

Asset Management For Backflow Prevention Programs



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Presentation

by

Byron R. Hardin, CPM



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Presentation Objectives

- Backflow Prevention Asset Management Programs
- Asset Management Definition
- Key Principals of Asset Management
- Asset Management Program Goals
- Consequences of Failure Direct and Indirect Costs
- Risk Cost of Asset Ownership
- Asset Management Risk Quantifying
- Benefits of Asset Management

Why Asset Management?

- Based on the number of actual and potential cross connections in a municipal water system, and the resulting health hazards, it is important for the municipality or water provider to have an effective cross connection control program in place.

Asset Management Definition

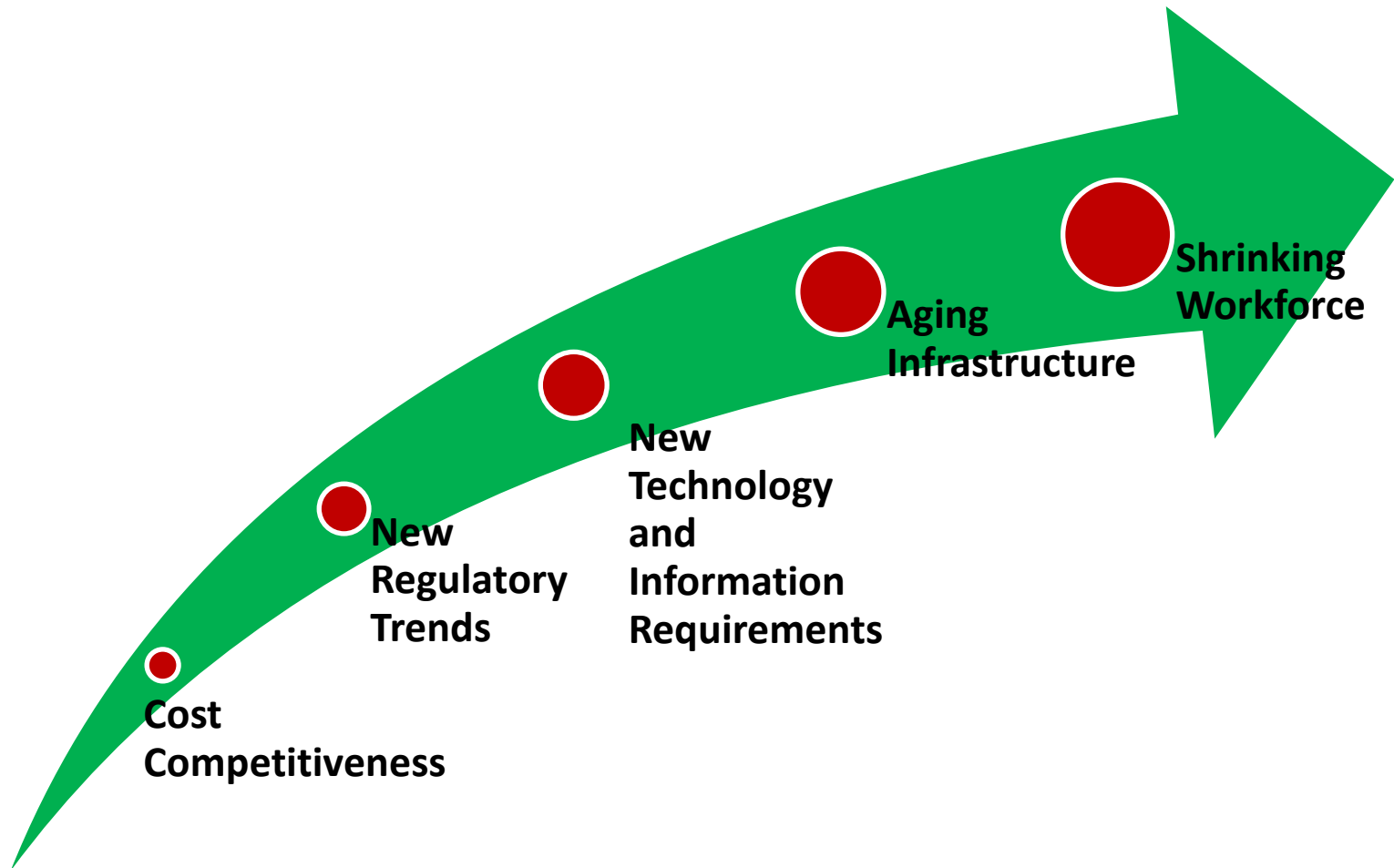
- Asset Management is used in these Guidelines to mean the comprehensive management of asset demand, planning, procurement, operation, maintenance, rehabilitation, disposal and replacement to maximize the return on investment at the required standard of service to current and future generations.

