



Contract Operations & Maintenance: Is it right for you?

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AGENDA

- Introduction to Veolia
- Contract Operations & Maintenance: What, why & how
- Asset Management and its importance
- Success snapshots

Who is Veolia? Our mission, vision & values?



North America

8,000 employees
Serve 550 communities
30,000 customers
\$2.4B revenue



Worldwide

163,000+ employees
Drinking water to 96M
Wastewater service to 60M
52M megawatt hours of energy
31M tons of waste converted
Consolidated revenue, \$25.7B

MISSION:

We partner with communities and industry to improve quality of life in their communities by addressing their most complex environmental challenges in water, waste and energy.

VISION:

To be the most reliable and sought after environmental operator in the United States

VALUES:

Trust in our company

Reliability in our performance

Expertise of our people

Transparency in our actions

Criticality of our service

Partnership with your community

Contract O&M of Utilities (*Power, energy, water & wastewater*) is our core competence, so you can focus on your core

VEOLIA MILWAUKEE OUTPERFORMS FEDERAL PERMIT STANDARDS

Total suspended solids discharge

EPA – Wisconsin DNR Regulation: Wisconsin Pollutant Discharge Elimination System (WPDES)

NPDES Monthly Limit	30 parts per million
MMSD Monthly Limit	15 parts per million
Veolia Milwaukee Monthly Actual	4-7 parts per million



Cogeneration re-development
brings reliable and sustainable
electricity and thermal energy to
the New York University campus



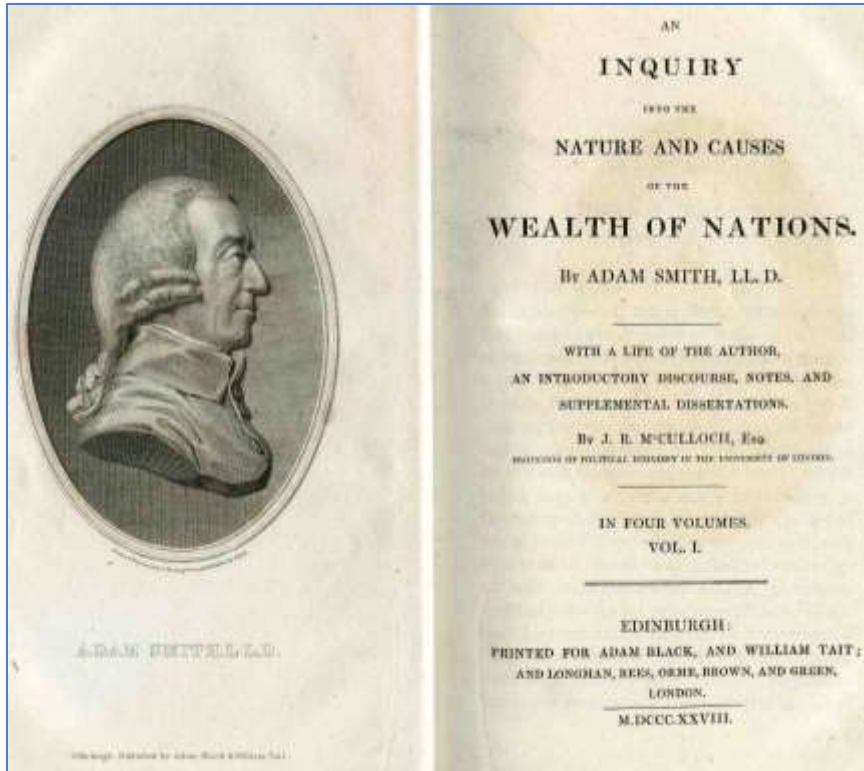
Green Steam Project Reducing Boston's Carbon Footprint
Cuts carbon emissions by 475,000 tons/year, equivalent to:

- Removing 80,000 cars from the streets annually
- Installing 600 football fields of solar PV



A 1st principle of economics Inference?

