

# Using Body Language for Effective Leadership

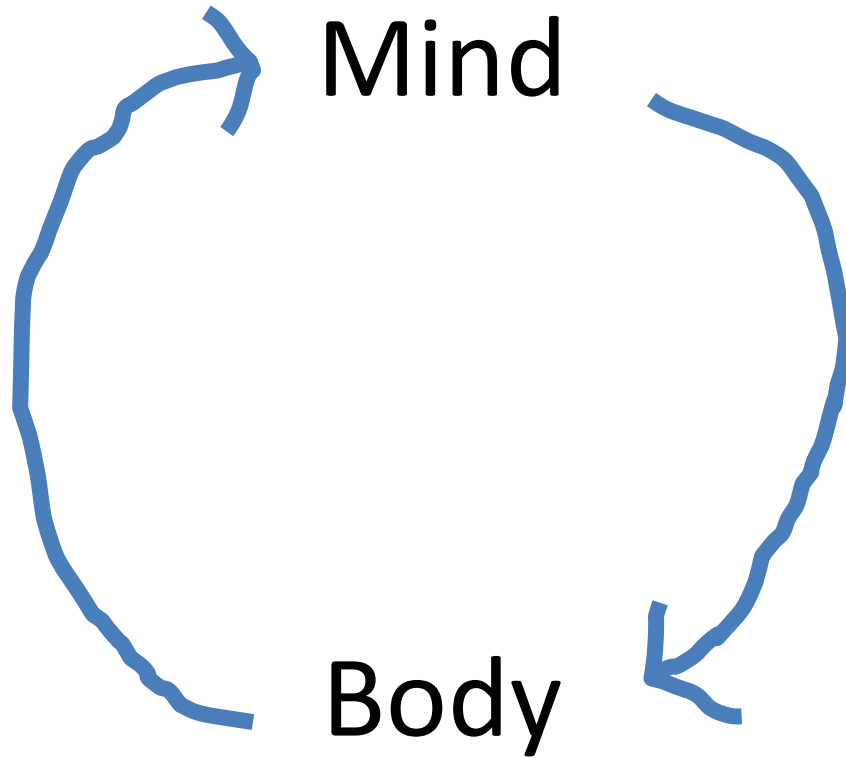
The Ni(c)kis

May 4, 2012

PNWS AWWA Conference



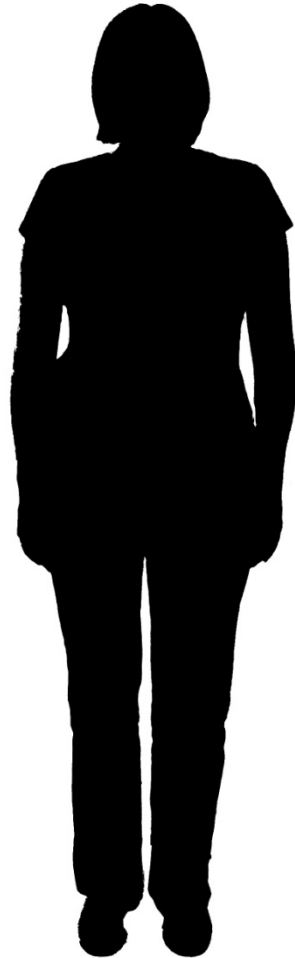
Why?



Demo

# 1 Raise your hands up (or don't)

the  
grotesque  
plane



the  
truth  
plane

the  
passion  
plane



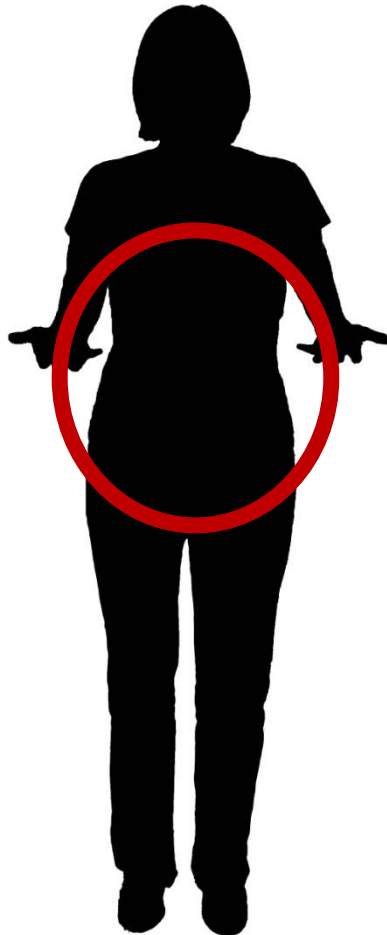
the  
ecstatic  
plane



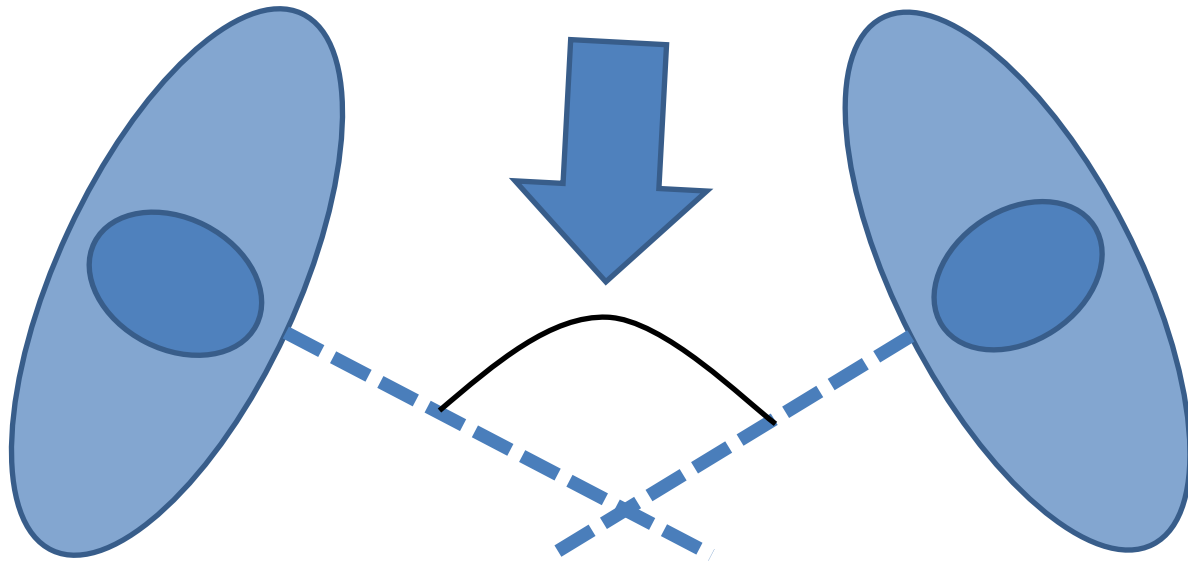
- 2 Don't be afraid to take up space  
(unless it's your boss' space)

3

Obey the belly button rule



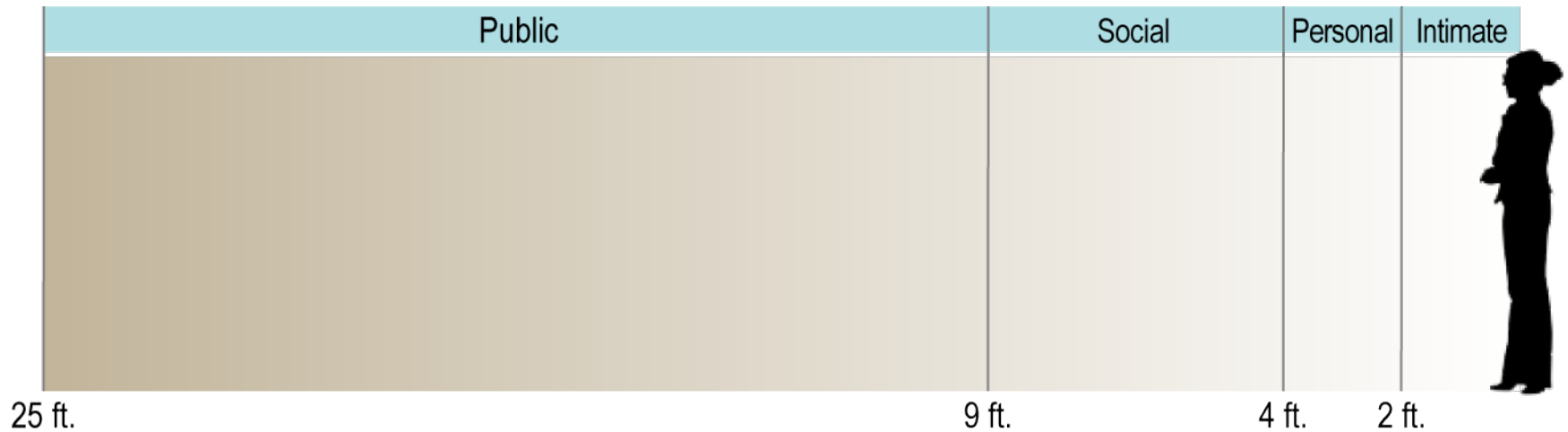
# It helps to know belly button geometry



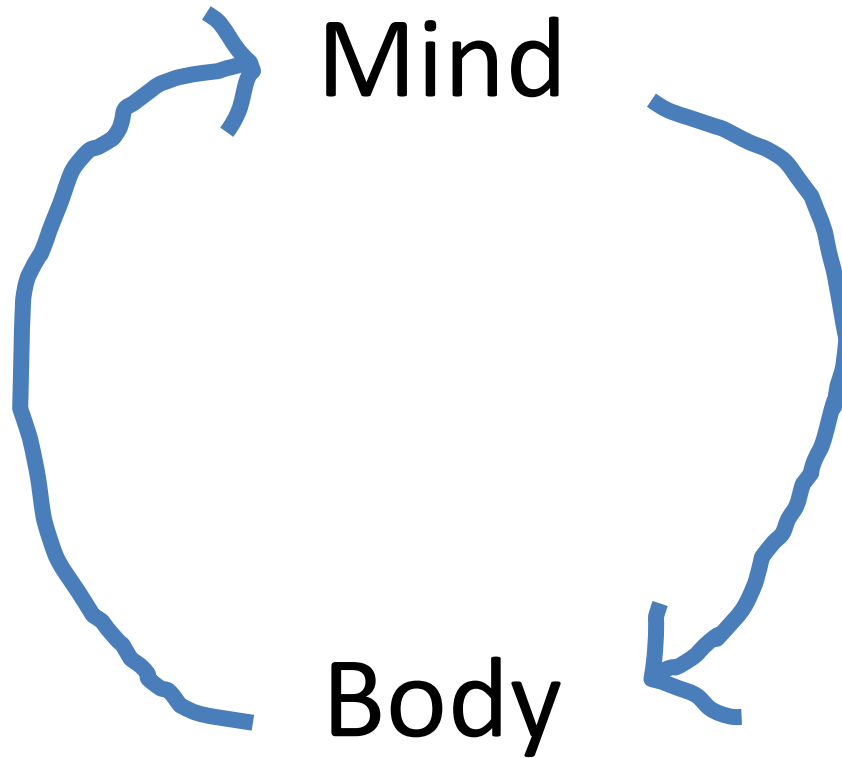
level of engagement  $\rightarrow \infty$  as  $\angle$  belly button  $\rightarrow 180^\circ$



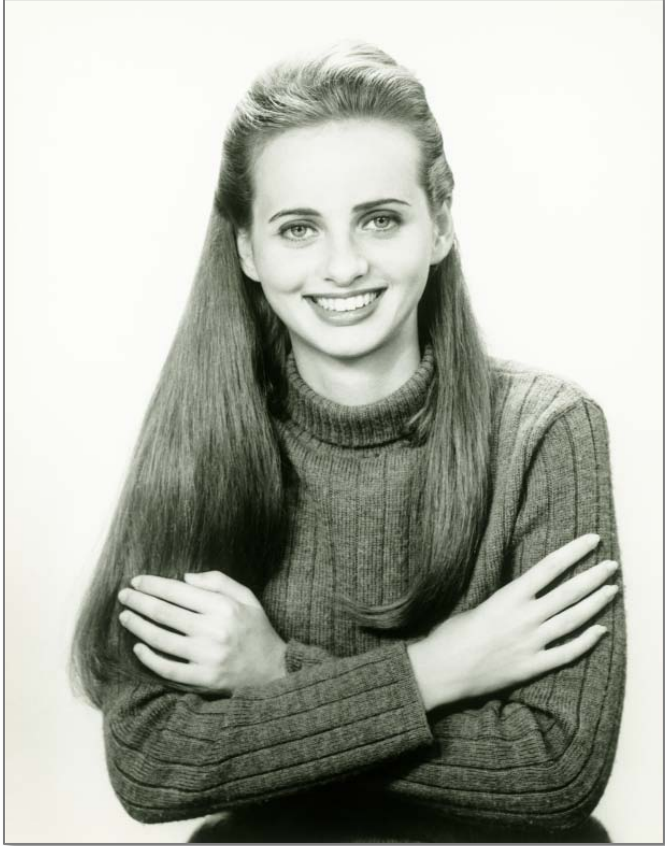
# 4 Too close for comfort



# Remember...



Now you try













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503-956-8914



# *Changing Utility Culture through Project Management Innovations*



*David Peters, Portland Water Bureau  
Dale Jutila, CH2M HILL*

*May 4, 2012*

# Thesis: Lessons from a major project can influence culture

- In this project, we saw:
  - Opportunity for improvement
  - Complex assembly of consultants
- Needed to design large treatment facility
  - Within prescribed budget, schedule, scope