Key Principles of Asset Management

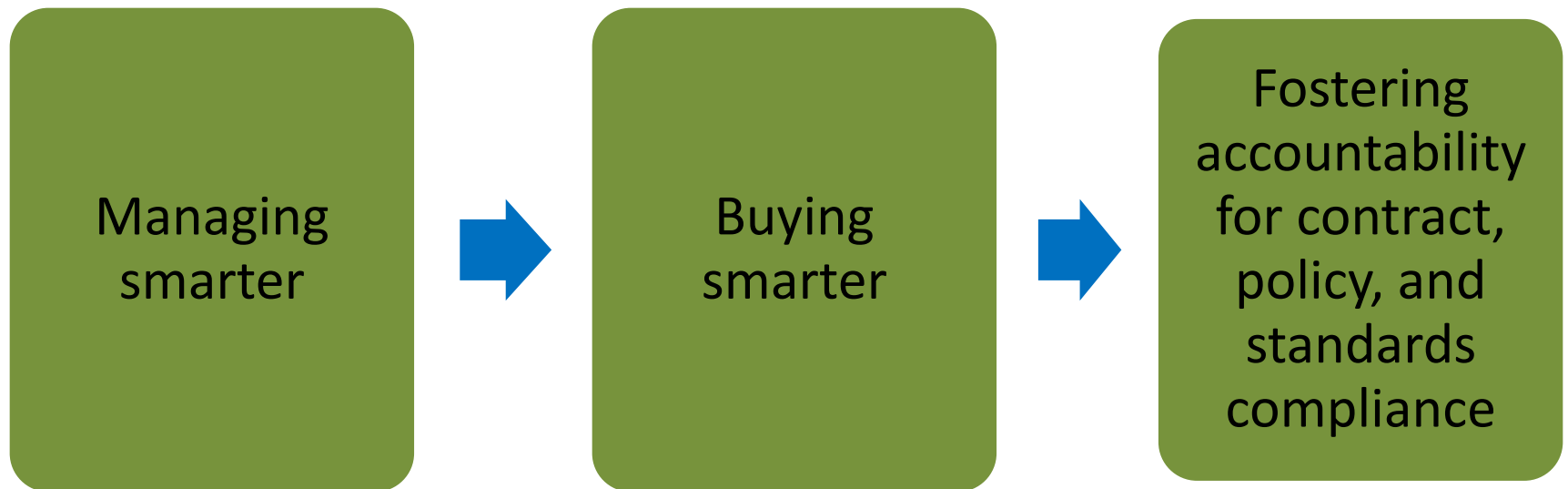
- Assets exist to support the delivery of services
- Asset management is a key activity that is critical to the success of the organization
- Non-asset solutions (e.g. demand management), full life cycle costs, risks and existing alternatives must be considered before any decision is made regarding repair or replacement of assets
- Must be maintained to attain identified service levels
- Must have appropriate supporting information systems
- Implement effective and efficient operation and maintenance strategies
- Develop a financial management strategy to support service level goals

Why Asset Management ?

