Texas Desal

2018

P3 or not P3..?
Presentation Flow

- Why?
- A Brief History
- When & Why?
- A Financial Example
Why?

- Experience
Why?

- Experience
- P3-specific conferences
Why?

- Experience
- P3-specific conferences
- Alarmed
Why?

- Experience
- P3-specific conferences
- Alarmed
- Appalled
Why?

- Experience
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  - Alarmed
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  - Final straw
Why?

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- A P3 must have:
Why?

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- A P3 must have:
  - Private sector capital at risk
Why?

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- A P3 must have:
  - Private sector capital at risk
  - Private sector assuming the process risk
Experience
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A P3 must have:
  Private sector capital at risk
  Private sector assuming the process risk
  Private sector assuming the construction risk
Why?

- Experience
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A P3 must have:
- Private sector capital at risk
- Private sector assuming the process risk
- Private sector assuming the construction risk
- Private sector assuming the long-term O&M risk
Brief History

- 1992
Brief History

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Brief History

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PFI

The Private Finance Initiative
Brief History

- 1992

PPP - enable the creation of Public-Private Partnerships to allow private sector companies to build & manage public projects
Brief History

- 1992

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- 1997
2002 - Virginia introduced P3 for public works other than highways
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Other States have tended to base their P3 legislation on the Virginia legislation
Brief History (2)

Source: Association for the Improvement of American Infrastructure https://aiai-infra.info/
Brief History (2)

LEGEND
- Broadly enabled
- Transportation only
- No P3 Authority
- Limited (project-specific)

12 (24%) No P3 Authority
8 (16%) Limited/project specific

Source: Association for the Improvement of American Infrastructure https://aiai-infra.info/
Brief History (2)

16 (32%) Transport only
14 (28%) Transport + Other Public Works

Source: Association for the Improvement of American Infrastructure https://aiai-infra.info/
Brief History (2)

- 2002 - Virginia introduced P3 for public works other than highways
- Other States have tended to base their P3 legislation on the Virginia legislation
- 2011 – Texas adopted P3 legislation for public works other than highways
2002 - Virginia introduced P3 for public works other than highways

Other States have tended to base their P3 legislation on the Virginia legislation

2011 – Texas adopted P3 legislation for public works other than highways

The Texas Facilities Commission (TFC) has published Public-Private Partnership Guidelines
When & Why?
Public-Private Partnerships are long-term contractual relationships
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Main parameters for consideration are:
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Main parameters for consideration are:

- Project Financing
When & Why?

- Public-Private Partnerships are long-term contractual relationships
- Main parameters for consideration are:
  - Project Financing
    - Private sector capital + commercial loans vs Public sector financing options
WIFIA overview

- $20m minimum project size
- 49% maximum portion of eligible project costs
- Loan’s guaranteed by existing payment streams are preferred over payment streams dependent upon project COD
- $100,000 application fee + $400,000 - $700,000 credit processing fee
- Interest rate “equal or greater to the US Treasury rate of a similar maturity” - ~3%
Public Sector Financing - WIFIA

- WIFIA red tape
  - American Iron and Steel Requirement
    - WIFIA borrowers may not use WIFIA credit assistance unless all iron and steel products used in the projects are produced in U.S.
  - Waiver granted if overall project costs would be increased by >25%
- National Environmental Policy Act of 1969
  - Full federal NEPA review mandated and conducted by the EPA
- Other federal requirements - Flood Plain Management, Executive Order 11988, etc
- **WIFIA & Desalination**
  - 3 out of 43 letters of interest submitted to WIFIA in 2017 were for desal projects
  - 0 out of 12 FY2017 selected projects were desal projects
  - 4 out of 62 letters of interest submitted to WIFIA in August 2018 were for desal projects
Eligible entities: Any political subdivision or nonprofit water supply corporation

Timeline
- If project is included in state water plan – 12-18 months
- If project is not included – 5+ years

Texas Water Development Board raises AAA bonds on behalf of political subdivision
- Can fund up to 80% of project cost
- AAA bond interest rate, depends on market conditions – typically 2-4%
Public Sector Financing - SWIFT

- Responsibilities of political subdivision
- Compliance with SWIFT application requirements
- Sourcing relevant advisers for execution of project
- Financial liabilities
  - SWIFT loan repayment
  - All operational costs
  - Initial equity investment of at least 20% of project
When & Why?

- Public-Private Partnerships are long-term contractual relationships
- Main parameters for consideration are:
  - Project Financing
    - Private sector capital + commercial loans vs Public sector financing options
  - Risk Allocation
When & Why?