*If successful, the processes applied will be useful for future projects*

**But wait. What's this have to do with Public Information?**



# What does this have to do with Public Information?

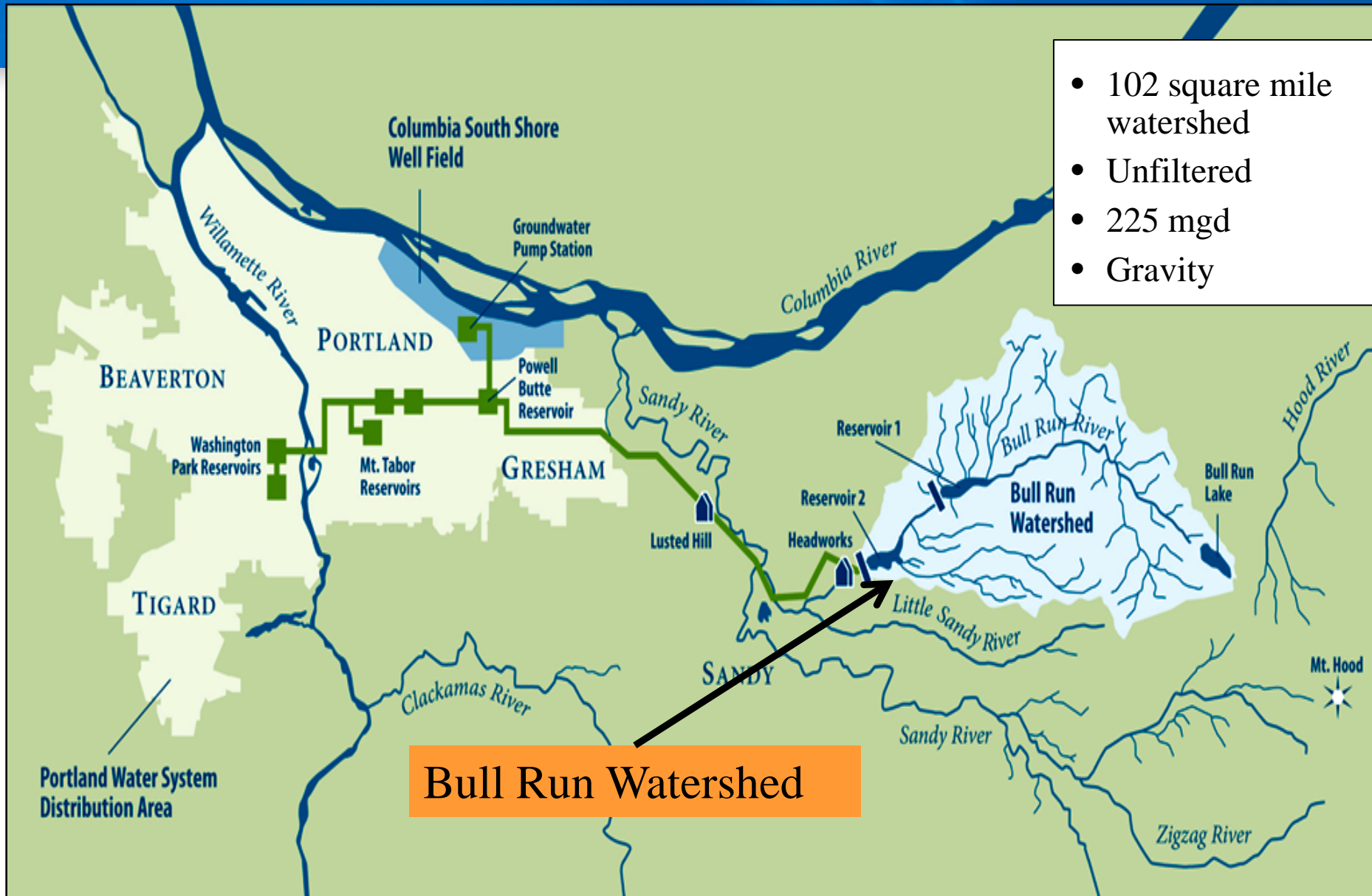
- It's the reason we're all here – to serve the end user
- The better we *all* do our jobs, the better those customers are served
- Communication is important – internally and externally
  - Would have used similar communication tools with public



# The Portland System and the Bull Run Supply Treatment Project



# Portland's System



# Existing Headworks Site and Vicinity

Headworks

Dam 2



Figure 1.2  
Headworks, Kaiser Park, and Teardrop  
Bull Run Headworks Land Use  
August 2011





Chlorine Storage

An aerial photograph of a water treatment facility. A river flows from the top left, passes through a diversion pool with a dam, and then continues to the right. On the right bank, there are several buildings, including a large blue-roofed structure and a smaller white building. A parking lot with several vehicles is visible. The surrounding area is heavily forested with green trees. Three callout boxes with green borders and white text point to specific features: 'Chlorine Storage' points to a building, 'Screenhouse 3' points to another building, and 'Diversion Pool' points to the dam area.

Screenhouse 3

Diversion Pool



# The Need for the Project

- 2006 LT2 Rule promulgated
  - Reservoirs
  - Treatment
- Parallel compliance tracks
  - Variance
  - Conventional compliance
    - Ultraviolet light (UV) treatment

# Attributes of the Project

- Constrained site
- Short timeframe
- Multiple objectives
- Diverse sets of data from earlier assessments
- Large number of stakeholders and other interested parties
- Significant interest about decisions among stakeholders and interested parties
- Expectations for meaningful and ongoing communication
- Differing perspectives on direction or decisions

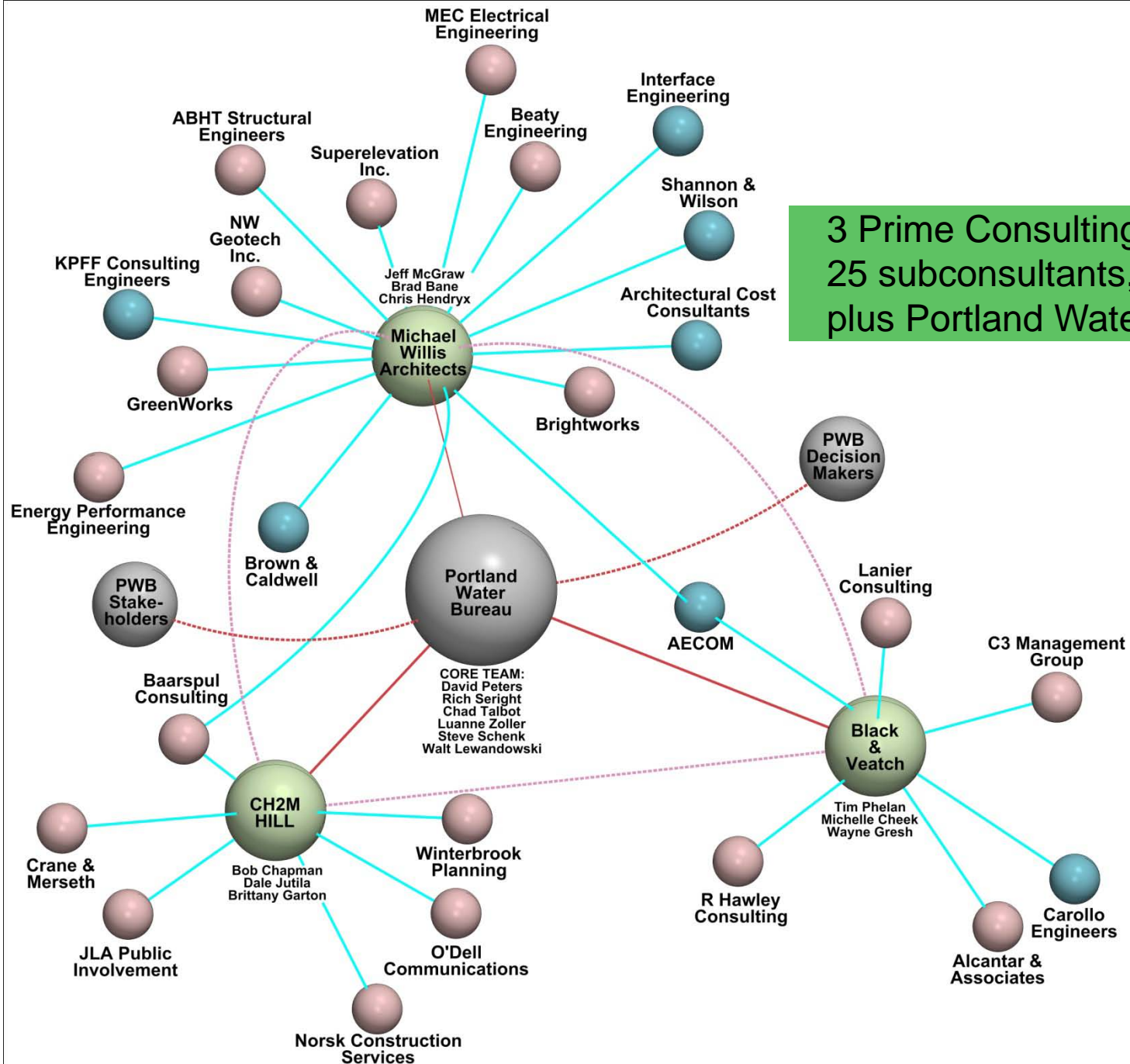
This site...





...will look like this site





3 Prime Consulting firms,  
25 subconsultants,  
plus Portland Water Bureau



# Engaging so many firms raised several challenges

- How do we communicate?
- How do we make decisions?
- How do we apply standards?
  - *What* standards do we apply?
- How do we assure quality?



The background is a solid blue color with a subtle, abstract pattern of light blue and white streaks that sweep across the right side of the image, creating a sense of motion and depth.

- How do we communicate?



# Arrangements made to facilitate flow of information

- Project office
- Weekly project team meetings
- Common platforms
  - SharePoint for documents
  - ProjectWise for drawings and specs
- Project reporting
  - Newsletter

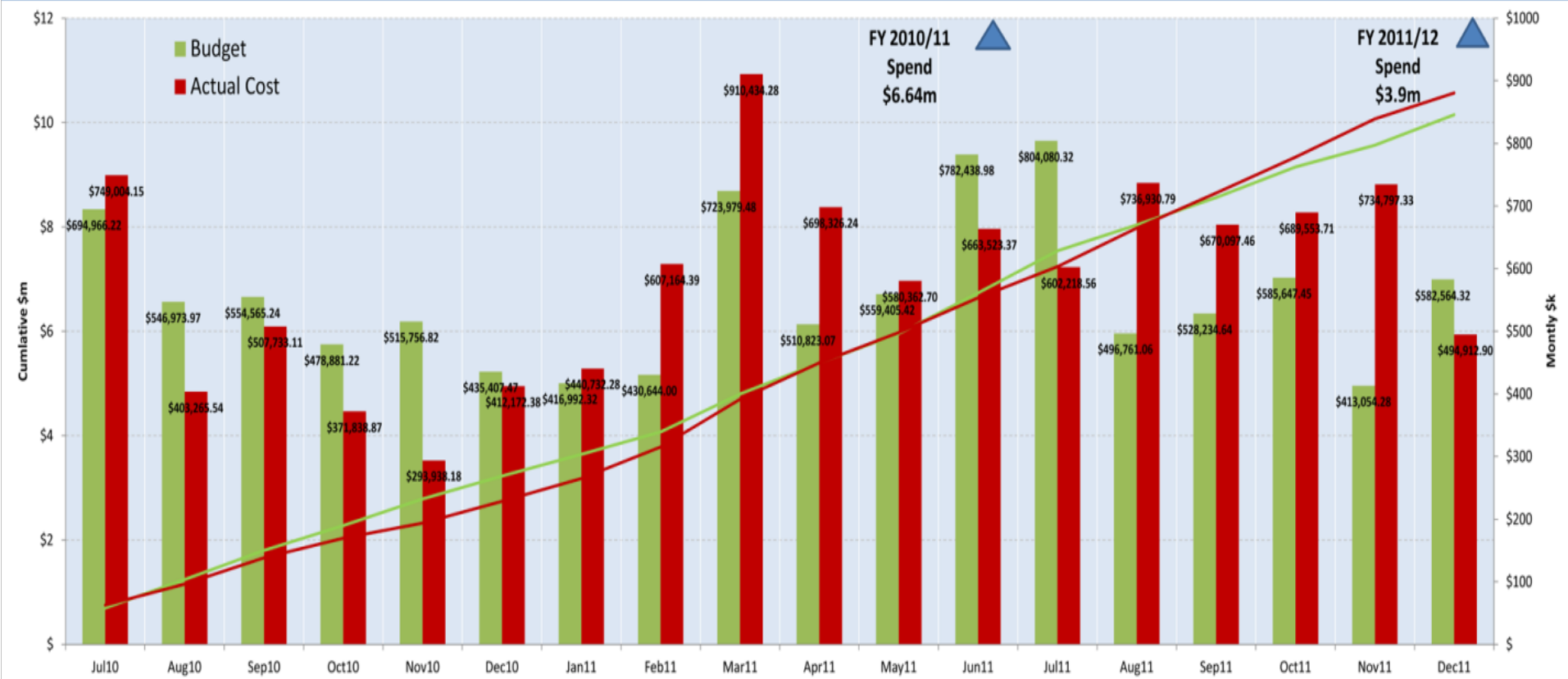
*Communication was the main objective in setting these up*