- Public utilities continue to face the realities of:

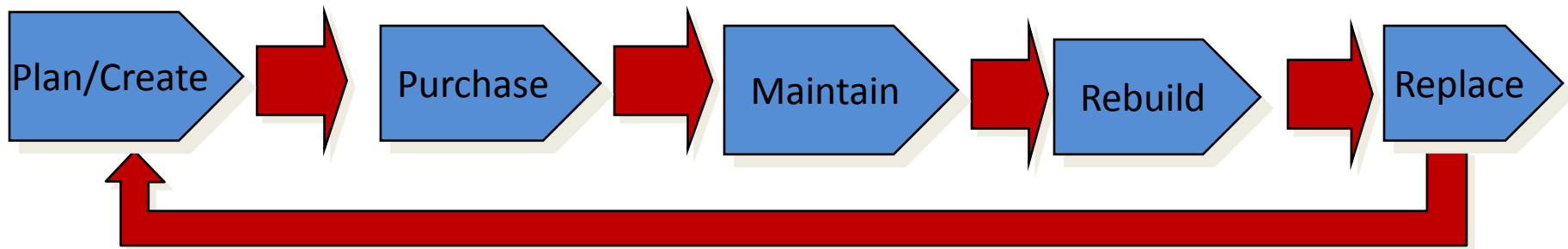


Asset Management Program Goals



Asset Management Program Components

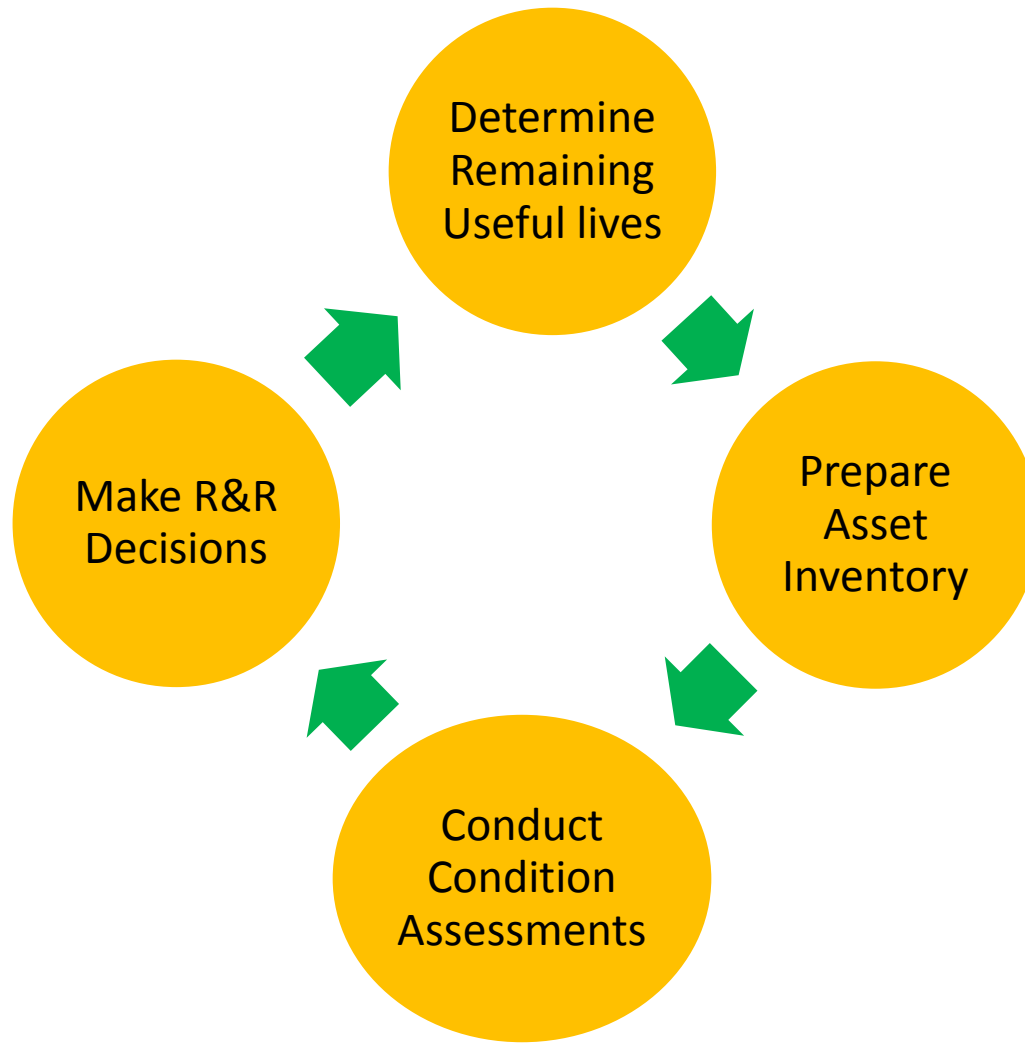
Asset Management is a designed program to identify and deliver service levels to your customers at the lowest possible life-cycle costs



