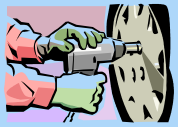


Pit Stop: Timely Procurement Topics

Renewable Power Project Procurement Using ESPC

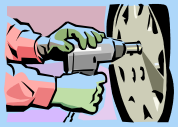
Presented By:

Dan Ingold

Development Manager

Renewable Power

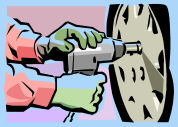
NORESCO



Pit Stop:
Timely
Procurement
Topics

Agency Funding Choices Available

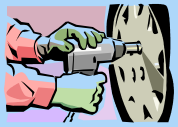
- Energy Conservation Investment Program (ECIP)
- Military Construction Funding (MILCON)
- Utility Energy Service Contracting (UESC)
- Enhanced Use Lease (EUL)
- Energy Savings Performance Contracting (ESPC)



Pit Stop: Timely Procurement Topics

Energy Policy Act of 2005

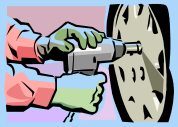
- OLD Goal: Reduce 1985 (baseline year) energy consumption by 35% by 2010
- NEW Goal: Reduce annual energy consumption by 2% from 2006 to 2015
- EO 13123, Section 402: Agencies shall maximize use of available alternative financing mechanisms, including ESPC
- Defense Authorization Act signed (Dec. 2005)
  - ✓ Reauthorization of ESPC through Sept. 30, 2016



Pit Stop: Timely Procurement Topics

ESPC Basics

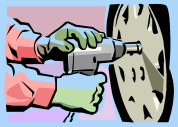
- Contracting vehicle that provides an opportunity to turn wasted energy into capital improvements
- Improvements/Energy Conservation Measures (ECMs) are financed by the Energy Services Company (ESCO)
- ESCO investment is paid back from energy and O&M savings
- Customer budget is not affected
- Savings and performance are guaranteed
- At end of contract term Agency retains 100% of the future energy savings



Pit Stop: Timely Procurement Topics

ESPC Requirements

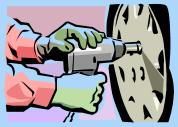
- Up to 25-year financed term
- Measurement and Verification (M&V) required
- Annual payments to ESCO can not exceed annual savings
- Annual payments must be paid with utility and energy-related O&M savings



Pit Stop: Timely Procurement Topics

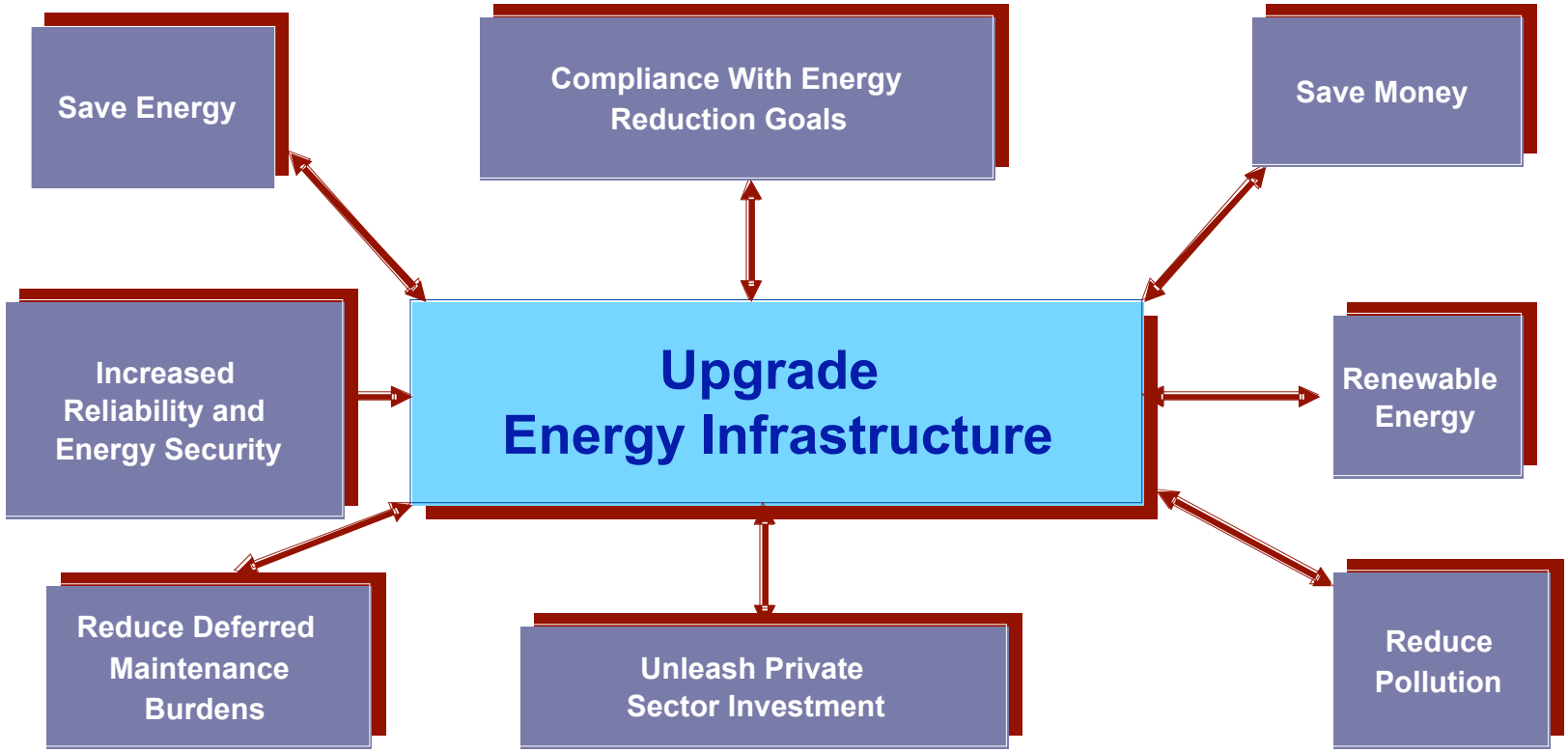
Why DOE Super ESPC?