# Key factors selected to characterize project status

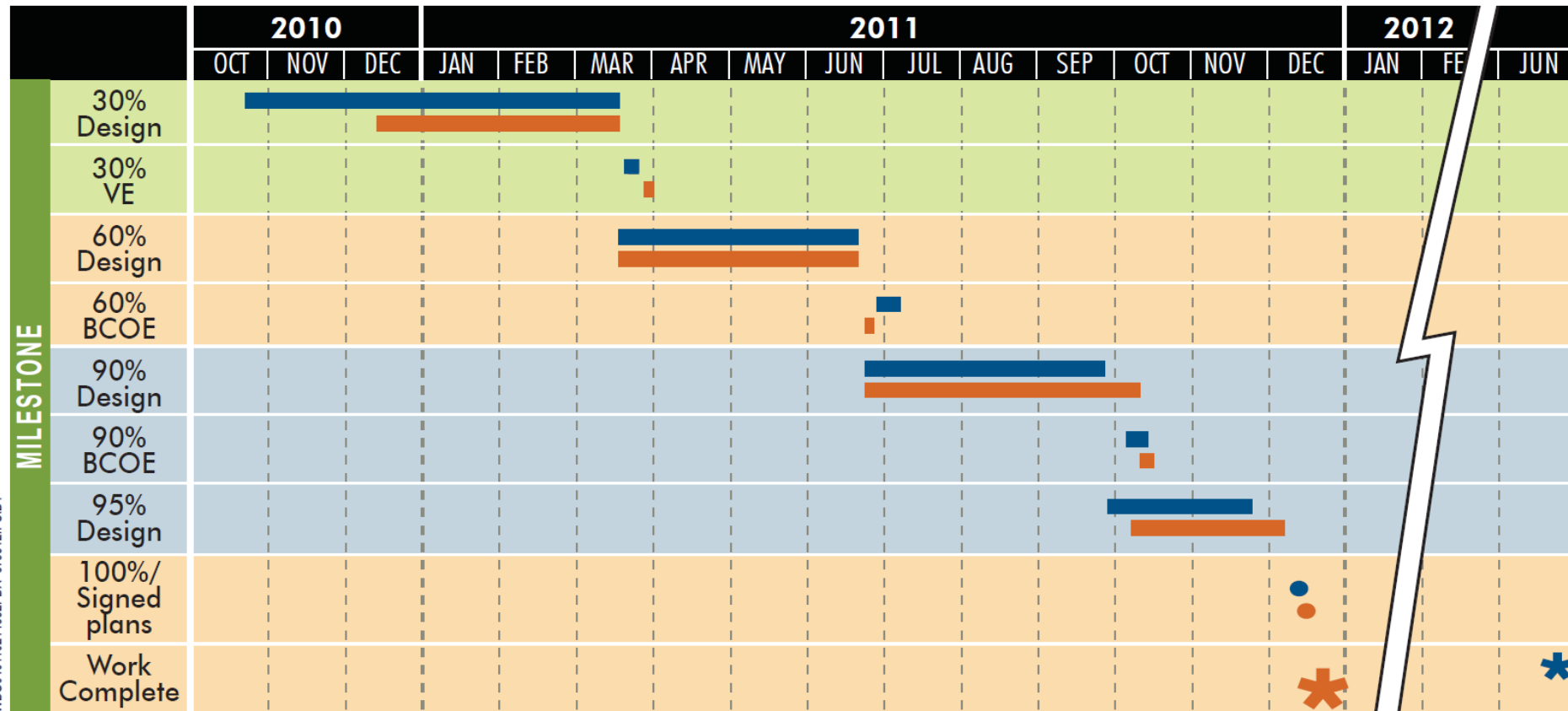
- Common status reporting – project controls
- Spent versus budget
- Percent complete
- Earned value
- Indicators
  - Cost performance (CPI)
  - Schedule performance (SPI)



# Graphic display of performance communicated project status



# Active and collective Project Management brought design in on time



**LEGEND**  
 PROJECTED  
 ACTUAL

How do we make decisions?  
What decisions are needed?



# Questions that needed answers

- Chlorination systems
- Treatment criteria and hydraulics
- Power supply
- Layout of facilities



# Used an Explicit Process for making decisions

- 1 — Agree to Decision Making Team
- 2 — Establish Decision Making Approach
- 3 — Generate Criteria and Weighting
- 4 — Create Decision Descriptions
- 5 — Evaluate Options
- 6 — Make and Validate Decisions

1

# — Agree to Decision Making Team

## Decision Makers

Confirm Recommended Decisions

Leadership  
Commitment

Frame  
Questions

Determine  
Objectives

Collect  
Information  
and Verify  
Information

Evaluate  
Alternatives

Implement  
Plan

## Core Team

Decision Recommendations

## Project Advisor Team

Perspectives and Advice

## Contributors

## Regulators

## Informed Stakeholders



1

# — Agree to Decision Making Team

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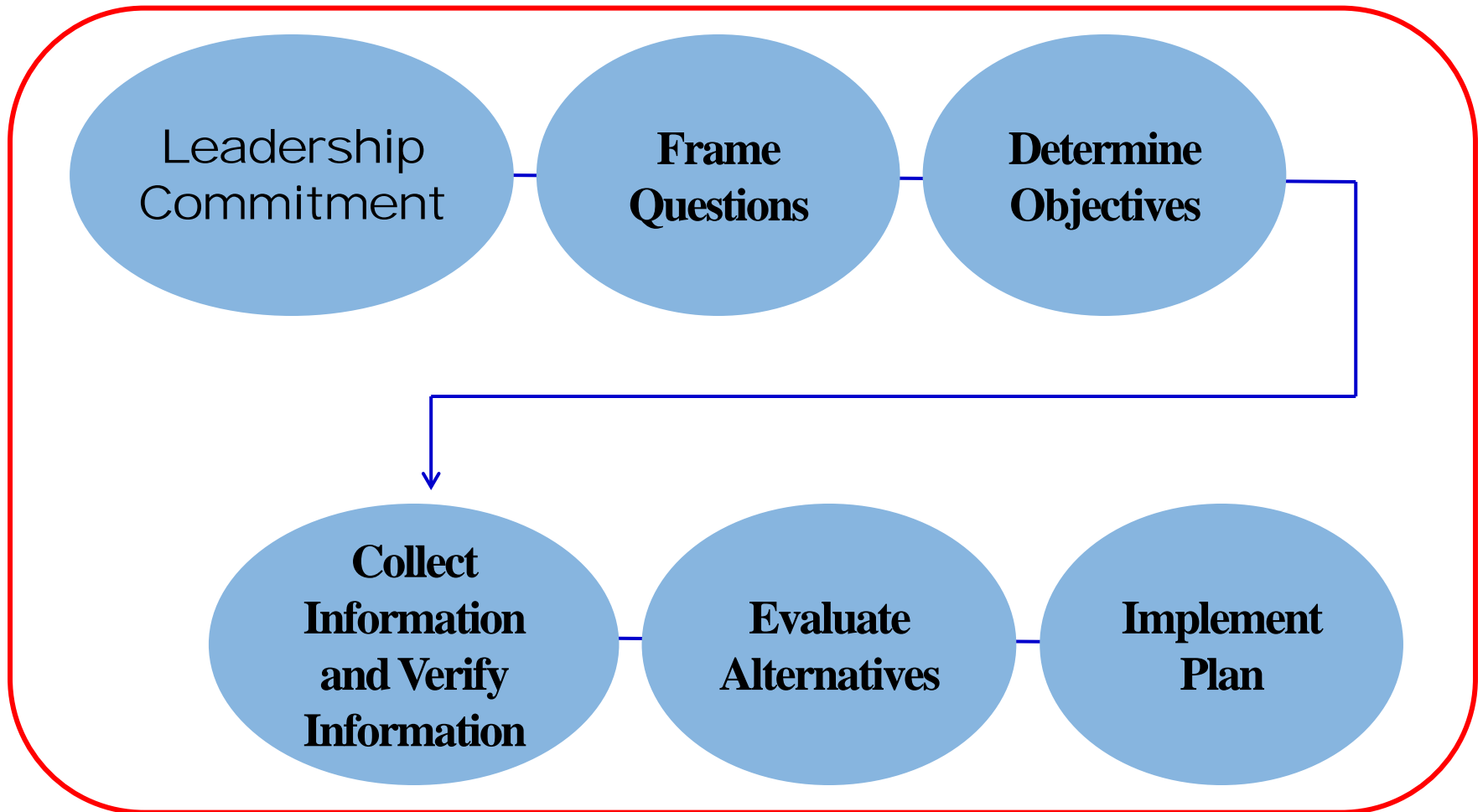
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## Regulators