Focus on your core competence
Outsource non-core needs



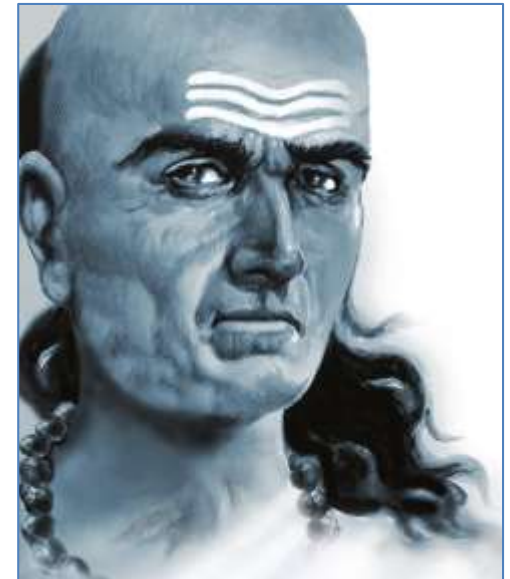
Adam Smith (18th century Scottish philosopher):

“It is not from the benevolence of the butcher, the brewer or the baker that we expect our dinner, but from their regard to their own interest”

Kautilya (aka. Chanakya, Indian royal advisor from 2,300 year ago):

In his “*Arthashastra*”, he advised the kingdom’s requirements be “outsourced” to citizens so “*each may excel at his task*”.

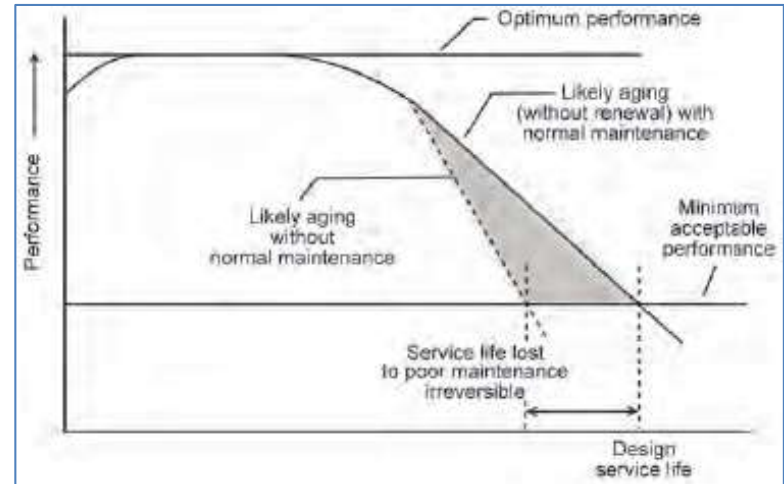
The kingdom’s prosperity depended only on external defense, internal security plus speedy & impartial justice.



Contract Operations & Maintenance (Con. O&M)

WHY: Safety + Efficiency + Reliability. Eg: District Energy system, Water Treatment Plant etc...

WHAT: Policies & procedures to optimally operate and maintain equipment and systems