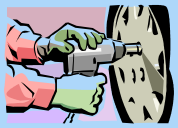
- Super ESPCs are available throughout six DOE regions
- DOE Workshops are available for Federal Agency training
- DOE Super ESPC process has been proven over time
- Process is continually being improved via DOE and Federal working groups



Pit Stop: Timely Procurement Topics

Goals for ESPC Projects

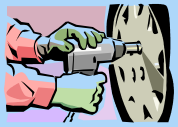




Pit Stop: Timely Procurement Topics

Costs Paid From Existing Utility/O&M Budgets

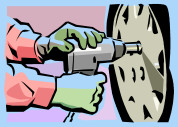
- Savings fund facility improvements
- Pay the ESPC contractor with savings
- Achieve cost savings for the facility
- Achieve Mandated Energy Reduction Goals



Pit Stop: Timely Procurement Topics

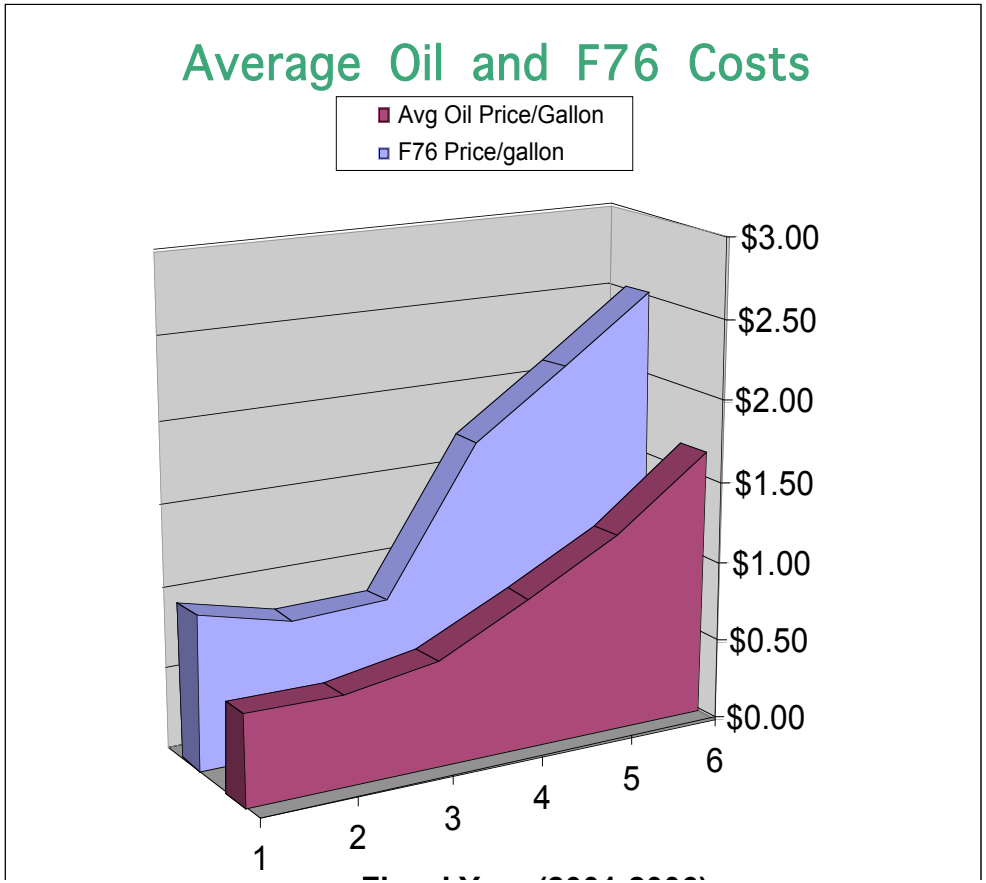
Why did the U.S. Navy want a Renewable Power Project at Guantanamo Bay?

Renewable Power Project Procurement Using ESPC

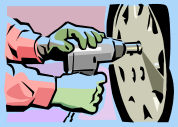


Pit Stop: Timely Procurement Topics

- Increase of "Mission" meant more demands on diesel generators to supply power.
- More Energy Security Was Needed. (Distributed Generation)

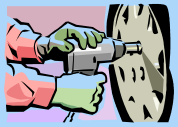


Renewable Power Project Procurement Using ESPC



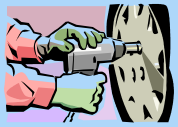
Pit Stop: Timely Procurement Topics

- The U.S. Navy has been a wind technology leader
- Investigating wind turbine projects for last 30 years
- Installed wind turbines at San Clemente in the 1990's.



