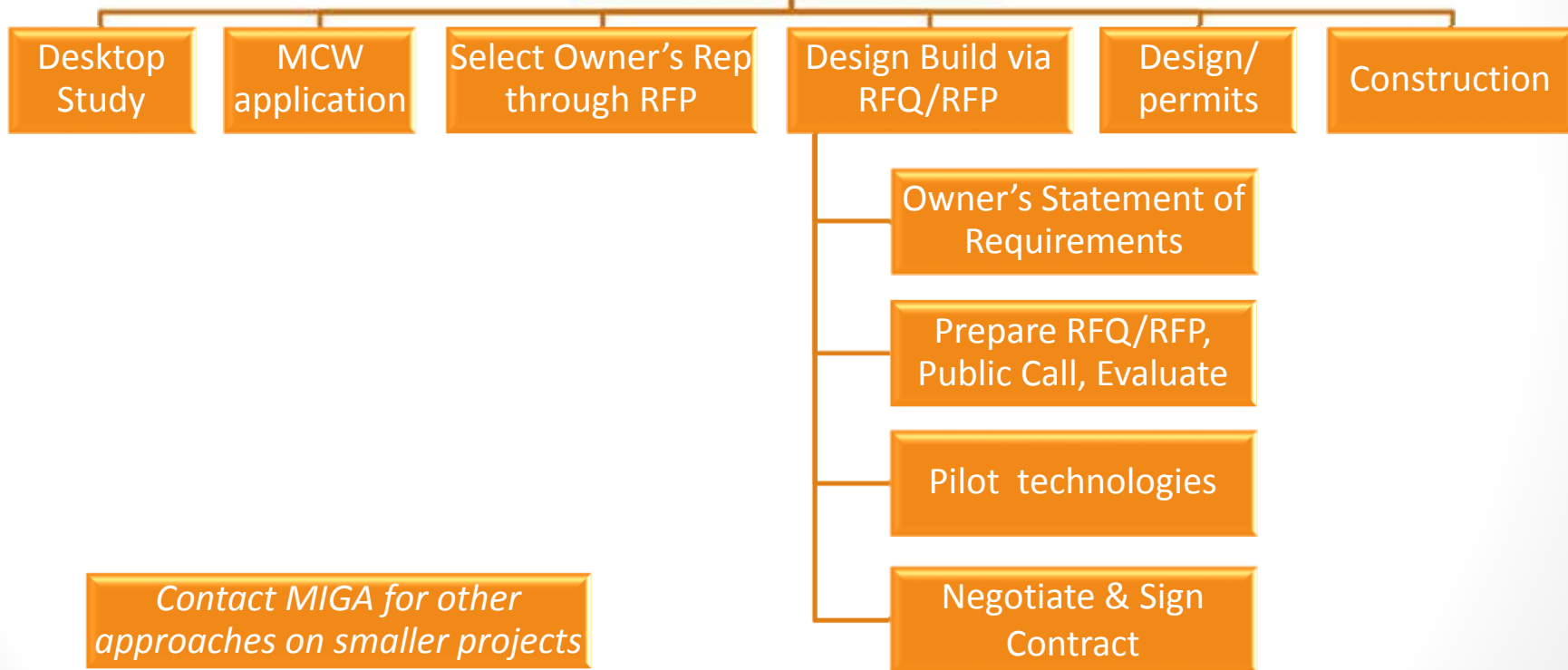


- To ensure a water treatment plant is appropriate & affordable, MIGA* recommends the following procedure.

*MIGA= Department of Municipal & Intergovernmental Affairs

How to Approach a Water Treatment Plant Project

REVIEW OF STEPS





Some Terminology

- **Design Bid Build (DBB)**
 - Traditional project delivery method
 - Tender based on consultant design
 - Capital cost is the determining factor.
- **Design Build (DB)**
 - Owner's contract with a team of firms
 - Professional designer + Contractor
 - Turnkey approach
 - *Better value through RFP-Design Build approach*

Two phase selection process (procurement)

1. Phase 1: Rating of proponents in response to RFQ
2. Phase 2: Selecting a Design Builder in response to RFP

Step 1 - Desktop Study

- Town engages someone to do a study (Cost \$25K-\$35K)
 - Define problem - preliminary analysis
 - Get flow & water quality data. Determine design capacity
 - Assess current water infrastructure; look at issues like excessive leakage
 - Evaluate potential Treatment options
 - Develop budget costs from a Life Cycle Cost perspective
 - (Capital, Operation and Maintenance for each option)
±20% Estimate

Step 2 – Funding Application

If study concludes that full scale water treatment is needed:

- Submit funding application
- Through MSIS (online system).
- Details on application process: Recent Circulars, website, or MIGA Regional Offices.