## Informed Stakeholders

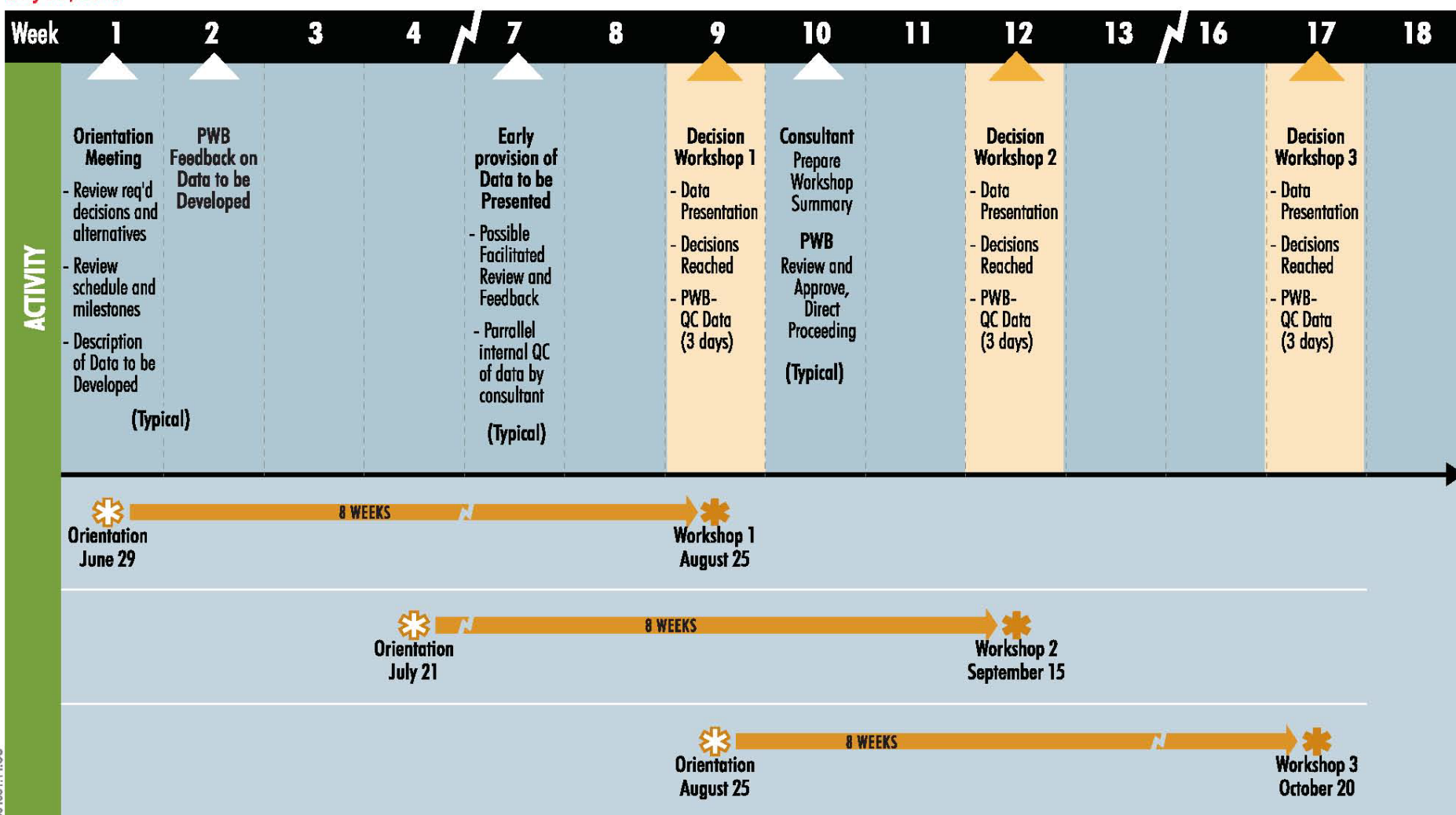
1

# — Agree to Decision Making Team



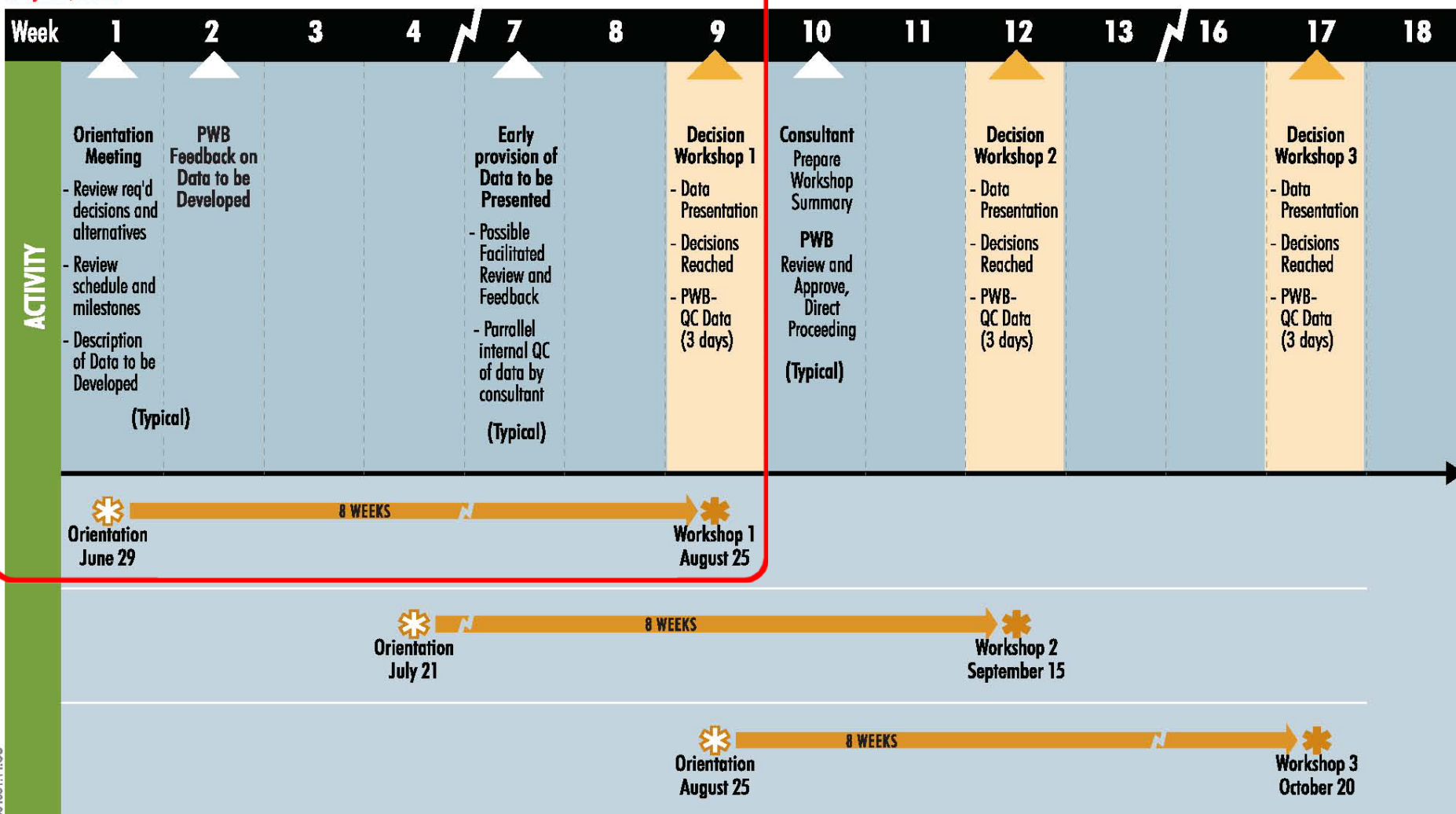
## Typical Decision Workshop Chronology

July 23, 2010



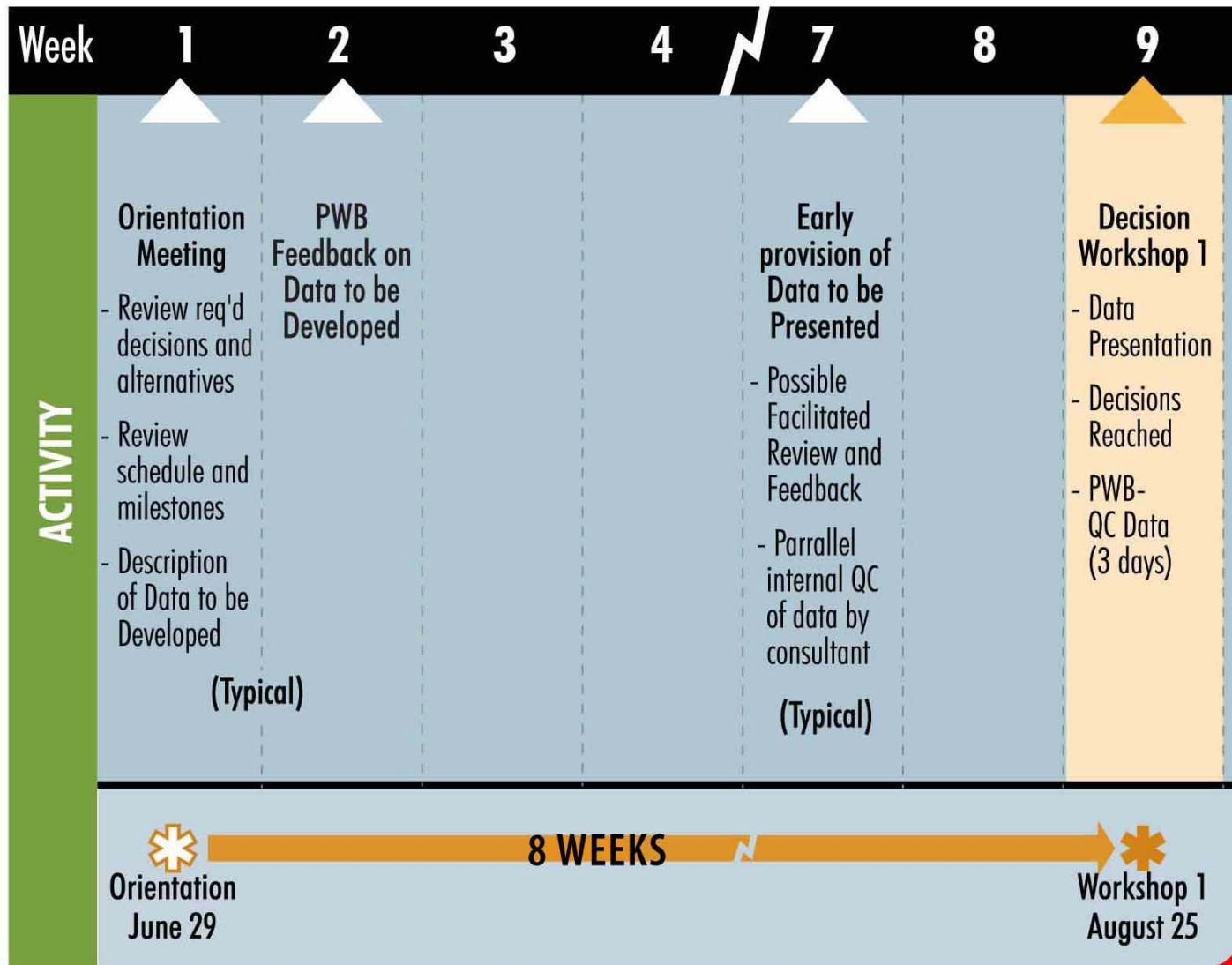
## Typical Decision Workshop Chronology

July 23, 2010



# Typical Decision Workshop Chronology

July 23, 2010



# 3 — Generate Criteria and Weighting

Project Objectives and Weights											
Fatal Flaw		Operability			Long-term Planning			Environmental		Cost	
Minimize the Risk to the Bureau's Schedule	Maximize Water Quality	Maximize Ease of Operations and Flexibility, Minimize Operator Impacts	Maximize Reliability in the System	Maximize Employee Safety	Maximize Integration with Other Long Term Facilities	Maximize Site Flexibility	Preserve Security	Maximize Sustainable Performance	Maximize Watershed Protection	Minimize Annual O&M Costs	Minimize Capital Cost
11.9	11.3	12.7	12.4	10.4	6.0	8.4	3.9	4.3	4.6	9.0	5.1

# 3 — Generate Criteria and Weighting

Project Objectives and Weighting											
Fatal Flaw		Operability			Long-term Planning			Environmental		Cost	
Minimize the Risk to the Bureau's Schedule	Maximize Water Quality	Maximize Ease of Operations and Flexibility, Minimize Operator Impacts	Maximize Reliability in the System	Maximize Employee Safety	Maximize Integration with Other Long Term Facilities	Maximize Site Flexibility	Preserve Security	Maximize Sustainable Performance	Maximize Watershed Protection	Minimize Annual O&M Costs	Minimize Capital Cost
11.9	11.3	12.7	12.4	10.4	6.0	8.4	3.9	4.3	4.6	9.0	5.1

### 3 — Generate Criteria and Weighting

Operability		
Maximize Ease of Operations and Flexibility, Minimize Operator	Maximize Reliability in the System	Maximize Employee Safety
12.7	12.4	10.4



## 4

## — Create Decision Descriptions

				Project Objectives with Decision Application											
				Fatal Flaw		Operability			Long-term Planning			Environmental		Cost	
				Minimize the Risk to the Bureau's Schedule	Maximize Water Quality	Maximize Ease of Operations and Flexibility, Minimize Operator	Maximize Reliability in the System	Maximize Employee Safety	Maximize Integration with Other Long Term Facilities	Maximize Site Flexibility	Preserve Security	Maximize Sustainable Performance	Maximize Watershed Protection	Minimize Annual O&M Costs	Minimize Capital Cost
Workshop 1, August 25th	A	Gaseous/Non-gaseous Chlorine?	Should hauled-in or on-site generated sodium hypochlorite be used rather than chlorine gas for chlorine residual?	No	High	High	No	Low	High	High	Low	Low	Medium	High	Medium
	B	Chemical Feed and Storage?	Are changes needed to corrosion control at Lusted Hill?	No	High	High	No	No	High	High	No	Low	No	High	High
	C	UV for Giardia?	Should UV be used as the primary treatment for Giardia kill?	No	Medium	Medium	Medium	No	High	High	No	Low	No	Low	Low
				11.9	11.3	12.7	12.4	10.4	6.0	8.4	3.9	4.3	4.6	9.0	5.1

## 4

## — Create Decision Descriptions

				Project Objectives with Decision Application											
				Fatal Flaw		Operability			Long-term Planning			Environmental		Cost	
				Minimize the Risk to the Bureau's Schedule	Maximize Water Quality	Maximize Ease of Operations and Flexibility, Minimize Operator	Maximize Reliability in the System	Maximize Employee Safety	Maximize Integration with Other Long Term Facilities	Maximize Site Flexibility	Preserve Security	Maximize Sustainable Performance	Maximize Watershed Protection	Minimize Annual O&M Costs	Minimize Capital Cost
Workshop 1, August 25th	A	Gaseous/Non-gaseous Chlorine?	Should hauled-in or on-site generated sodium hypochlorite be used rather than chlorine gas for chlorine residual?	No	High	High	No	Low	High	High	Low	Low	Medium	High	Medium
	B	Chemical Feed and Storage?	Are changes needed to corrosion control at Lusted Hill?	No	High	High	No	No	High	High	No	Low	No	High	High
	C	UV for Giardia?	Should UV be used as the primary treatment for Giardia kill?	No	Medium	Medium	Medium	No	High	High	No	Low	No	Low	Low
				11.9	11.3	12.7	12.4	10.4	6.0	8.4	3.9	4.3	4.6	9.0	5.1