- **Public-Private Partnerships** are long-term contractual relationships
- **Main parameters for consideration are:**
  - **Project Financing**
    - Private sector capital + commercial loans vs Public sector financing options
  - **Risk Allocation**
  - **Project Delivery**
Public-Private Partnerships are long-term contractual relationships

Main parameters for consideration are:

- Project Financing
- Private sector capital + commercial loans vs Public sector financing options

- Risk Allocation
- Project Delivery – Process Risk
When & Why?

- Public-Private Partnerships are long-term contractual relationships
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  - Project Delivery – Process Risk – Long-term Operations & Maintenance
When & Why?

- Evaluation
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Evaluation

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When & Why?

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- Public sector views the P3 adoption as a policy decision
- Concentrate on the optimal transference of Risk
Risk Transference to the Private Sector
When & Why? (2)

- Risk Transference to the Private Sector
- Project Delivery - Process risk - Long-term Operations & Maintenance
Risk Transference to the Private Sector

Project Delivery - Process risk - Long-term Operations & Maintenance

Public sector clients always seem to concentrate on the Design-Build/EPC portion of the contract, but forget about the long-term O&M risk.
When & Why? (2)

- **Risk Transference to the Private Sector**

- **Project Delivery - Process risk - Long-term Operations & Maintenance**

- Public sector clients always seem to concentrate on the Design-Build/EPC portion of the contract, but forget about the long-term O&M risk.

- It’s actually this long-term O&M period that differentiates the lifetime project cost between the public & private sector, & negates the perceived higher cost of private sector equity + project financing vs public sector financing.
2017 – Irma, Maria, El Niño
2017 – Irma & Maria

Hurricane Irma:
- US Virgin Islands
- British Virgin Islands
- Sint Maarten
- Turks & Caicos
- Bahamas
- Tampa HO

Hurricane Maria:
- US Virgin Islands
- British Virgin Islands
- Sint Maarten
- Turks & Caicos
2017 - El Niño
Long-term O&M - Private Operator Plant Availability

2017 Plant Availability

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Availability</th>
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<tbody>
<tr>
<td>AdB Phosphate Mine, Peru</td>
<td>88.08%</td>
</tr>
<tr>
<td>Tortola - Paraquita Bay, BVI</td>
<td>99.03%</td>
</tr>
<tr>
<td>Point Fortin, Trinidad</td>
<td>98.77%</td>
</tr>
<tr>
<td>Point Blanche, Sint Maarten</td>
<td>97.80%</td>
</tr>
<tr>
<td>Cupecoy, Sint Maarten</td>
<td>96.50%</td>
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<tr>
<td>Cay Bay, Sint Maarten</td>
<td>96.67%</td>
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<tr>
<td>Harley Power Plant, USVI</td>
<td>99.28%</td>
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<tr>
<td>Limetree Oil Refinery, USVI</td>
<td>99.88%</td>
</tr>
<tr>
<td>Richmond Power Plant, USVI</td>
<td>98.58%</td>
</tr>
<tr>
<td>CRU Oil Refinery, Curacao</td>
<td>95.79%</td>
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<tr>
<td>AVERAGE</td>
<td>97.04%</td>
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- >130 years total operations experience across 16 SWRO plants
Financial Example

- Consider a 10 MGD seawater desal plant @ $60m CAPEX
Financial Example

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- 20 years Operations + Maintenance period
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- EPC + O&M using SWIFT funding for 80%; recovery of 20% equity only
Consider a 10MGD seawater desal plant @ $60m CAPEX

20 years Operations + Maintenance period

P3 with 20% equity + 2+8-year project finance loan

EPC + O&M using SWIFT funding for 80%; recovery of 20% equity only

Power costs are excluded in this example
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Total volume produced:

EPC + O&M: ~61,400MG  
P3: ~73,000MG  
(~1.6MGD)
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**Average unit price:**

EPC + O&M: ~ $3.35/kgal

P3: ~ $3.10/kgal
(7.5% lower unit price)
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The financial example illustrated either public sector financing (SWIFT) or private sector financing.
Financial Example - Conclusion

- The perceived added project cost of private sector finance is negated when considering the life-cycle cost of the project.
- The financial example illustrated either public sector financing (SWIFT) or private sector financing.
- Don’t forget that the 3rd P is for Partnership – there’s no reason why the public sector partner cannot bring the project loan/debt to the project.
Currently, SWIFT funds are available for loan to public entities only
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A way to accelerate water & wastewater infrastructure development could be to allow SWIFT funds to be lent to the P3 project (recognizing that asset ownership passes to the public sector at the end of the contract term).
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In the financial example, using SWIFT funds instead of the commercial loan would obviously lower the unit cost of water even further
Texas Desal

2018

P3 or not P3..?

Richard Whiting,
VP Business
Development