MCW funding applications - Ranked following standard review process.

MIGA Contact Information

1. Mr. John Dawe, P. Eng.

Eastern Regional Engineer

St. John's, NL

Tel: (709) 729-5337

JohnDawe@gov.nl.ca

2. Mr. M. Badiur Rahman, P. Eng.

Central Regional Engineer

Gander, NL

Tel: (709) 256-1055

BadiurRahman@gov.nl.ca

3. Mr. Dan Hynes, P. Eng.

Regional Director (Western contact)

Corner Brook, NL

Tel: (709) 637-2337

dhynes@gov.nl.ca



4. Mr. Ehsan Khan, P. Eng.

Labrador Regional Engineer

Goose Bay, NL

Tel: (709) 896-2941

EhsanKhan@gov.nl.ca

Step 3 - Selecting Owner's Rep

- **Project approval under a cost sharing arrangement**
 - Funding letter sent to Town.
 - Owner's Rep will need to be selected through RFP
 - Selection based on technical, experience and cost

Selecting Owner's Rep

Choose a Selection/Steering Committee

- About 5 *committed* people
- Variety (Knowledge, Skills, Relevant experience)
- Owner, MIGA
- Other Stakeholders - Dept. of Environment & Conservation
- Water Treatment Plant Operator (if applicable)
- **Be Careful!** Avoid choosing person with conflict of interest

Selecting Owner's Rep

RFP Preparation

- Scope of work
- FEE Schedule template
- Evaluation criteria

Evaluation Highlights

- Background in Water treatment
- Experience in Design Build
- Experience in preparation of Design Build documents
- Experience as Owner's Representative

Call for proposals

- Evaluate & Recommend
- Award

Role of Owner's Rep

Owner's Representative will help in

- Facilitating meetings
- Gathering & interpreting information
- Assist Owner in:
 1. Preparation of RFQ/RFP; but will **NOT** do design work
 2. Proposal Evaluation
 3. Looking at Life Cycle Costs & hiring financial advisor (NPV)
 4. Review of Design & Construction
 5. Compliance with Contract including Statement of Requirements

Step 4 – Project Delivery

- Design Build via RFQ/RFP
- Turnkey: design, supply & installation
- *Benefits of Design Build Approach*
 - Innovation
 - Many proprietary solutions
 - Shorter project delivery time
 - Selection of best solution on a Life Cycle Cost basis
- Different from MIGA's usual Design Bid Build approach for water/ sewer/ roads

Working Committee

Establish Working Committee (Town, OR, MIGA, ENVC ,others)

- Develop Statement of Requirements
- Community needs, land requirements, existing infrastructure
- Consult other communities with similar project experience
- Work with Regulators and Local Authorities, ENVC and MIGA.
Be familiar with regulations.
- A water treatment facility must produce drinking water that meets or exceeds the *Guidelines for Canadian Drinking Water Quality* and ENVC's standards.

Preparation

- Flow measurement program
- Design flow rates
 - Maximum Day demand
 - 25 year projected flow
- Water conservation measures:
 - Leak repair;
 - Waterline replacement;
 - Freeze protection on service lines
 - Other tools