## 4

## — Create Decision Descriptions

Decision Workshop	Item	Decision	Brief Description	Operability		
				Maximize Ease of Operations and Flexibility, Minimize Operator	Maximize Reliability in the System	Maximize Employee Safety
Workshop 1, August 25th	A	Gaseous/Non-gaseous Chlorine?	Should hauled-in or on-site generated sodium hypochlorite be used rather than chlorine gas for chlorine residual?	High	No	Low
	B	Chemical Feed and Storage?	Are changes needed to corrosion control at Lusted Hill?	High	No	No
	C	UV for Giardia?	Should UV be used as the primary treatment for Giardia kill?	Medium	Medium	No
				12.7	12.4	10.4

# 5 — Evaluate Options

	Gaseous/Non-gaseous Chlorine		
Option	Performance Score Cost in HIGHER is BETTER	Performance Score Cost out HIGHER is BETTER	Performance Per \$1 Invested HIGHER is BETTER
1. Chlorine Gas, Existing Storage and New Feed	51.6	37.4	3.40
2. Chlorine Gas, Move Storage to UV Building, New Storage and New Feed	56.7	44.3	3.40
3. Bulk Sodium Hypochlorite	33.6	29.4	1.63
4. Sodium Hypochlorite On-Site Generated, Low Strength	27.6	23.6	1.13
5. Sodium Hypochlorite On-Site Generated, High Strength	20.5	15.9	0.79

# 5 — Evaluate Options

	Gaseous/Non-gaseous Chlorine		
Option	Performance Score <b>Cost in</b> HIGHER is BETTER	Performance Score <b>Cost out</b> HIGHER is BETTER	Performance <b>Per \$1 Invested</b> HIGHER is BETTER
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5. Sodium Hypochlorite On-Site Generated, High Strength	20.5	15.9	0.79

## 6

## — Make and Validate Decisions

Decision/Question	Action Associated with Weighting Sensitivity	Action associated with Rating Uncertainty
A: Gaseous versus Non-Gaseous Chlorine	None	Validation of performance ratings for Options 1 and 2: •Operability: Operations •Fatal Flaw: Water Quality •Operability: Safety •Cost: Operations and Maintenance (O&M) •Long-term Planning: Flexibility
B: Chemical Feed and Storage	Review of weights upon operability: Operations Cost: O&M	None
D-1: UV Layout In	None	None
D-2: UV Layout Out	None	None
E: Headworks Electric Service	None	None
F: Standby Power	None	Review necessary for Options 3 and 5 with objectives: •Long-term Planning: Flexibility •Operability: Operations •Operability: Reliability
G: UPS for UV	None	None
Lusted Hill Buildings	None	None
Headworks Buildings	None	Review ratings of Options A2 and B1 in these Objectives •Operability: Operations •Fatal Flaw: Schedule •Operability: Safety •Cost: O&M •Long-term Planning: Flexibility



# A Personal Commitment to Go Slow to Go Fast

- Go slow to go fast
- Simple and clear
  - Stakeholder roles
  - Decisions needed
  - Approach to decide
- Balance organizational and leadership commitment with technical expertise
- Involve Stakeholders early
- Result: Transparency



How do we apply standards?  
*What* standards do we apply?



# Applying standards for consistency

First, set the standards

- Had standards for drawings
  - Conducted CAD pilot test
- Created standards for specifications
  - CSI MasterFormat 1995
  - CSI SectionFormat 2008
  - SpecText template
  - Exceptions

*Pilot test demonstrated ability to apply standards*

How do we assure quality?

Beside setting standards for drawings and specifications, what else?

# Assuring quality

- Pre-review workshops at each milestone
- Reviewer meetings and discussion
- 3D model
- Training for reviewers



*These activities helped acquaint reviewers with what was expected*

# Assuring quality

- All reviewers used Quality Review Form
- Excel format
- Reviewers categorized comments
  - Category 1 Significant deficiency, design flaw
  - Category 2 Incorrect within discipline or uncoordinated cross-discipline
  - Category 3 Editorial or minor
- Feedback loop assured acceptable resolution
  - Unresolved issues were tracked

*Using QRF and categories of comments reduced time required for designers' responses*



What did all these do?  
How effective were they?  
What could be better?  
What's next?



# The Project Team participated in a Post-Project Review

- Captured participant reflections
  - Posed questions
  - Heard plusses and minuses (Successes and Opportunities)
- Responses grouped into 8 categories
  1. Communication
  2. Team work
  3. Project Office
  4. Budget
  5. Schedule
  6. Early decision
  7. Review process
  8. CAD/Project Standards

*Results are reported in a “Post-project Evaluation” report*

# Five processes for project success were identified to carry forward

- Communication protocols
- Open budget and schedule management
- Decision process
- Quality control review process
- Design standards

*Opportunities to improve these processes were part of the Post-Project report*

# Looking forward to how this will affect us

Enhanced recognition of:

- Importance of scope, schedule, budget
- Value of structured decision making
- Prospect for quality control review with fewer people
- Benefit of specific, clear, consistent standards
- Impact of communication
- Backed up with accountability
- Change in what's acceptable and outlook for future

# Moving toward implementing the updated processes

- Teams
- Tools
- Accountability
  
- Integrated with PWB *Effective and Efficient Engineering* (E3) methodology

*Hopeful about the benefits of applying these new processes*

Questions







# **Securing Rates to Fund a Major Project in Hard Economic Times: Experience of Tigard, Oregon**

**2012 PNWS-AWWA Annual Conference  
Yakima, WA**

**May 4, 2012**

# Commonly Required Conditions for Success

## Collaboration

- Consider all stakeholder inputs
- Leverage wisdom of the participants
- Get early commitments from critical decision makers
- Improves buy-in

## Transparency

- Know who thinks what
- Make subjective assumptions explicit
- Align decisions with strategies
- Lessens political/personality driven results

## Efficiency

- Do more with less
- Increase value of meeting times
- More dynamic models with what-if capabilities
- Increase speed and ease while improving confidence in results

# Study Preparation

## Preparation is a Key to Success

- Clarity of purpose – know the purpose of your study
- Data requirements – adjust approach to be compatible with available data
- Schedule – know the constraints and opportunities
- Delineate scope – know what's important to your agency
- Prepare for questions—answer the questions asked, not those easily answered

# Ensuring Study Success

## Things You Must Know and Communicate

- What is driving the study
- Who is leading the team
- When will tasks be completed
- How will tasks be completed

# Unique Challenges for Utilities

## Natural Monopolies

- High fixed costs
- Defined service areas
- Corresponding public scrutiny

## Expectations of the Public

- Affordability
- Cost control
- Environmental stewardship



# Water Utility Cost Structure

## Fixed

- Does not vary with sales
- Salaries, debt service, etc.

## Variable

- Varies with water sales
- Power, chemicals, etc.

# Water Utility Cost Structure

## Fixed Costs Are High

- 80-95% of total annual costs

## Variable Costs Are Low

- 5 to 20% of total annual costs

# Planning for the Future

## Is This the New Normal?

- Reductions in water sales
- Increases in volatility
- Increases in customer concerns
- Challenges to affordability
- Declines in other revenue
- Increasing costs

# Case Study from Tigard

## Learning Points

- How to prepare for the studies
- Keys to completing the studies successfully
- The utility's role in the studies

# Tigard's Goals and Objectives

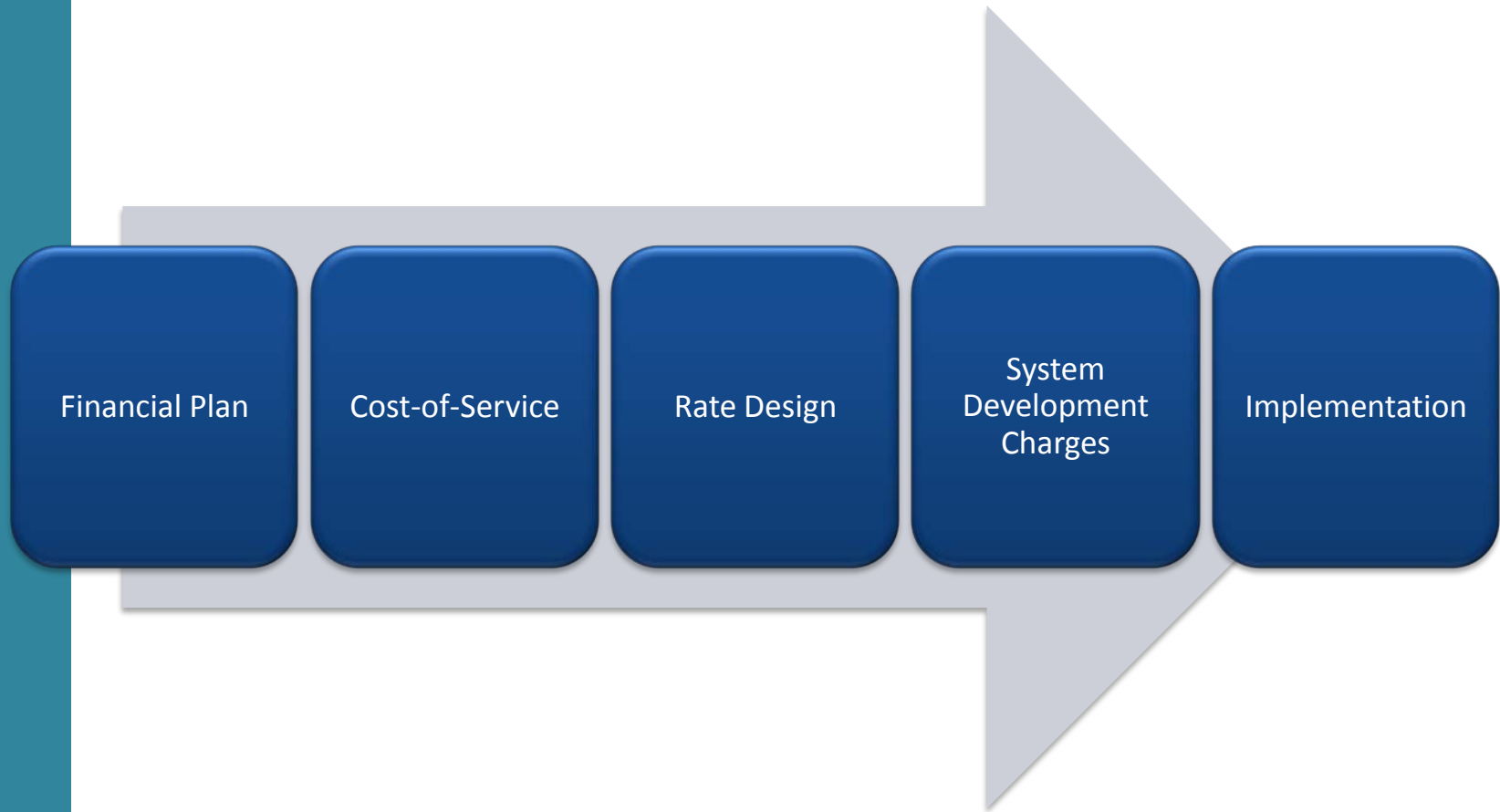
## Funding Requirements

- 2010 Water Master Plan which forecasts through 2030
- Partnership with Lake Oswego