Operations, Training & Administration

Administration & *Conduct* of Operations

Equipment Status Control

Operator Training, Knowledge & Performance and Safety

Management Assessment

Maintenance & Engineering Support

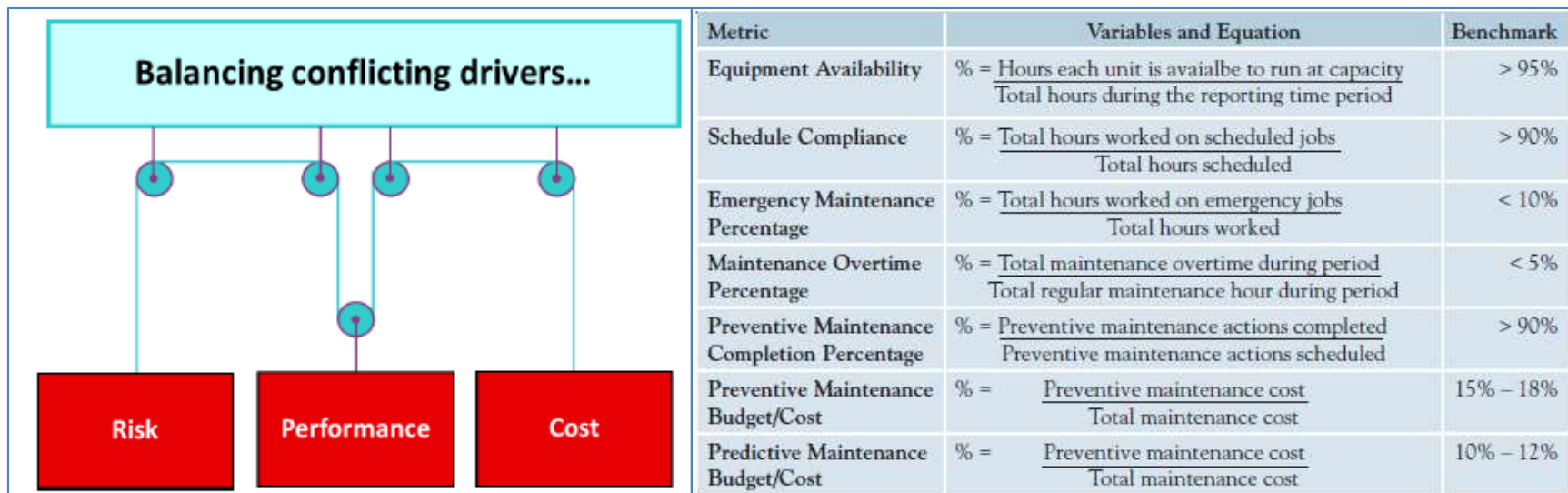
Administration & *Conduct* of Maintenance

Work Control System

Preventive, Predictive & Reliability Centric Maintenance

Maintenance Procedures & Documentation

An asset owner's overview on Contract O&M



PRO's

Expert outside resources

Accrued Savings: Energy efficiency & process control expertise, Management, Purchasing, Staffing & Training, Capital Improvements

Shift financial responsibility for Repair, Maintenance & Asset Replacement,

Typically not a privatization; host owns assets

No ongoing staff training costs

CON's

Fail to develop in-house expertise

Hard to exit a “bad” O&M contract

Limited exposure to alternate ideas

Non-core utility assets remain on host balance sheet

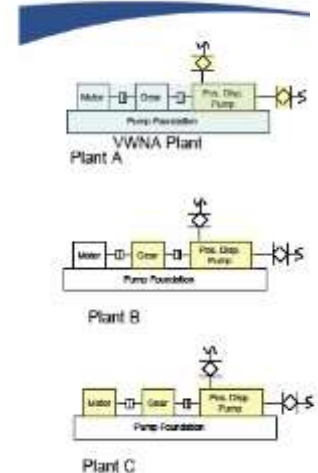
Host utility staff become employees of Contract O&M firm

Contract Operations & Maintenance: Seven steps to success

1. Audit non-core utility assets & systems
2. Define objectives, freeze scope & develop a strategy. Eg:
Opportunities to improve work flows & reduce waste?
Outsource all utilities (power, thermal energy, water, wastewater)?
3. Solicit bids from specialized Contract O&M firms
4. Allow creative solutions; i.e. don't be overly prescriptive
5. Evaluate responses & decide best fit
6. Complete contract negotiations in a timely & transparent manner. Sources of friction
Imprecisely defined scope of work
Over optimistic cost limits for Repair & Maintenance
Unrealistic shifting of risk. "A risk is borne by the entity best placed to bear that risk"
7. Allow for a realistic Transition period: First estimate cost, time & resources required; then double those figures.



What is an Asset?