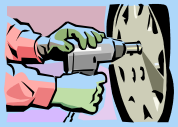
Pit Stop: Timely Procurement Topics

Determine the Wind Resource



Pit Stop: Timely Procurement Topics

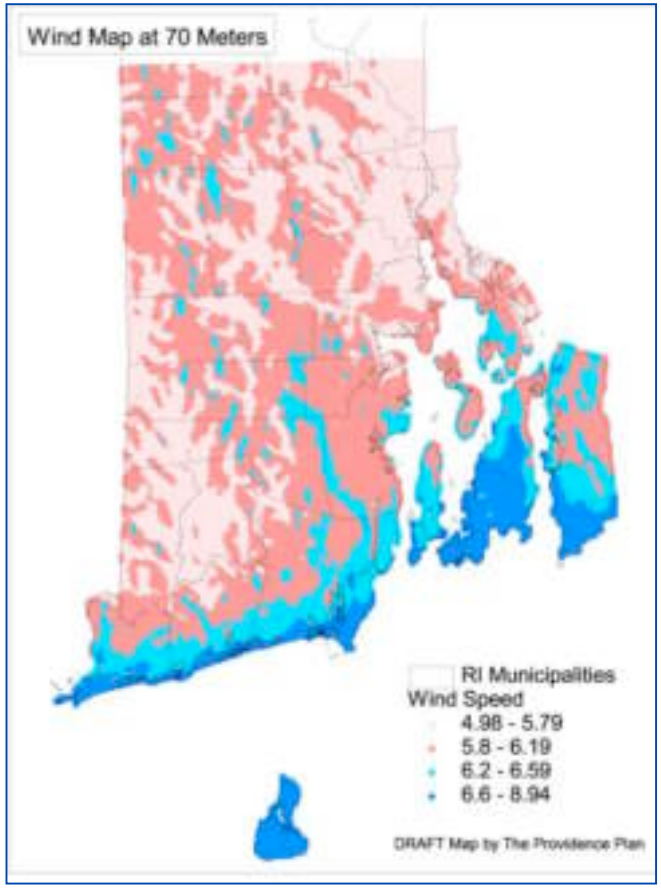
John Paul Jones Hill – Guantanamo Bay



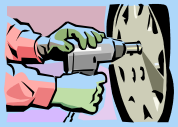
Pit Stop: Timely Procurement Topics

Regional Wind Maps

Regional Wind Maps available thru NREL and AWSTRUEWINDS



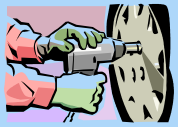
Renewable Power Project Procurement Using ESPC



Pit Stop: Timely Procurement Topics

- Wind Metering System Installed at 50’ and 65’
- 12 months of data collected, and correlated to airport data to predict wind turbine power production

Renewable Power Project Procurement Using ESPC



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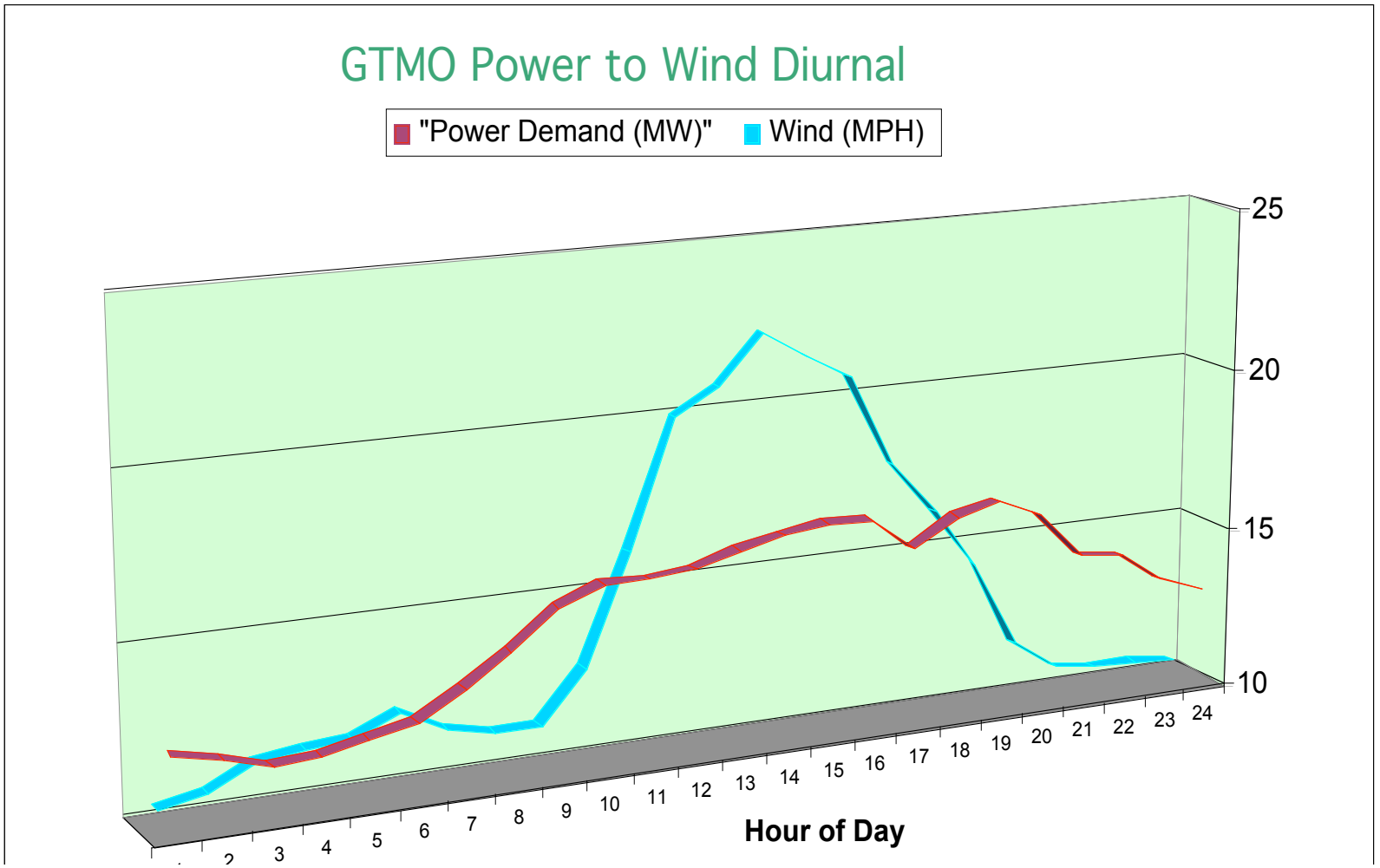
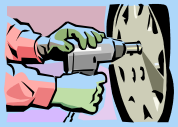
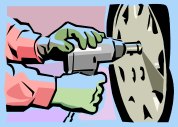