## SDCs

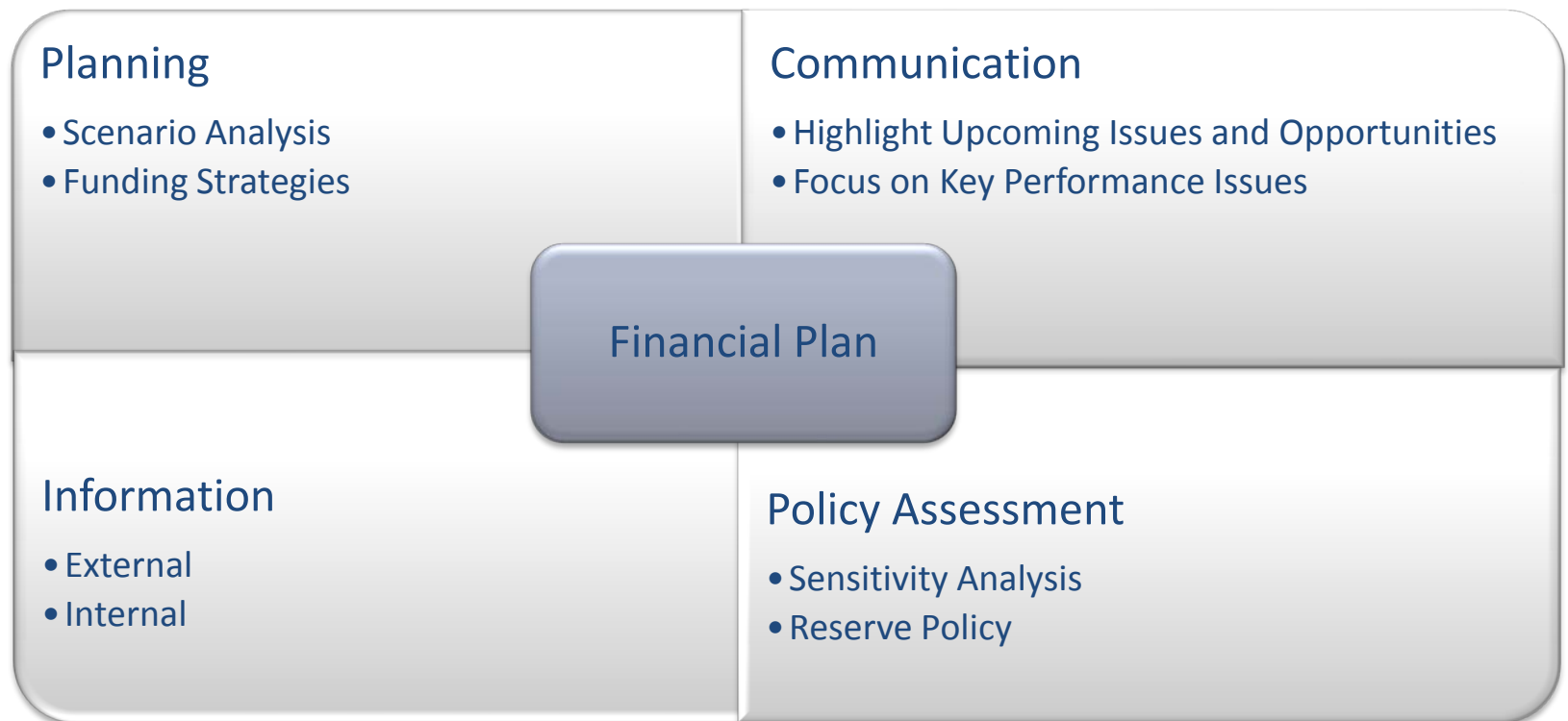
- Recover the costs of new capacity
- Maintain legal compliance

# Key Project Tasks





# Key Elements of a Financial Plan



# Financial Plan Dashboard

Water Financial Plan  
Hypothetical Example

Model OK

Calibration  
Manager

Charts &  
Display

Scenario  
Manager

Navigation

Fit to  
Screen

Coverage OK

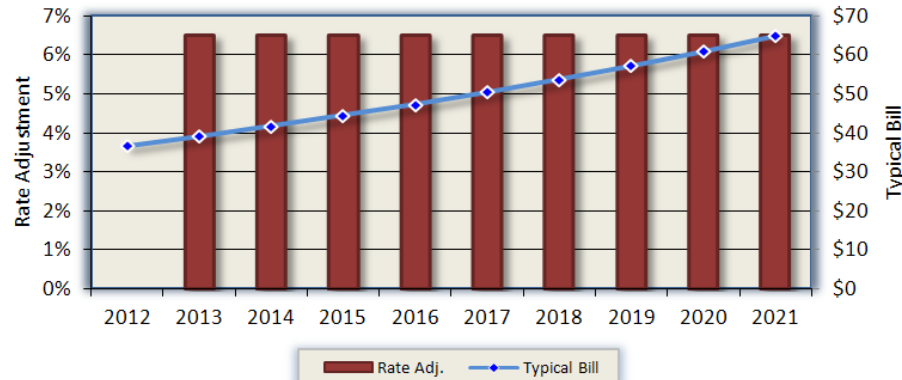
Gen Fund OK

Optimization  
Complete

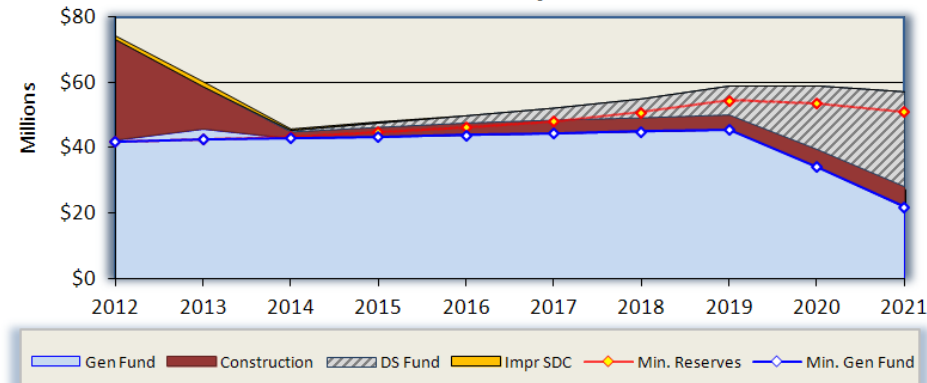
Solve Time

0:00:26

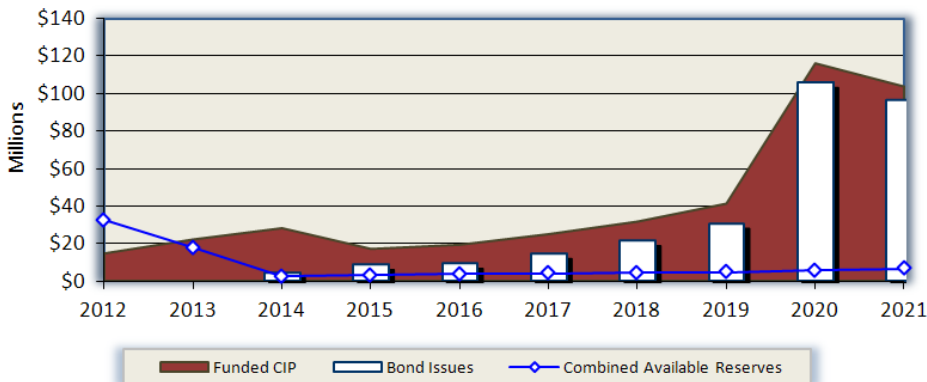
## Rate Adjustments & Typical Bill Impacts