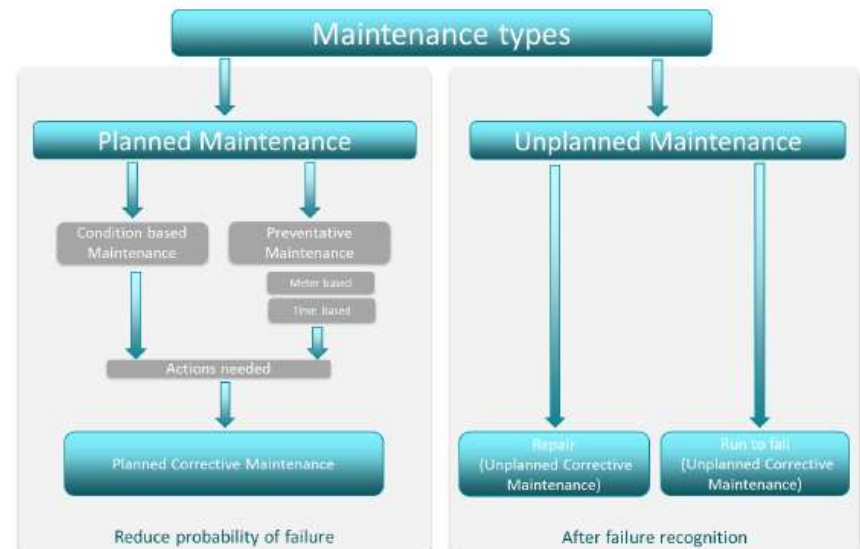
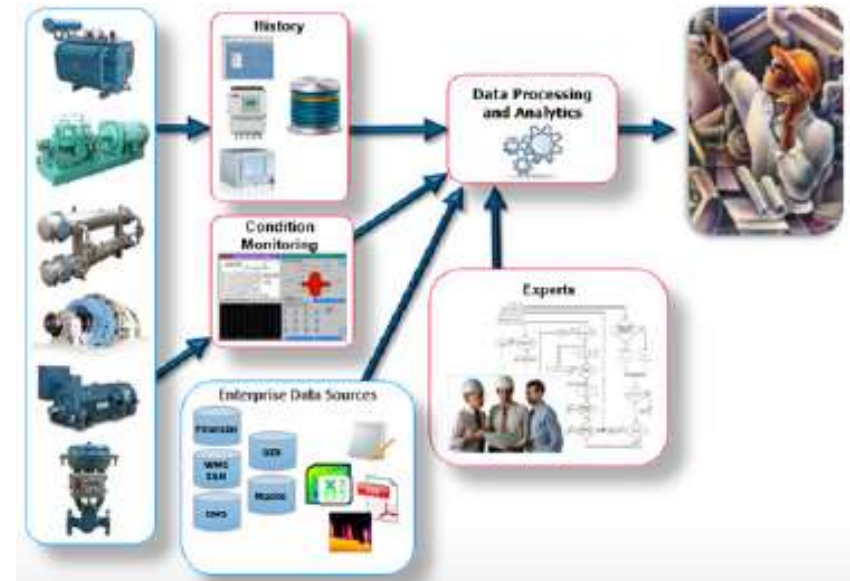
Common Contract O&M commercial structures

Service Contract type	Typical Features	Costs & Benefit
Full Coverage	100% coverage of operations, maintenance, parts & material, emergency service etc...	High Budget certainty. Provider incentivized to minimize Repair & replacement costs
Full Labor	Labor + minimal maintenance. Parts & material, emergency service etc... on a T&M basis	Budget certainty and lower costs if asset owner able to manage some activities
Preventive Maintenance	Fixed fee covers scheduled maintenance hours + basic consumables	Lower upfront cost, lower budget certainty & medium Owner involvement
Inspection	Fixed fee covers “fly-by” visits and + a maintenance advisory	Very low upfront cost, low budget certainty & high Owner involvement

Common Contract O&M Roles & Responsibilities (“Full coverage”)

Task	Responsibility
Collection system operation	City or host
Service payments & user charges	City or host
Fire, Flood, Eminent Domain	City or host
Design changes or physical modifications	Contractor (with City/host approval)
Incentive & penalty payments	Contractor and City/host, per contractually negotiated limits
Spares management, residue removal	Contractor
Liability Insurance & indemnification	Contractor
Equipment failure & emergency maintenance	Contractor
Plant operations & maintenance	Contractor
Non-compliance responsibility	Contractor (pays fines)