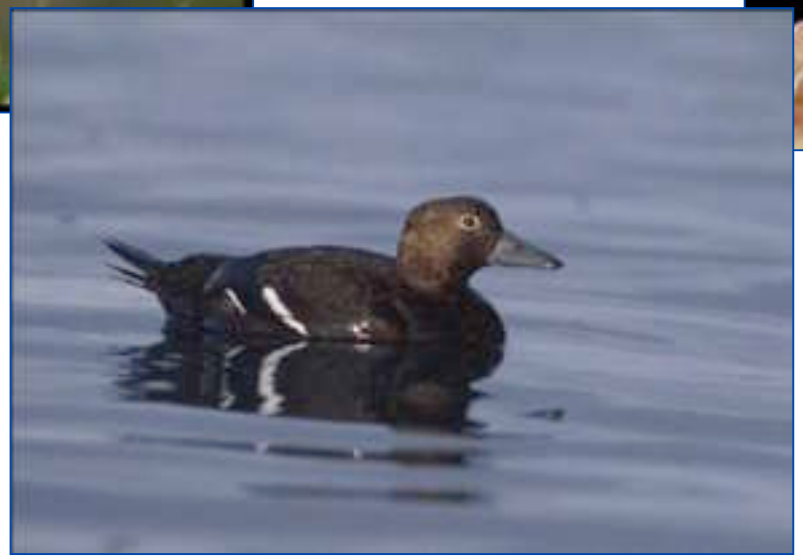
Pit Stop: Timely Procurement Topics

Guantanamo Bay, Cuba



Pit Stop: Timely Procurement Topics

Environmental Issues



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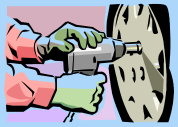

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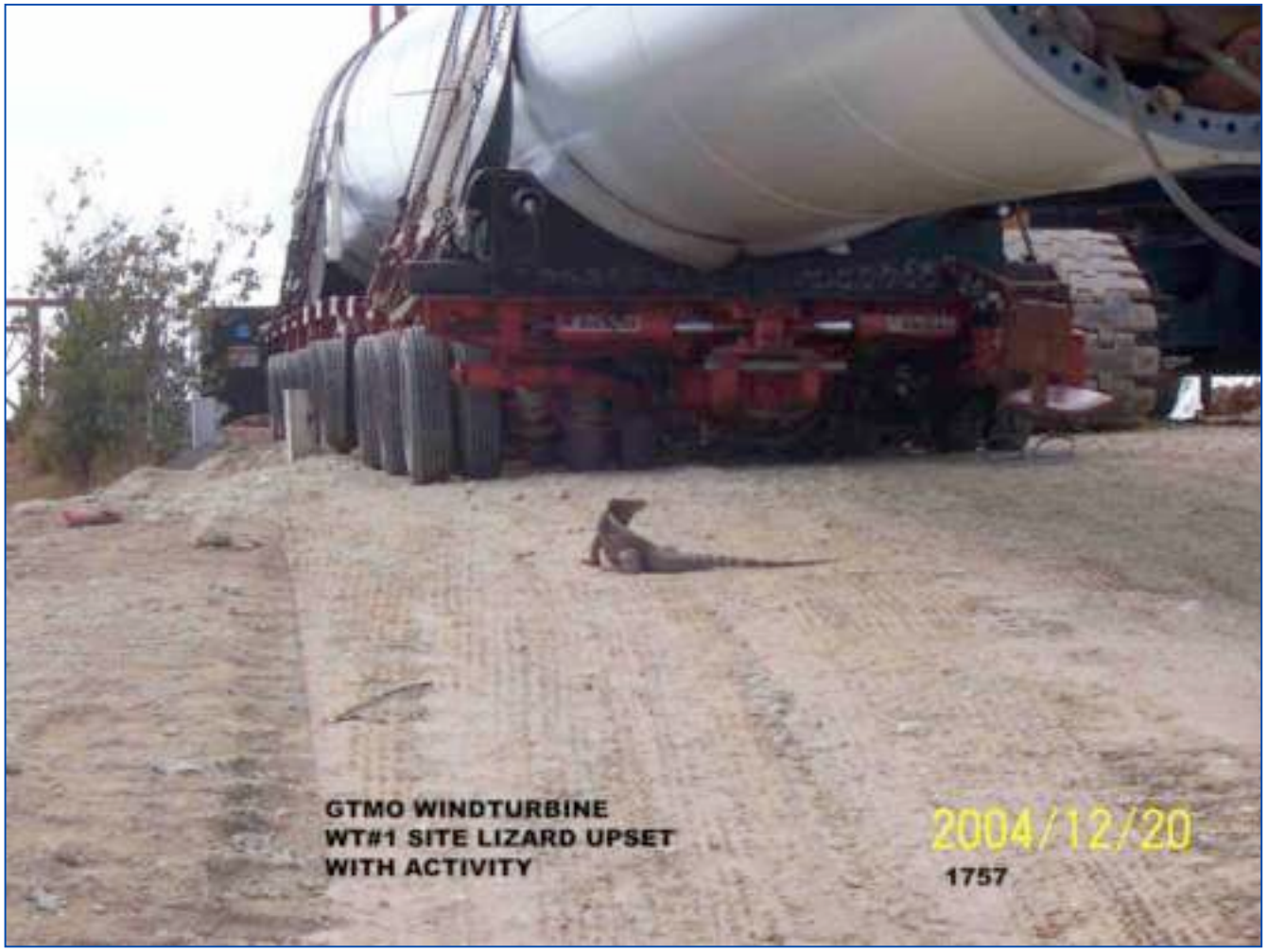