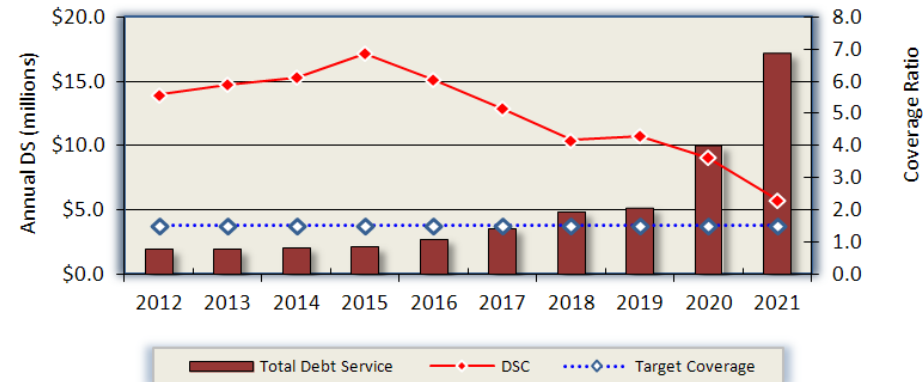
## Reserve Funds Projection



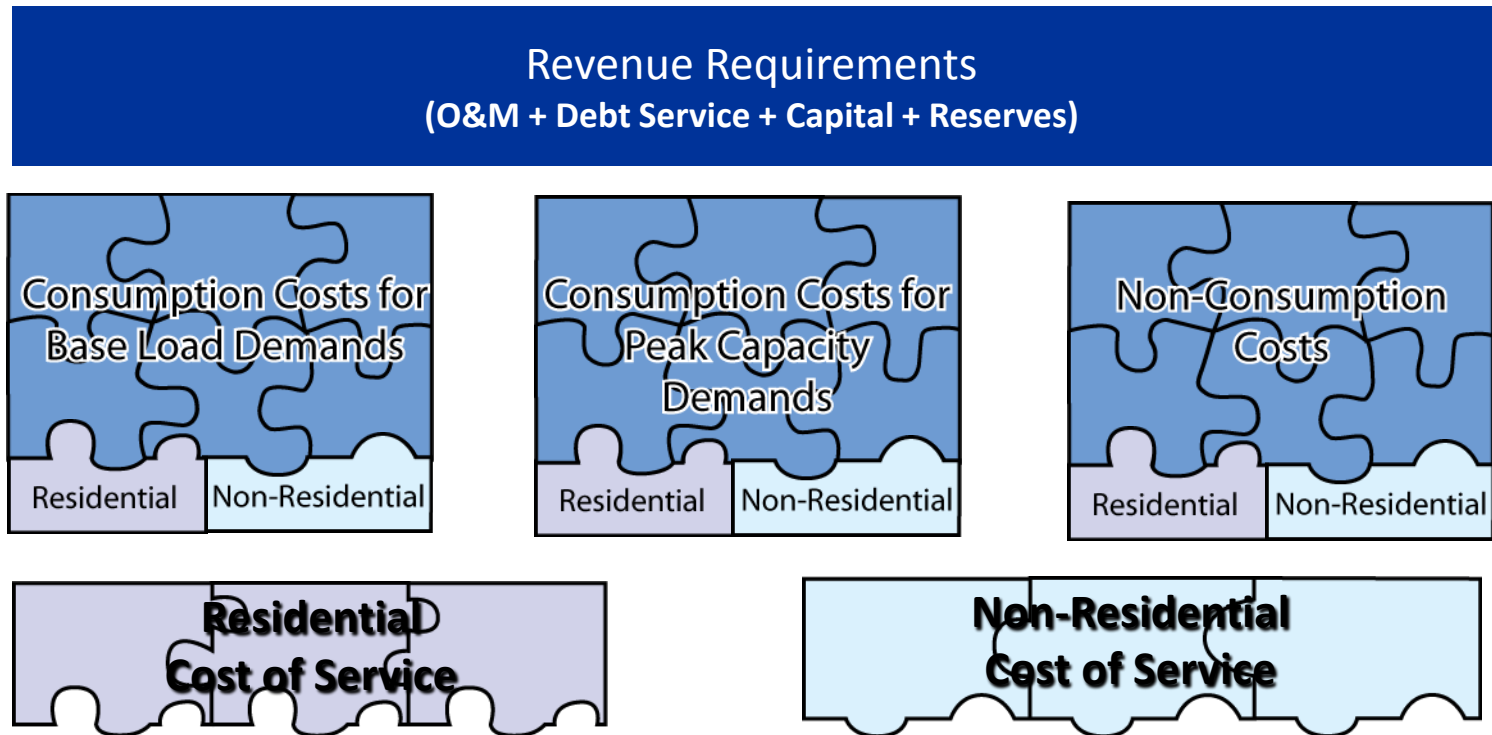
## CIP and Financing



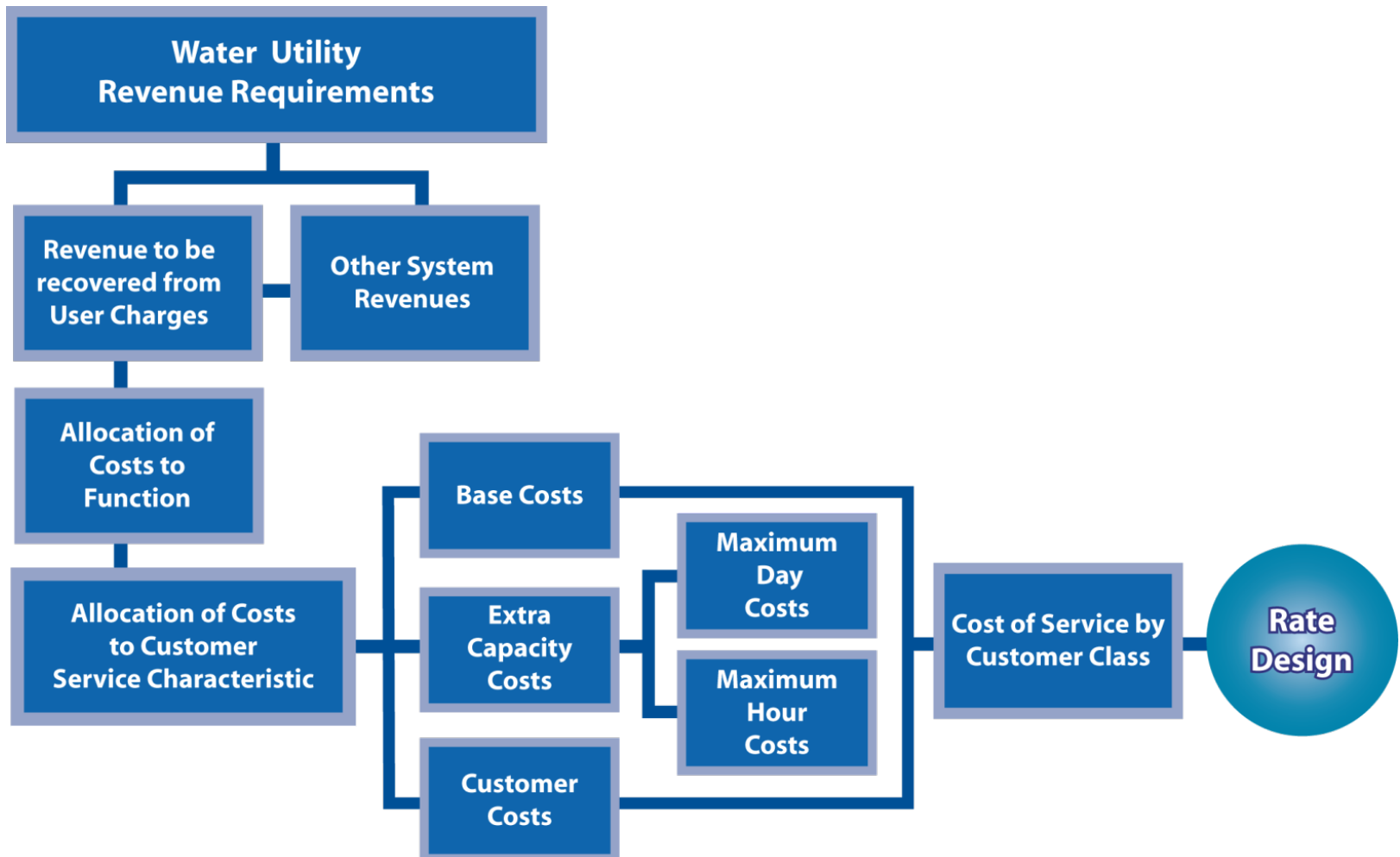
## Debt Service and Coverage



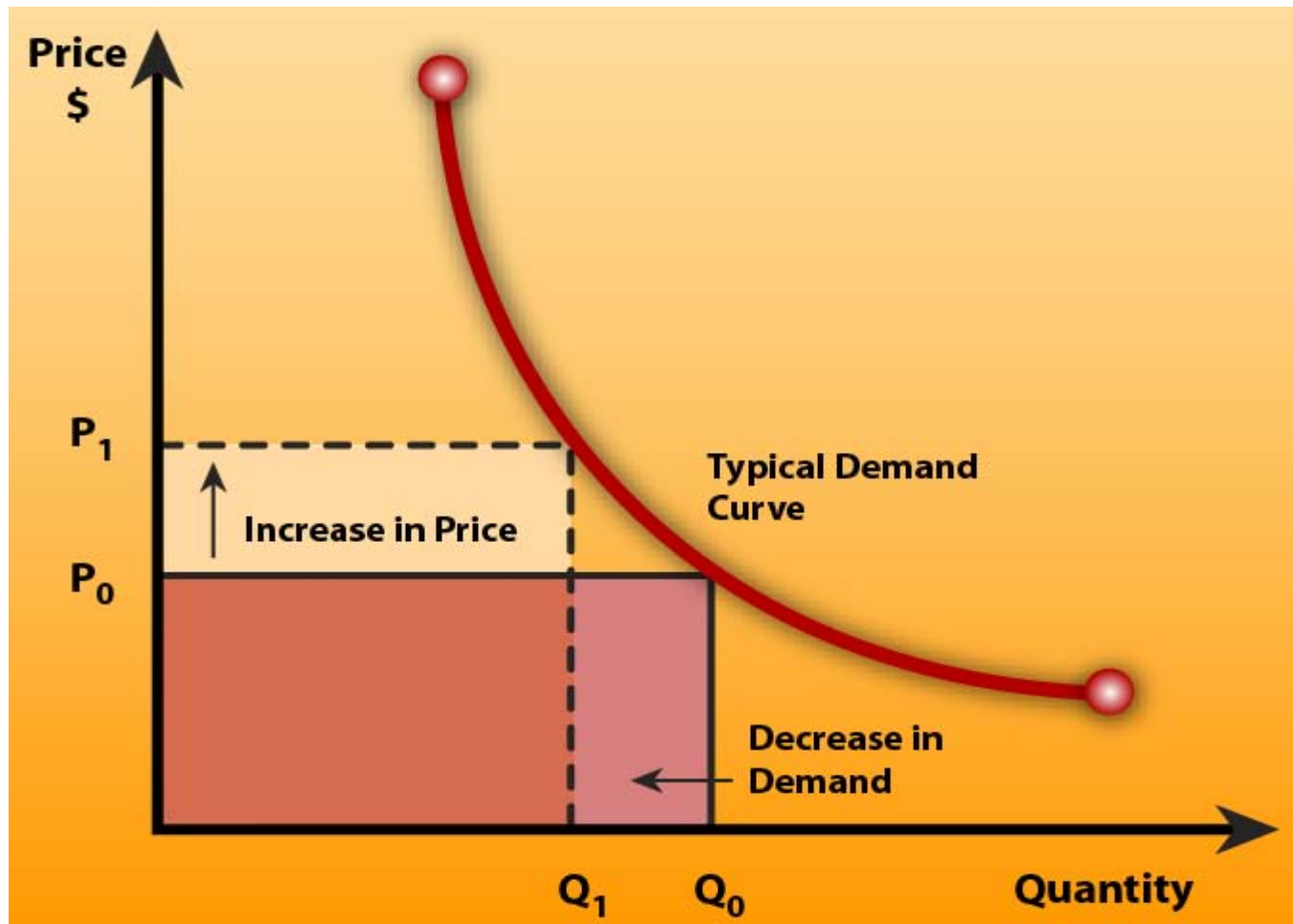
# Cost-of-Service



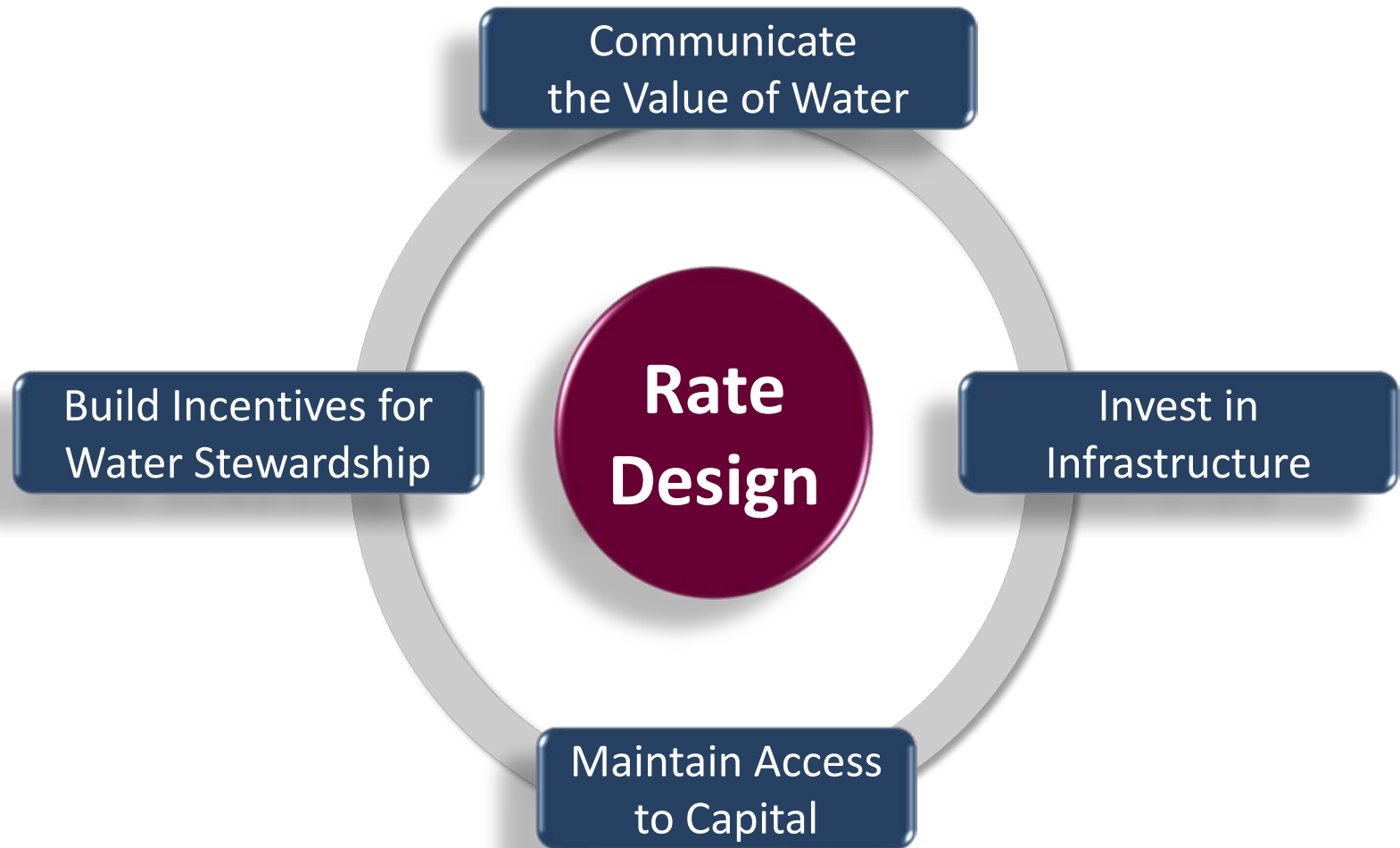
# Industry Practices Provides Guidance



# Rate Design: Price Signals



# Rate Structure Alignment



# Collaborative Process Leads to Acceptable Results

## Evaluation Process

Criteria Development

Rate Design Development

Evaluation

Analysis

Results



# Structured-Decision Making Process for Rate Design

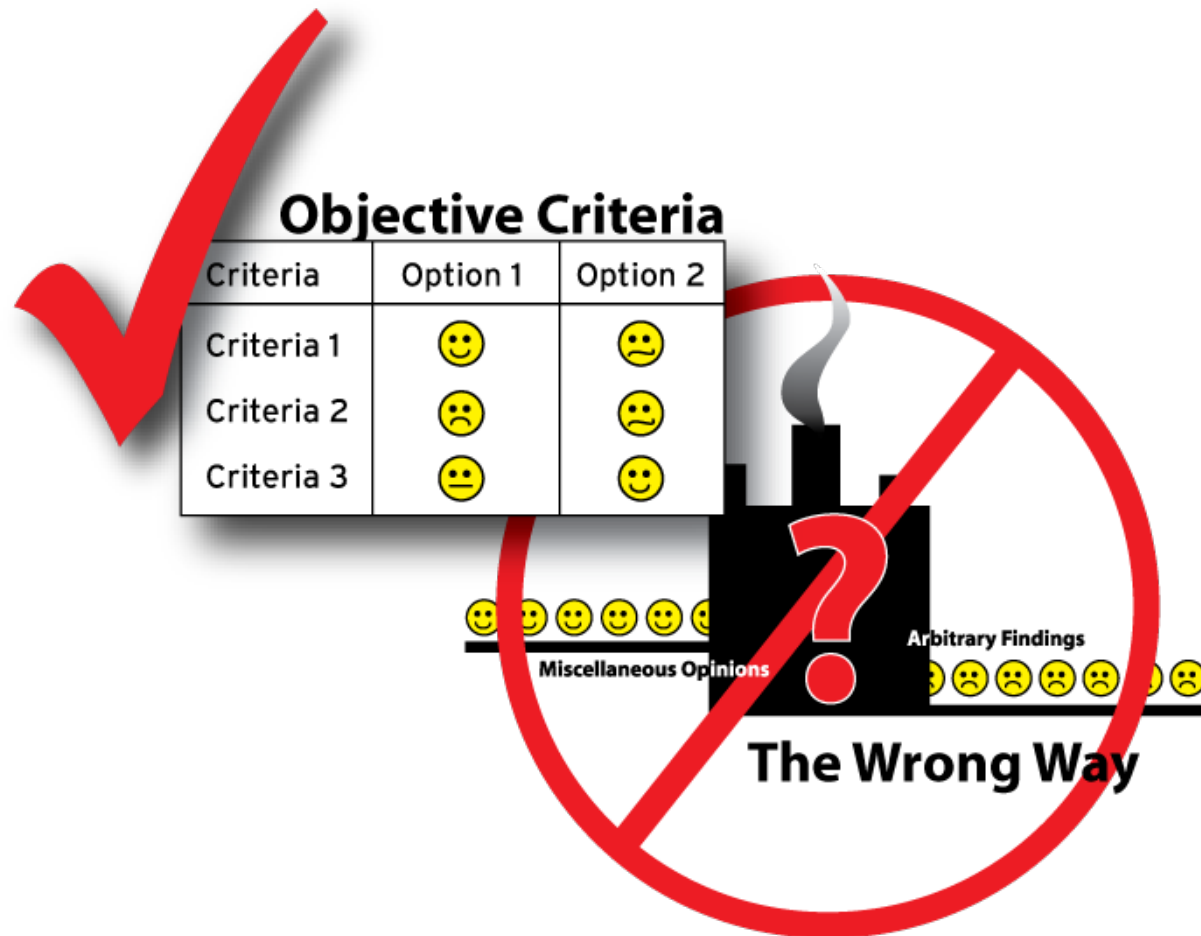


# Develop Rate Design Goals and Objectives

## Example of Goals and Objectives

- Reduce average-day, peak-season and peak-day use
- Establishing blocks that are more relevant to customers
- Improve equity
- Ensure financial stability given weather considerations
- Provide a low-cost, entry-level block
- Maintain legal defensibility
- Keep it simple