Asset Maintenance Program complements Operations



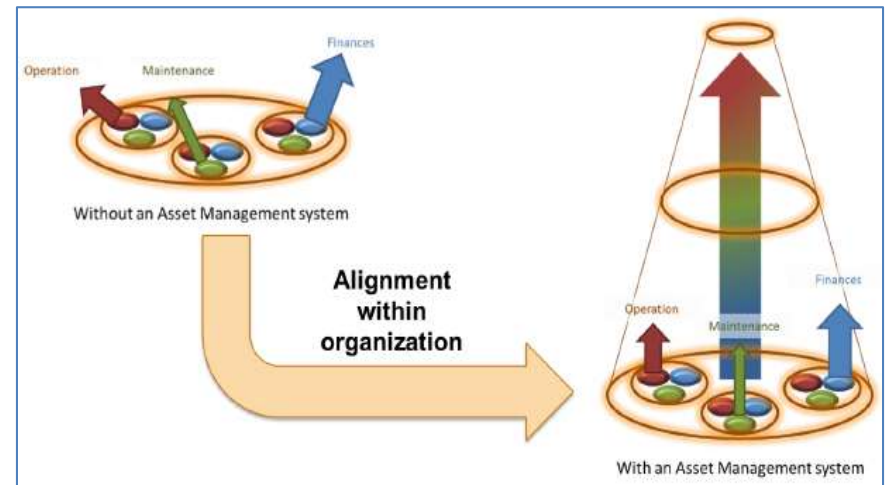
Contract O&M: The “Transition Period” and beyond

Results = People + Process

Implement Computerized Maintenance Management Software, CMMS

Start plant upgrades by analyzing how to *fundamentally* improve operations

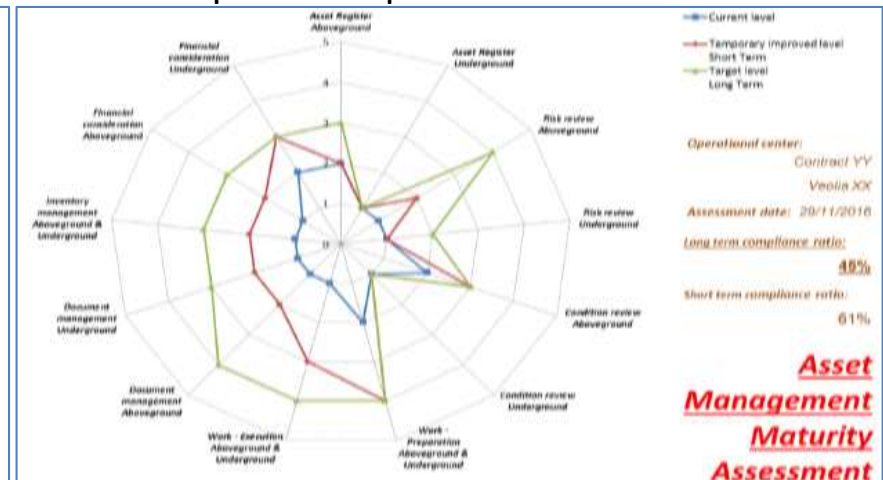
Safety first, then fix gross & visible deficiencies, then fine-tune operations



Veolia input: structure of assessment grid

Requirements of a given level of Maturity imply fulfillment of previous levels. Ex: Maturity 2 = Maturity 0 + Maturity 1 + Maturity 2	Asset Register	RISK		PERFORMANCE				COSTS
		Risk review	Condition review	Work - Preparation	Work - Execution	Document management	Inventory management	Financial consideration
Maturity 0 Innocent								
Maturity 1 Aware								
Maturity 2 Developing								
Maturity 3 Competent								
Maturity 4 Advanced								
Maturity 5 Expert								

Veolia Output: Example assessment



Theory is terrific, but what about the “Real world”?