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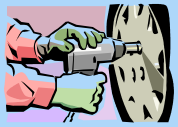

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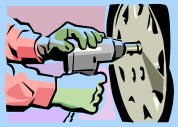

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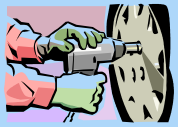

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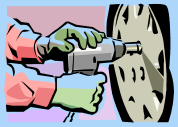

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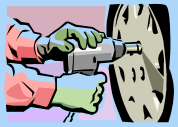

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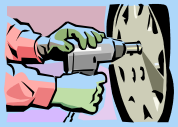

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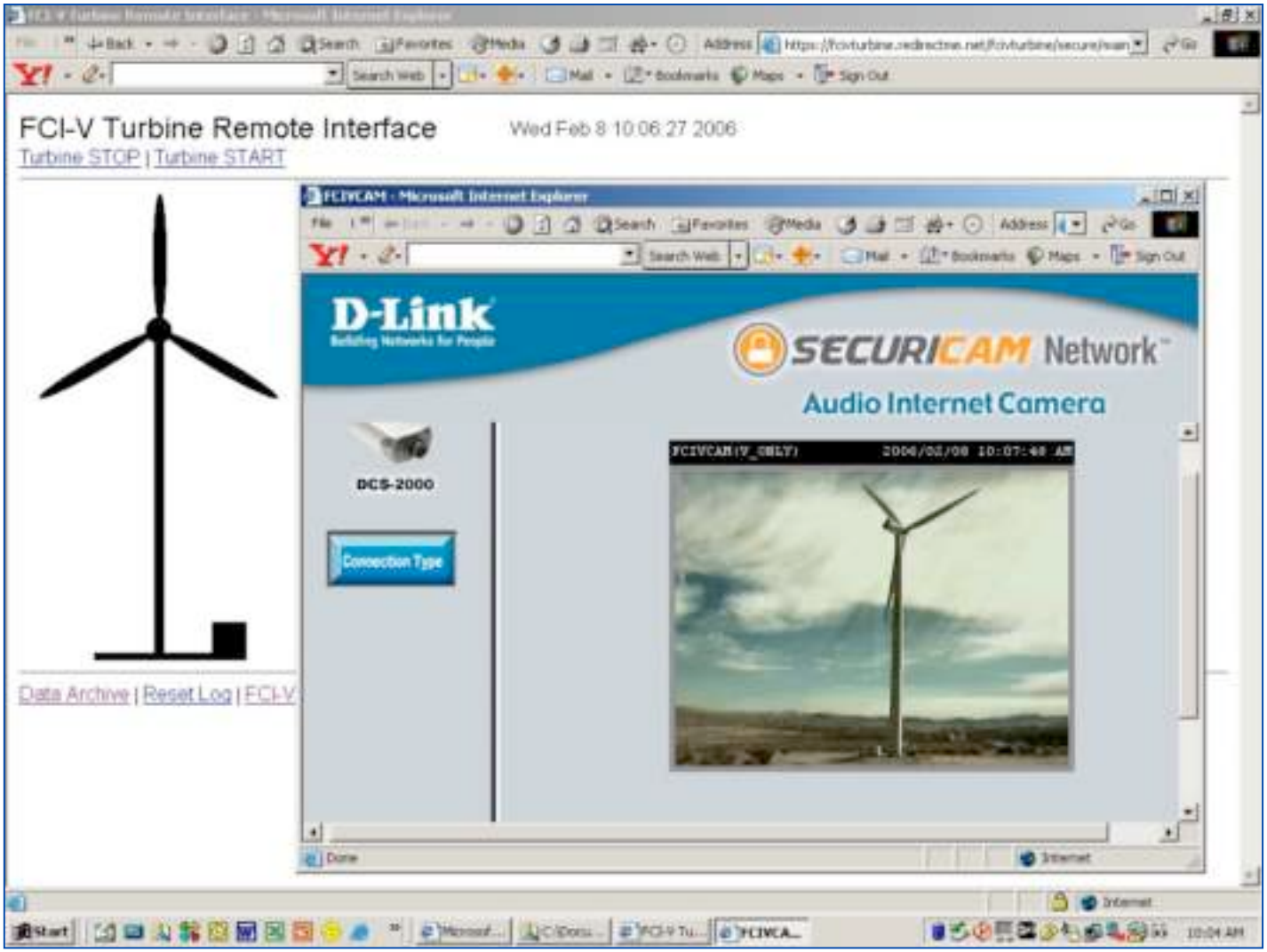

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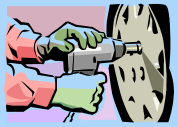