Consider Costs

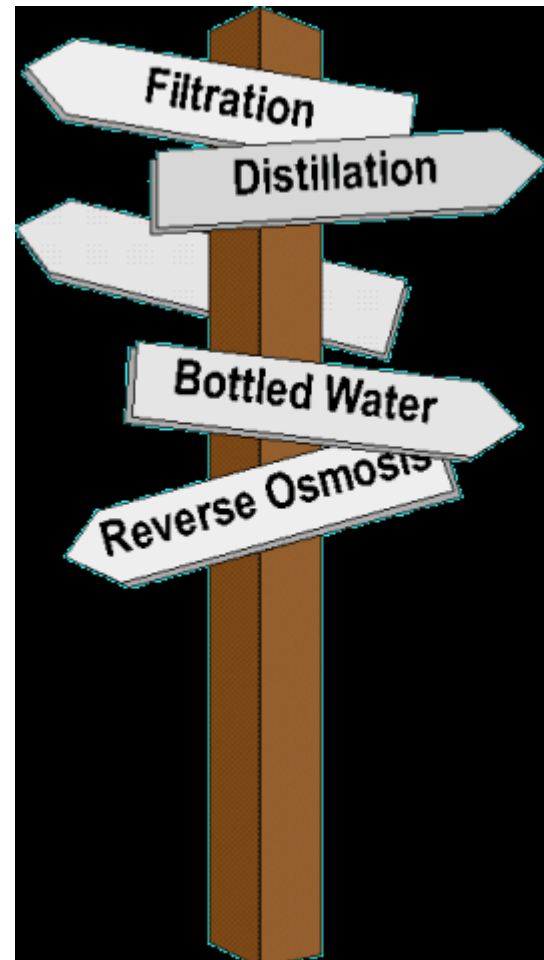
- WHAT can you afford?
 - A. Initial Capital costs
 - B. Ongoing O&M
 - $A+B =$ Net Present Value
 - Operator salary, labour requirements, administration
 - Power / Electricity, Chemicals, etc.
 - Financial Payments, Escalation
 - Life Cycle Cost – 25 yrs.?



Summarize

So far you have:

- Defined your problem
- Studied your options
- Decided on the Service you need
- Now proceed to RFQ/RFP



Next?

How do you find the right people for the right job
(Design Build Team)

1st stage= RFQ

2nd stage= RFP



Request for Qualifications

Purpose

- Establish a list of qualified DB Teams
 - RFQ – focused on Respondent
 - Issued Prior to the RFP
 - Ensure Teams have sufficient experience and qualifications
 - Shortlist number of respondents to participate in RFP
 - Will make RFP process that follows simpler

Finding the right people

- Prepare the Request for Qualifications
- Develop a Strategy for Evaluation
- Develop a Rating Structure

Example:

S. No	Criteria	Marks
1	Team, Technical Skills	25
2	Experience (WTP design, construction, DB)	35
3	Project approach	20
4	References	20
	Total	100

- **Be Fair & Use Uniform Criteria**

Finding the right people

- Get the Word Out
- Advertisement done by DTW, Tendering & Contracts division
 - Online
 - Atlantic distribution
 - Construction Associations



RFQ

- Working Committee evaluates responses
- Check References
 - I. Were there any problems?
 - II. Project Design
 - III. Performance
 - IV. Schedule, Budget, etc.
 - V. *Visit* the project in person if possible...
- Score responses – Finalists selected based on qualifying score (3-5 narrow choices)
- Technologies should be piloted during the RFP process

Piloting Technologies



Request for Proposals (RFP)

RFP's Provide:

- Project evaluation method based on fairness, structure & clarity, Life Cycle Cost selection
- Communication of key requirements; focus on performance objectives
- Equal opportunity to companies, technologies

Exemption from the Public Tender Act required

RFP for Design Build

Score is Combination of:

- **Technical:** (40)
 - Details of design, construction
 - Efficiency & flexibility
 - Schedule & methodology
- **Financial:** (60)
 - Net Present Value
 - Initial Cost of Construction
 - Long-term Operation
- Working Committee evaluates proposals and recommends preferred proponent

Honorarium

- Defined payment to parties chosen to participate in RFP
- 30% completed process design
- Ensures quality of proposal and effort
- Amount depends on scope, size and complexity of the project.
- The successful Design Build team will not receive an honorarium.

Remaining Steps

- Negotiate & Sign contract with successful proponent (within a reasonable time frame)
- Lawyer experienced in DB
- Obtain necessary permits & approvals; Detailed design
- WTP built & Commissioned



And Please.... Remember to be Patient....



It may take several years from the start of the selection process to the construction of the plant.



Thank You

Questions?