# Evaluation Criteria Provide Objectivity



# Managing Revenue Volatility

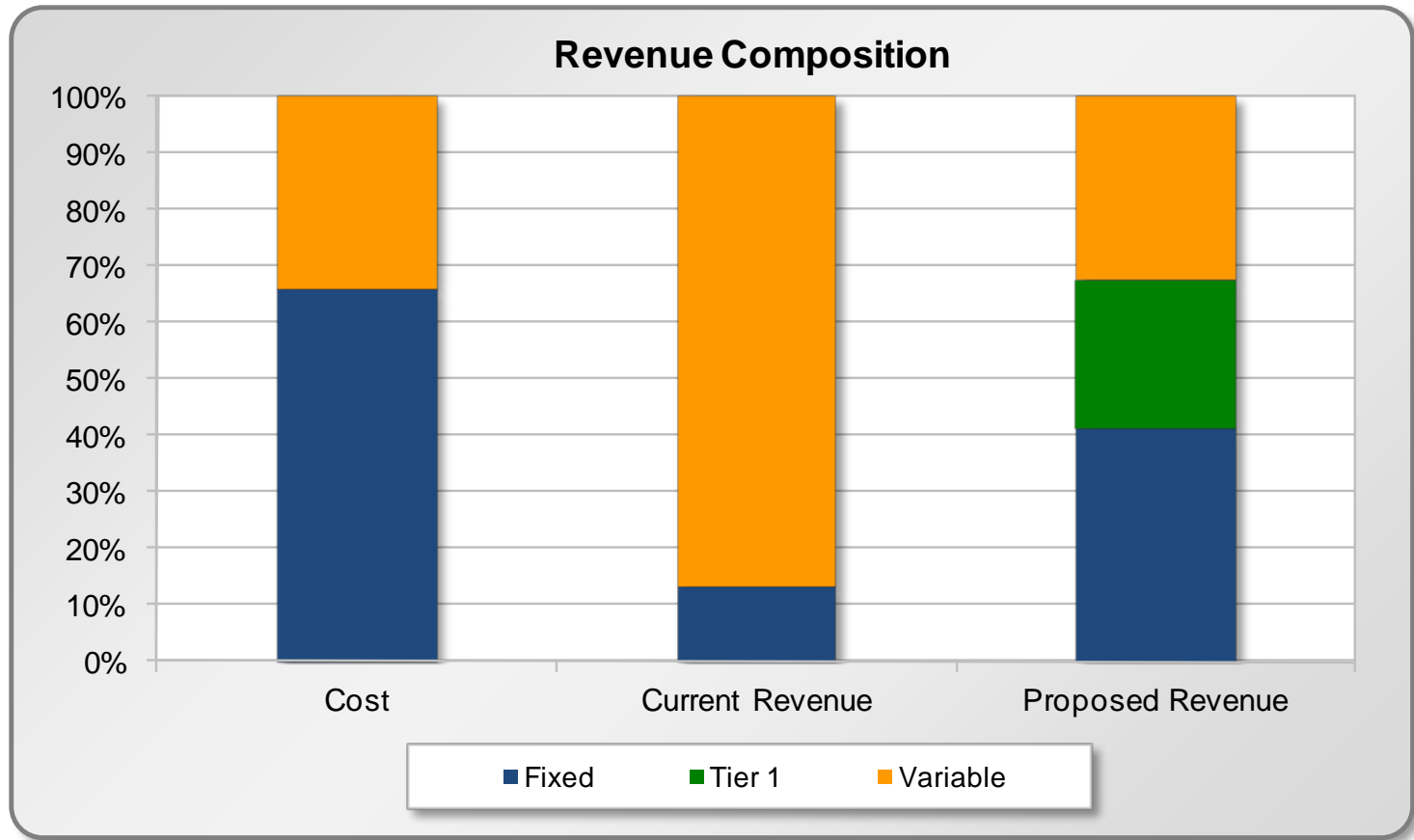
## Financial Options

- Rate Stabilization Fund and other reserves
- Increase fixed charge revenue
- Improve capital structure

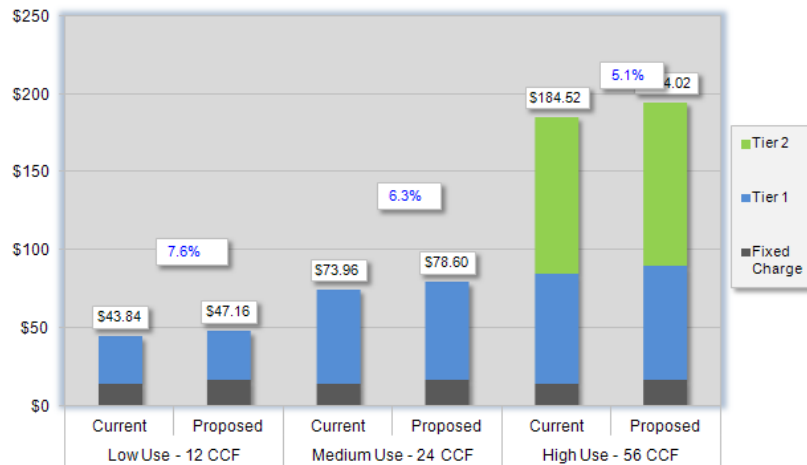
## Expenditure Options

- Fund discretionary conservation program
- Dedicate excess revenue to capital expansion programs

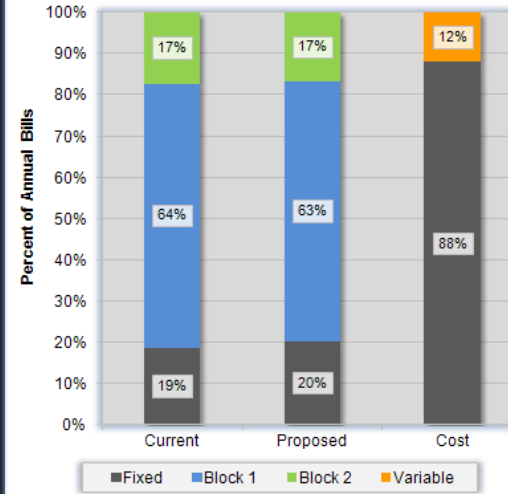
# Meeting Tigard's Challenge: Revenue Stability



Bi-Monthly Bill Comparison



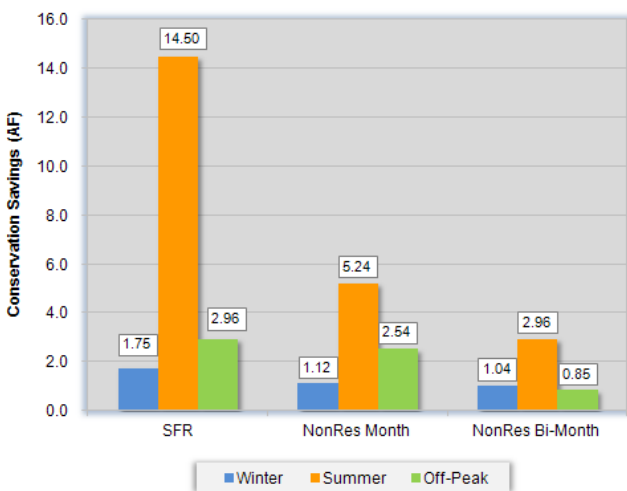
Revenue Composition



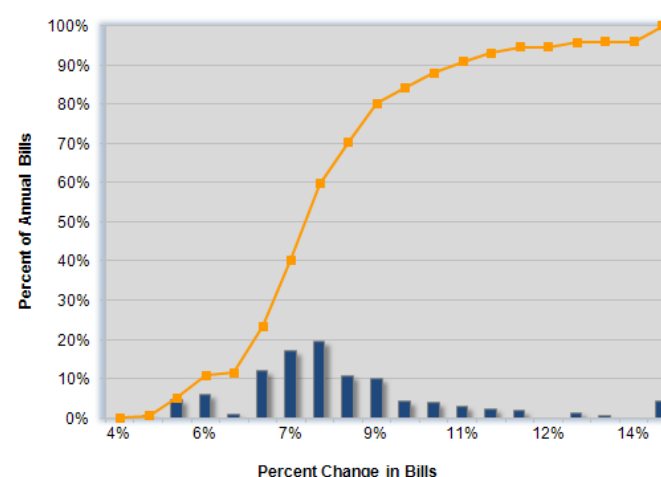
Revenue & Cost Composition		
Current Revenue	Proposed Revenue	Cost
Variable		12.0%
Block 2	17.2%	16.8%
Block 1	64.0%	62.9%
Fixed	18.8%	20.3%

Fixed Charges		Proposed			
Meter Size	Current	Mtr & Acct Charge	Fire & Demand	Total	Change
5/8 Inch	\$13.72	\$15.72	\$0.00	\$15.72	14.6%
3/4 Inch	14.48	16.59	0.00	16.59	14.6%
1 Inch	16.78	19.23	0.00	19.23	14.6%
1.5 Inch	19.90	22.80	0.00	22.80	14.6%
2 Inch	28.36	32.49	0.00	32.49	14.6%
3 Inch	90.68	103.90	0.00	103.90	14.6%
4 Inch	113.58	130.14	0.00	130.14	14.6%
6 Inch	167.42	191.83	0.00	191.83	14.6%
8 Inch	229.28	262.70	0.00	262.70	14.6%
10 Inch	355.44	407.25	0.00	407.25	14.6%

Projected Conservation Savings by Season



SFR Bill Impact



Volume Rates (\$/CCF)			Res Tier Bounds	
Block	Current	Proposed	Change	Current Proposed
Block 1	\$2.51	\$2.62	4.4%	28 28
Block 2	3.59	3.75	4.4%	#####
Block 3	3.59	3.75	4.4%	#####

Class Rate Structure		Proposed Mtr & Acct		Proposed Fire &	
Assignment		Equiv. Schedule		Demand Equiv.	
Status Quo					
Price Ratio Option		Current Mtr & Acct Chrg		AWVAM6	
Moderate					

Revenue Composition				
Charge	Current	Proposed	Target	Force Target?
Fixed	19%	20%	30%	
Variable	81%	80%	70%	FALSE

Percent Revenue Neutrality				
Block 1	Block 2	Block 3	Block 4	Block 5
100%	100%	100%	100%	100%
Outer Tier Factors		150%	200%	

# Tips and Tricks

Include elected officials in public process (e.g., ad hoc rate committees)

Don't be afraid of the details – just be able to explain them

Anticipate questions and concerns from the public and elected officials

Answer the questions that are asked – not those you wish were asked



# Tips and Tricks (Continued)

Trade-offs exist – resist the urge to simplify your evaluation criteria too much

If possible, separate rate design from the question of revenue requirements

Give yourself plenty of time – and plan well

Avoid undue complexity in rate design

# Study Preparation

## Preparation is a Key to Success

- Clarity of purpose – know the purpose of your study
- Data requirements – adjust approach to be compatible with available data
- Schedule – know the constraints and opportunities
- Delineate scope – know what's important to your agency
- Prepare for questions—answer the questions asked, not those easily answered

# Ensuring Study Success

## Things You Must Know and Communicate

- What is driving the study
- Who is leading the team
- When will tasks be completed
- How will tasks be completed

# Commonly Required Conditions for Success

## Collaboration

- Consider all stakeholder inputs
- Leverage wisdom of the participants
- Get early commitments from critical decision makers
- Improves buy-in

## Transparency

- Know who thinks what
- Make subjective assumptions explicit
- Align decisions with strategies
- Lessens political/personality driven results

## Efficiency

- Do more with less
- Increase value of meeting times
- More dynamic models with what-if capabilities
- Increase speed and ease while improving confidence in results

**Thanks!**

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