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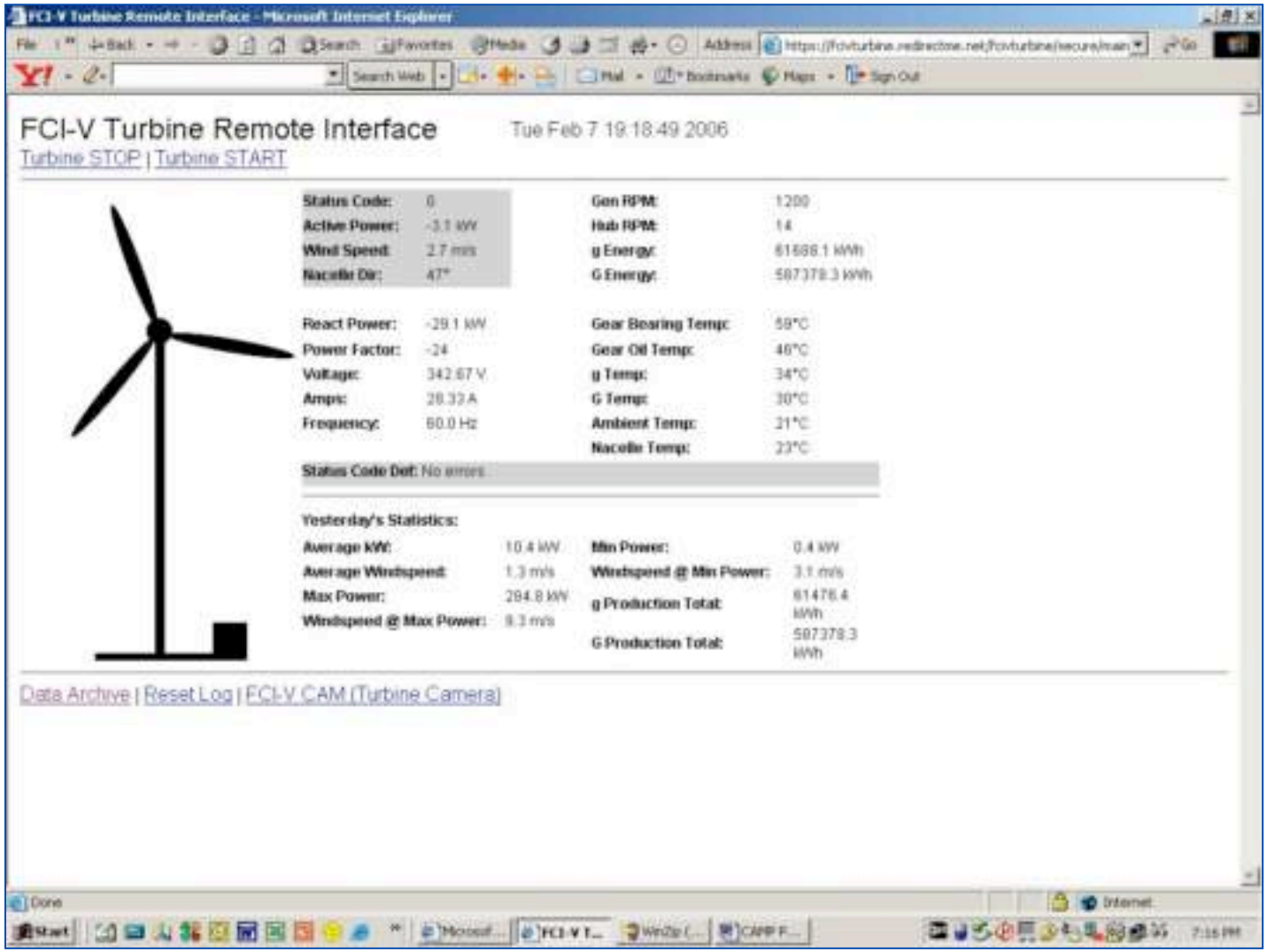

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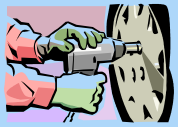

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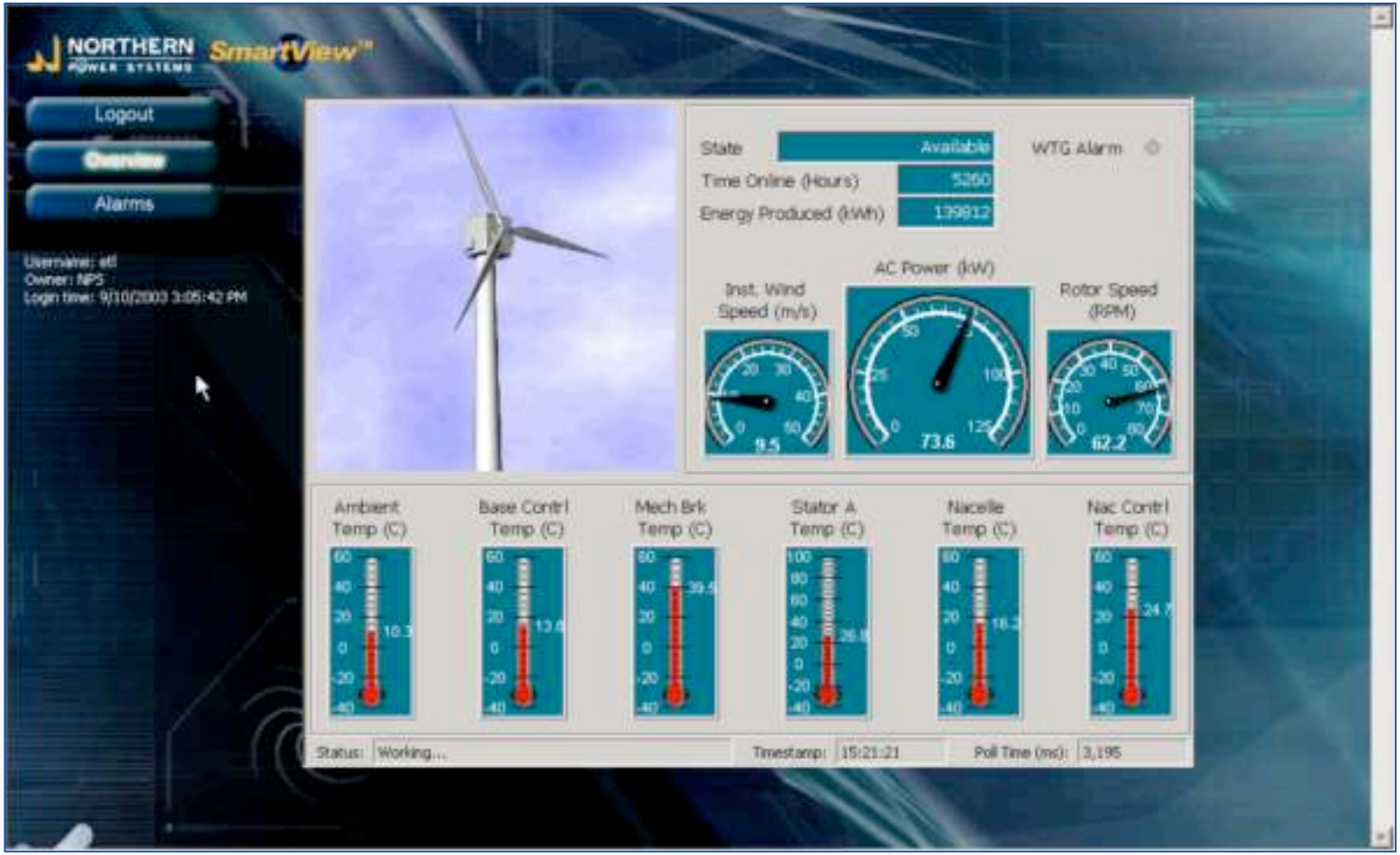

