

Victoria's Sewage Treatment Procurement Options

My name is Jim Lloyd and I am a retired Water Resources Technologist. I have worked as a Wastewater Plant Operator in Ontario and at two plants in the Victoria area. Over the years I have seen, reviewed and worked with many examples of the good, the bad and the ugly of wastewater plant designs. And sad to say, the bad and the ugly, seem to be becoming more frequent these days.

Design-Bid-Build is the Best Option

Based on my first hand experiences in operating wastewater treatment plants I know the **Design-Bid-Build** is the best option. It will give the CRD complete control over the project, which is vital to a successful conclusion.

With a complete and detailed design in hand the CRD can then tender the project and get firm prices and delivery dates from the largest number of bidders possible. This approach will give the CRD the best chance to eliminate the possibility of later cost overruns and/or delays in the project.

You would also want to include delay penalties in the contract so that the constructor would be penalized for any delays.

Existing In-house Staff Expertise

The CRD already has the in-house staff expertise to run and maintain the plants. During the build phase new staff can be trained at existing facilities. The larger the staff base you have the easier it is to build in-house expertise and have back-up capability.

Accountability – Make Sure Designer is Accountable

One key component that must be included in the design contract is that the designer would be held financially accountable for any additional cost due to design errors and problems. This is vitally important since even small design issues can turn into million dollar problems. I state this from experience having worked in wastewater operations with a large regional government in Ontario and at two wastewater plants in the Victoria area. During one upgrade project at a plant I was working at, numerous design problems resulted in costs to the municipality in the millions of dollars to fix the problems along with additional operating and maintenance costs. The sad part of that story was these design problems were identified early during the design phase by plant operators but the project was pushed ahead anyway.

So the main point to keep in mind is that the design consultant will more than likely make mistakes, we all do. Because of this you want the opportunity to catch these in the design phase when it is just on paper not poured in concrete. With Design-Build and especially with a P3 you would not likely ever find out about the mistakes that were made in the

design or the construction, but the taxpayer would still be paying for them one way or another for years to come.

Go with the traditional Design-Bid-Build, it has worked for well over 100 years.

It is a **Real P3**: Private design, Private building and Public operation.

Learn from History – Don't Repeat It

Halifax Wastewater Treatment Plant Catastrophic Failure

The new Halifax Wastewater treatment plant was initially a Design-Build-Operate (P3) project with the French multinational Suez leading the consortium. After Suez tried to change the terms of the operating contract the city took back the operational component but retained the same consortium to design and build the project.

After just one year of operation the \$54 million Halifax Wastewater Treatment Plant had a catastrophic failure in Jan. 2009 and will be out of commission until the Spring of this year. Repairs costs are estimated at 11 million dollars.

During an electrical power outage the back-up generators failed. As a result, a chain of events started from which the plant could not recover from because of the way it had been designed. Because of cutting corners and poor design, fail safe systems were not in place, and the plant was doomed to eventual failure.

It is a text book example of "What can go wrong, will go wrong" and why you have to properly design for it. The Design-Build option is more prone to this type of outcome.

If the CRD chooses to go the privatization (P3) route you can be sure Suez will be involved with one of the bidders.

For an excellent article on the Halifax WWTP do an internet search "**How the sewage plant broke**".

Design-Build or P3 – Too Many Ways It Can Go Wrong

With a Design-Build or P3 the price is set before the design is even started, therefore the project will be designed to fit the budget. To maximize profit or stay within budget cutting corners will be sure to follow.

On one hand you may have price certainty but on the other hand you will have product uncertainty as Halifax found out.

Also, anything the owner wants change will come at a high premium in very costly change orders.

A Design-Build approach may work with simple projects like highways or condo developments but it does not work very well with wastewater plants.

This approach also greatly reduces the number of bidders on a project. With a P3, you could be down to one or two bidders at the end of a long drawn out process.

Hamilton Wastewater Plant

Hamilton, Ontario tried the privatization of the operation and maintenance of their wastewater plant in the 1990s. Over the term of the original contract there were many problems and the private company went through many changes in ownership, including Enron as one of the owners.

In 2004, the contract was expiring and it was put out for open bids. Along with a number of private companies the city of Hamilton also put in their own bid to operate and maintain the plant. To no ones surprise they found it was much cheaper to do it in-house and they took back the operation, hired back staff, saved money and controlled the risks.

It is an excellent example of when an honest comparison is done, with actual open bidding, doing it in-house turns out to be cheaper and better. Under the previous private operator the city had little control and all the risks. The private operator also had operated the plant on the maintenance principal of "run to failure". That way they were able to reduce staff and expenditures on preventative maintenance and were able to bill back to the city the full costs of replacement or repair of any broken down equipment.

Too Many Cooks Can Spoil the Broth

How many players does it take to complete the project?

Design-Bid-Build

- Designer
- Builder
- Owner

P3

- Broker
- Designer
- Builder
- Banker
- Operator
- Partnerships BC
- Owner

"Procurement Business Plan" – Who's Minding the Hen House?

I would also like to comment on the documents that the CRD will be using to make a very difficult decision. The "Procurement Business Plan" and public information brochures with their comparison of the different procurement options were drafted by Ernst & Young. I consider this a real conflict of interest since Ernst & Young is very biased toward the P3 option and will gain financially if the P3 option is chosen.

From Ernst & Young's own web site:

"Drawing on Ernst & Young's global network of more than 200 project finance and P3 practitioners, the firm has been involved in more than 700 P3 projects, more than 230 of which have reached financial close. In 2005, Ernst & Young was appointed to 126 new mandates, more than any other advisor, and the firm is ranked among the top advisors worldwide.

The PFI ranking confirms that Ernst & Young is working on more P3 deals than any other financial advisory firm in the world and last year won the most P3 engagements, according to Tim Philpotts, who leads Ernst & Young's Canadian initiatives for P3s."

Ernst & Young like numerous other consultants the CRD has hired are also corporate sponsors and/or members of the Canadian Council for Public Private Partnerships (CCPPP) that is the P3 industry's lobby group.

I have also noticed that the CRD documents prepared by E & Y in whole or part do not have them indicated as the author of the document.

This begs the questions:

Why would the CRD hire a company to prepare the documents for the comparison of the different procurement options when they have a vested interest in the P3 option being chosen?

Some may wonder: "Is the fix in?"

This is a real concern to me and I would think to the CRD.

In closing I would like to restate:

-A traditional design-bid-build procurement method is the best approach of the options available.

-Don't rush the design phase, take your time and get it right the first time. Retain the Operation in-house so control of the project is not lost.

-Learn from history's mistakes, don't repeat them. (Halifax and Hamilton WWTPs)

-Designed to fail or failing to design, don't go down that path.

-and finally, the CRD was forced to consider privatization (P3) as an option – but the CRD is under no obligation to go that route.

Thank you for your consideration of my comments.

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Feb 25, 2010