Contract O&M: Wastewater Treatment, Milwaukee, WI

Awards

- › **2013 Burke Safety Award, Central States Water Environment Federation**, in recognition of commitment to safety at MMSD facilities.
- › **2013 Small Business Champion Award & Mayoral Proclamation – City of Milwaukee**, for outstanding achievement utilizing small and diverse businesses.
- › **2008-2012 Peak Performance Awards, National Association for Clean Water Agencies**, in recognition of achieving 100 percent compliance with the Clean Water Act.
- › **2011 Radebaugh Award, Central States Water Environment Federation**, in recognition of outstanding contributions in advancing water quality improvement.
- › **2009 Award of Excellence, Wisconsin Supplier Development Council**, for outstanding achievement utilizing small and diverse business enterprises.
- › **2009 Distinguished Public-Private Partnership Award, National Council of Public-Private Partnerships**

Our Milwaukee partners

Since 2008, Veolia has provided a quarter of a million dollars in funding – through sponsorships, memberships and charitable contributions – to dozens of organizations and events. It's our way of extending our impact in the areas of environmental education, workforce development and supplier diversity.

“Veolia has demonstrated a commitment to improved water quality in Milwaukee and the Great Lakes through its support of cutting-edge research here at the UWM School of Freshwater Sciences.”

Dean David EJ Garman, UWM School of Freshwater Sciences



By the numbers

Veolia's partnership with MMSD: SIZE & SCOPE:

- › 1.1 million customers across 28 municipalities
- › Veolia began operations March 1, 2008
- › Largest public-private wastewater partnership in the U.S.
- › Veolia Water Milwaukee employs 220 people locally

OPERATIONS AND MAINTENANCE:

- › Provide 24/7 operation of two water reclamation facilities
 - **Jones Island**, the oldest activated sludge plant in the U.S., which can handle flow rates up to 330 million gallons per day
 - **South Shore**, built in the 1960s and located in Oak Creek, which can handle flow rates up to 300 million gallons per day
- › Produce **Milorganite®**, one of the oldest organic fertilizers on the market today
- › Monitor and control wastewater flows through the 320-mile complex of conveyance pipes
- › **Manage the 26.5 mile Deep Tunnel storage** system, utilizing wet weather protocols designed to minimize basement back-ups



Contract O&M: District Heating & Cooling, Kansas City, MO

ABOUT THIS LOCATION:

In Kansas City, Veolia's district energy network serves approximately 60 customers in the central business district, with more than 4 million square feet of commercial space.

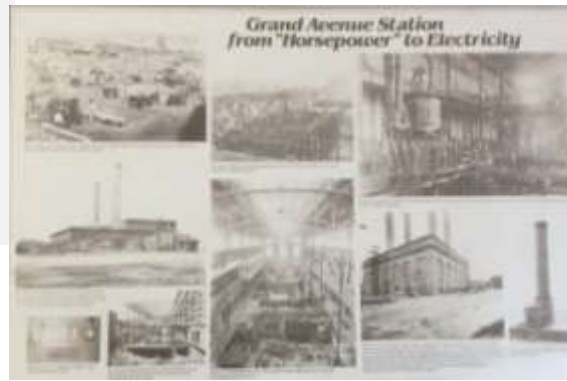
The district energy network provides centrally-produced steam and chilled water for their customers, and the facility also cogenerates electricity.

Customers

- Chemicals industry
- Agrifoods industry
- Federal, County and City government facilities
- An arena
- Hotels

Production Capacity

- 1.3 million pounds per hour of steam
- 10,650 tons of chilled water capacity
- 5 megawatts of cogeneration capacity
- Distribution network of 6.5 miles of steam and 2.0 miles of chilled water pipes



Contract O&M: District Cooling at the “Galleria”, Houston, TX

ABOUT THIS LOCATION:

In 2005, Veolia entered an agreement to provide comprehensive technical management services at The Galleria Shopping Center in Houston.

Veolia operates the existing central chiller plants and maintains all mall common areas, with 16 staff on site, and provides chilling for The Galleria's public ice rink.

Scope of Services

- O&M for chilled water and heating equipment
- Building automation systems
- Ice rink equipment
- Domestic water systems
- HVAC, plumbing and general building maintenance
- Life safety systems
- Electrical distribution systems and switch gear
- Garage lighting
- Sub-metering

Production Capacity

- 3,800 pounds per hour of steam.
- 10,850-tons of chilled water capacity.
- 2 MW of back-up electric generating capacity.





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Global Impact

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