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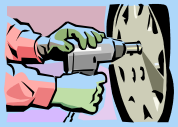

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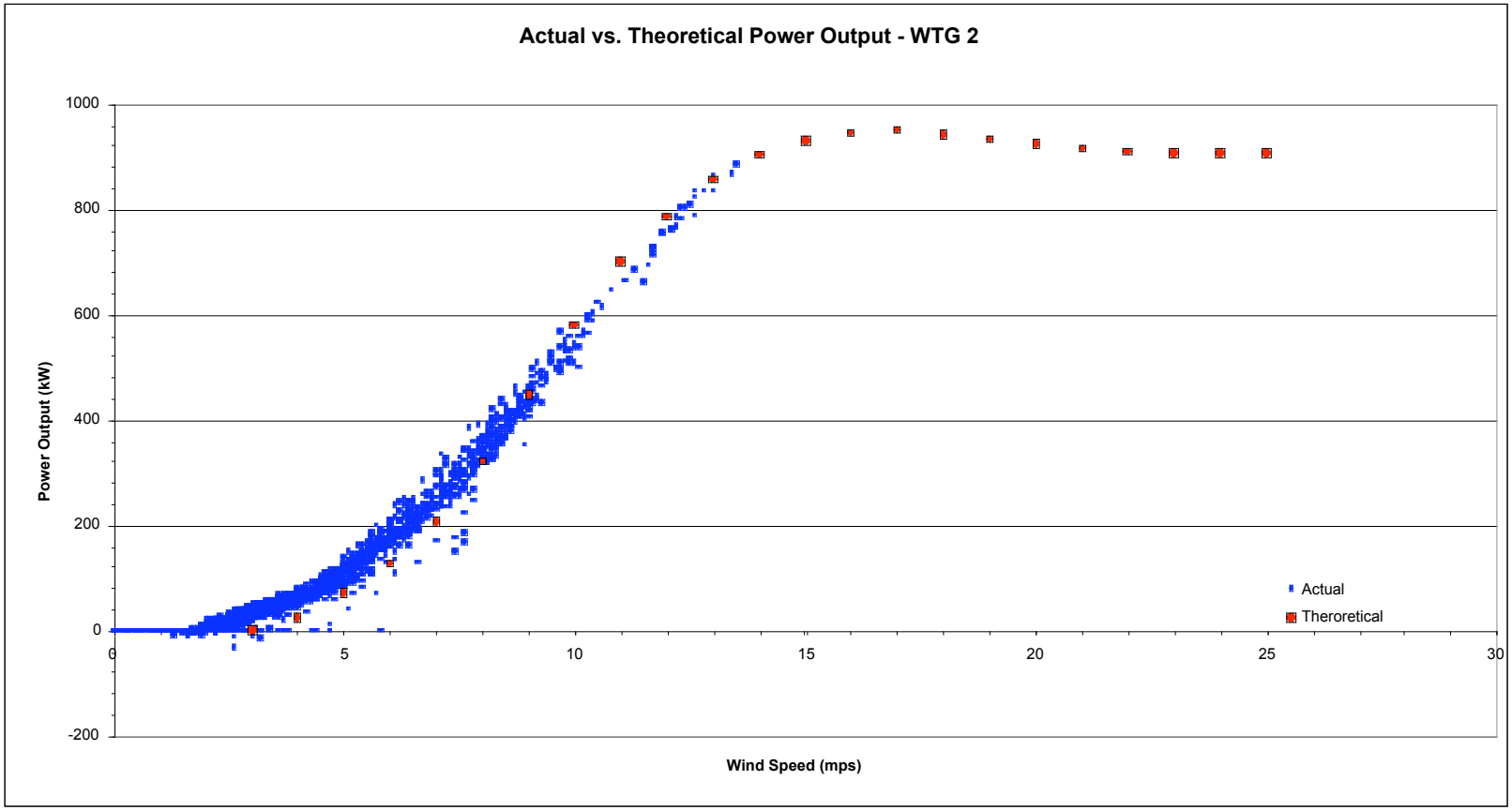
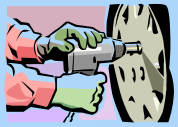




Pit Stop: Timely Procurement Topics

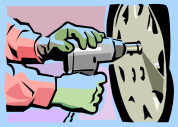
U.S. Navy Base – Guantanamo Bay, Cuba

Facility Size: 5,412,267 sq. ft.
Type of Contract: Navy Caribbean ESPC
Term of Contract: 14 Years
Total Capital Cost: $26,000,000
Total Annual Savings: $3,200,000

Technologies:

- World's largest wind diesel hybrid system
- 3.8 MW wind turbine project – the largest for the Department of Defense.
- Four – 950 kW wind turbine generators
- Replacement of four MUSE generators
- Energy efficient lighting and water conservation
- This partnership between NORESCO and the Navy will:
  - ✓ Save over 650,000 gallons of fuel
  - ✓ Reduce greenhouse gas emissions by over 13,000,000 pounds per year.