Asset Management Planning Process

- An asset management program requires the involvement of engineers, financial planners, maintenance professionals, operators, and, in some cases, attorneys.
- Data integration from key business units is critical to building an asset management strategy and program.
- Important components of an Asset Management Program:
 - Staff training
 - Develop an asset management strategy
 - Complete inventory of assets
 - Identify the condition of assets
 - Conduct financial valuation of assets
 - Establish capital and operational budgets
 - Maintain, repair, renew, and replace assets

Asset Management Development

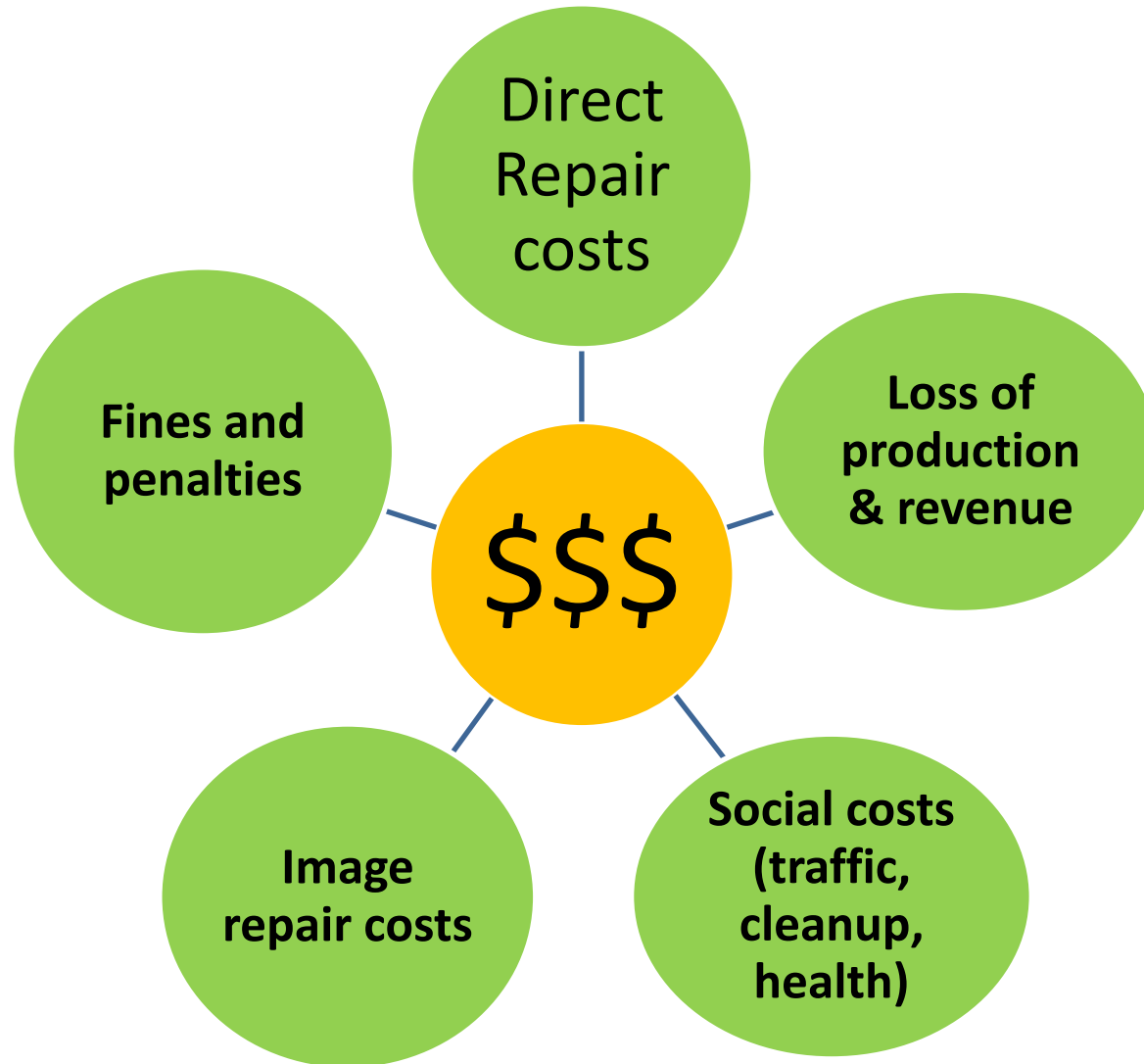


Remaining Competitive in the Market Place

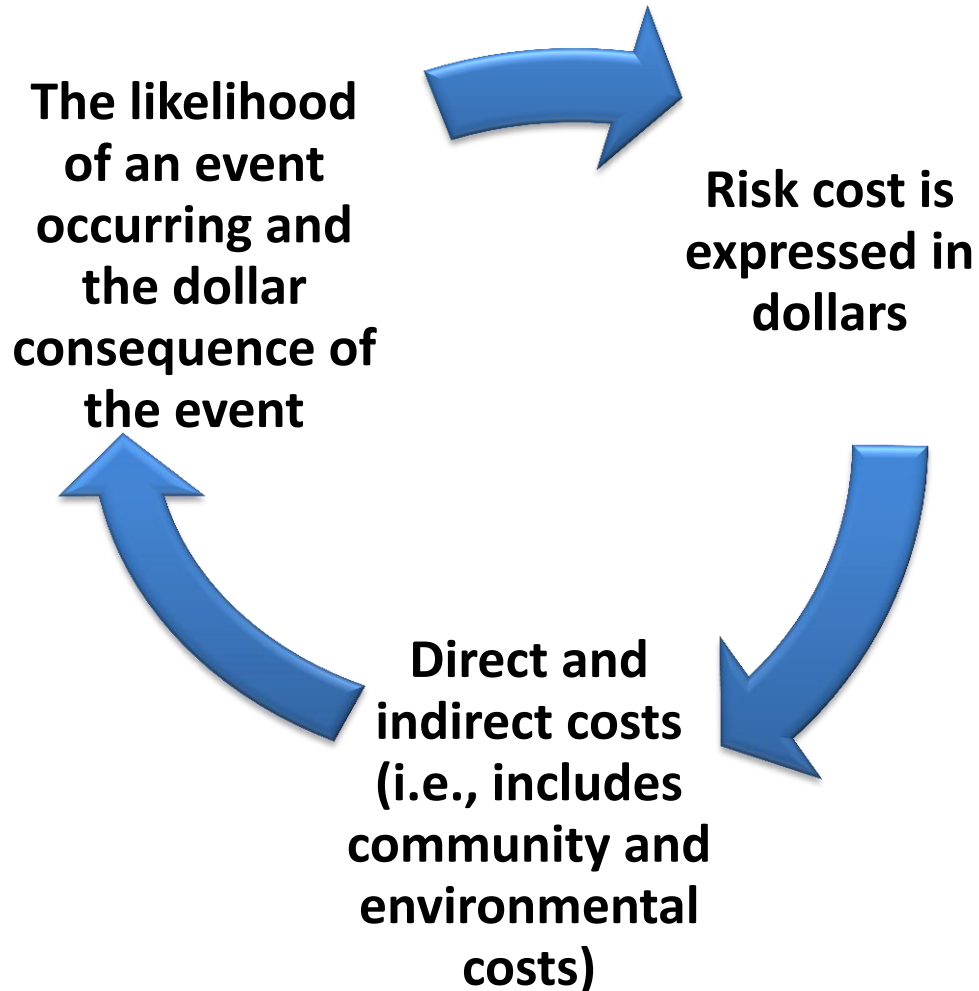
- When developing an Asset Management Program, it is important to identify your organization's goals and objectives to support your program.
- It is critical that you develop a strategic, tactical, and operational plan that will work together toward your end product.