Renewable Power Project Procurement Using ESPC



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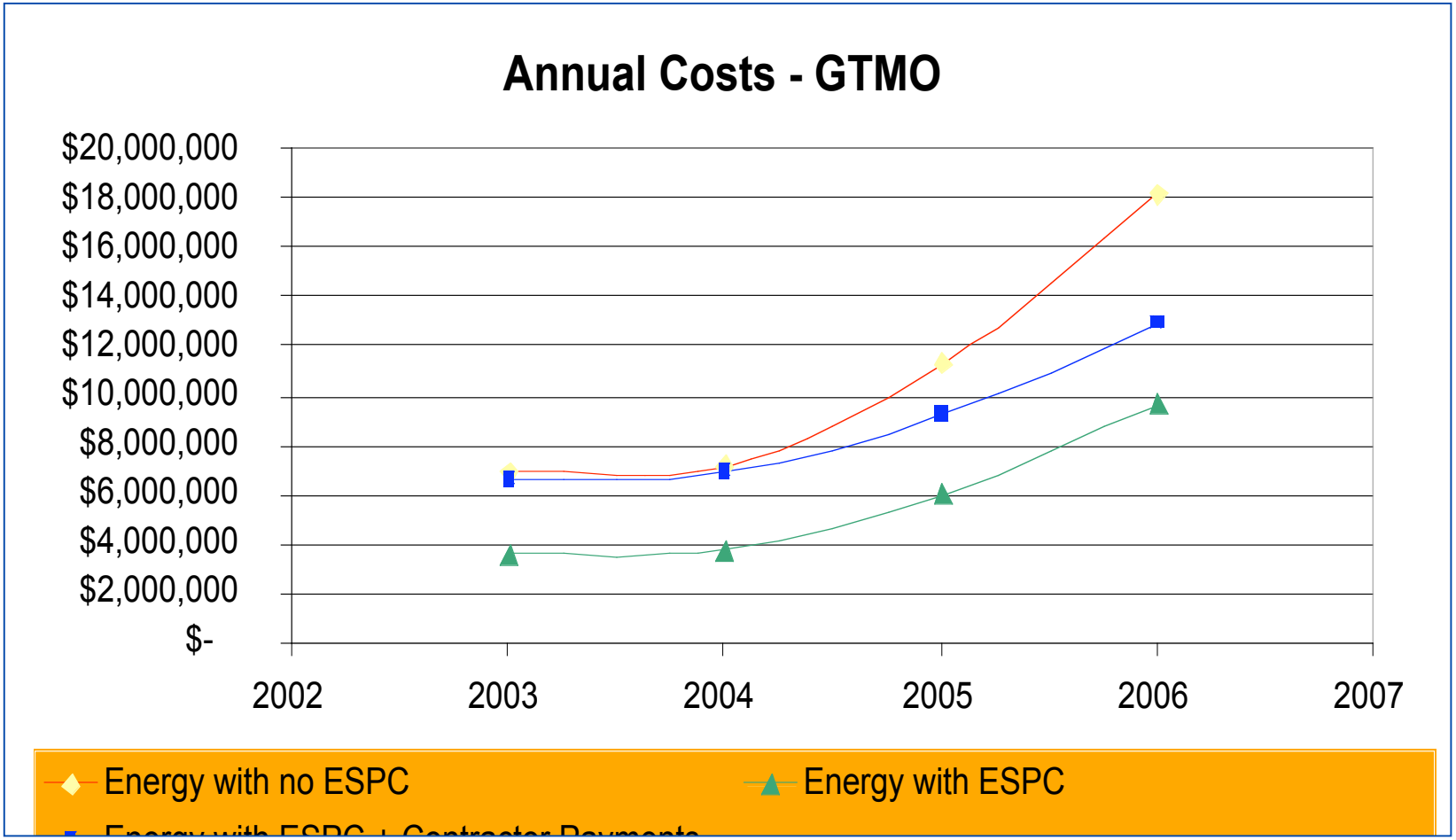

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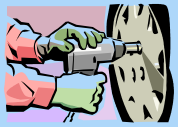


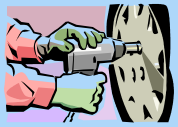
Pit Stop: Timely Procurement Topics

Navy Region Southwest

NORESCO built ***one of the largest federal solar photovoltaic systems*** in the nation: a 750 kW solar photovoltaic (PV) covered parking structure along with a 30 kW roof-mounted PV array at Coronado Naval Base.

FCC Victorville, CA

NORESCO built the ***first ESPC project*** for the Bureau of Prisons at the Federal Correctional Center, Victorville CA, which includes a 750 kW wind turbine and a covered parking structure covered in solar panels.



Pit Stop: Timely Procurement Topics

Summary

- The use of ESPCs is encouraged by the Federal Government
- ESPC is one of the best ways to upgrade infrastructure including Renewable Power Projects at Federal facilities while reducing America's dependence on foreign oil
- The savings and performance are guaranteed for the term of the contract