Consequences of Failure

Direct and Indirect Costs



Risk Cost of Asset Ownership



Example of Risk Cost Calculation

A particular event has consequences totalling \$100,000

Best assessment of rate of occurrence is once every 5 years

**Projected frequency of occurrence = 1/5
or 0.2**

Risk = Frequency x Consequence

= 0.2 annually X \$100,000

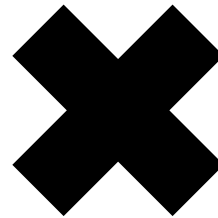
= \$20,000 per year

Asset Management Risk Quantifying

RISK COST =

**Frequency
of Failure**

(# of events per yr)



**Consequence
of failure**

(\$ cost of each event)

MEASURE: \$/YEAR

Asset Management Rating Matrix

Frequency of Failure

Rating	Level	Description
5	Occurs regularly	Monthly or greater frequency
4	Occurs quarterly	About 4 times a year
3	Occurs annually	About once a year
2	Could occur on rare occasions	Every 2 -5 years
1	Could occur very rarely	Exceptional event

Impact of Failure

Rating	Description
5	Catastrophic process failure, death, extreme financial loss
4	Process failure (3 months to recover), severe injury, major financial impact
3	Process interruption (recoverable in one month), moderate financial impact
2	Process upset, minor financial impact
1	No injury, no process implication or financial loss

Asset Management Risk Analysis Matrix

Risk Analysis Matrix

		Impact				
		1	2	3	4	5
Frequency	1	Insignificant	Insignificant	Minor	Moderate	Major
	2	Insignificant	Minor	Moderate	Major	Extreme
	3	Insignificant	Minor	Moderate	Major	Extreme
	4	Minor	Moderate	Major	Extreme	Extreme
	5	Minor	Moderate	Major	Extreme	Extreme

Extreme — Must correct.

Major — Detailed conditioned assessment is required if condition-related and a business case must be developed to establish if replacement is warranted over a specified time frame.

Moderate — Visual assessment is required if condition-related and a business case may be developed to establish if replacement is warranted over a specified time frame .

Minor — Business case may be developed to establish if replacement is warranted over a specified time frame
Condition assessment may or may not be required depending on the situation.

Insignificant — Requires no further attention.

Desired Asset Management Program Results

Sustainability

Optimize asset through asset-based life-cycle decisions



Reduced Costs

Reduce costs of asset ownership consistent with required levels of service



Financial Foundation

Plan for the funding of long-term reinvestment needs

Benefits of Asset Management

- **For customers:**
 - Value for tax payers money
 - Sustainability of existing service levels or improvements if required
 - Minimizes unexpected cost increases due to unplanned investment decisions
- **For the organization:**
 - Sustainable service levels
 - Improved understanding of service level options and needs
 - Better accounting of life cycle costs for assets
 - Effective management of asset failure risks
 - Accounts for effective infrastructure investment
 - Improved customer satisfaction
 - A positive image

Question and Answer

Business Consulting Practice

Byron R. Hardin , CPM

Hardin & Associates Consulting, LLC

Business # (972) 823-8800

Mobile # (214) 212-4345

e-mail: bhardin@hactexas.com

web site: www.hactexas.com



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ASOCIATES
CONSULTING, LLC**