Our Blueprint for the Future

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The Green and the Gray

• The Green
  – Investing in a Smart Grid
  – Meeting Aggressive Renewable Portfolio Goals
  – Walking the talk…

• The Gray
  – Keeping the backbone solid - Mid Atlantic Power Pathway
  – Investing in a Smart Grid
  – Staying on top of our Infrastructure – Reliability Centered Maintenance
PHI Capital Investment

- PHI will be investing significant capital into AMI and our infrastructure over the coming years.

- Timely regulatory treatment will be critical to supporting this plan.

*Projected construction expenditures as reported in 2007 Form 10-K*
The Green...
Smart Grid

Why

• To meet rising customer expectations by revolutionizing the electric system. Integrate 21st century technology to achieve seamless generation, delivery and end use that benefits our customers by providing a more reliable, secure, efficient, safer, flexible, economic, and environmentally friendly grid.

What is it?

• The smart grid is much more than just metering. It involves two-way communication between customers and the utility, advanced sensors throughout the grid, overall communications systems integrating significant amounts of data from multiple systems, and an advanced analytical platform.
Smart Grid

Gray and Green?

A Smart Grid will vastly improve customer service with, among other things, improved restoration times and ...

- Will put more decision making in the hands of customers enabling them to reduce their energy use.
  - Providing improved information about their service and use, and
  - Provide programs and pricing options that will allow customers to make informed energy choices.

- Promotes green energy initiatives and enables distributed, renewable energy resources to participate in both energy and renewable markets.
Policy Points
Smart Grid

• Strong regulatory support and direction is critical
• Timely recovery of expenditures is essential
• To achieve the full savings potential will require significant education of our customers – we all need to be aligned on the message
• Maryland and Delaware have already taken a position in support of decoupling, an essential policy position supporting demand side management efforts by the local utilities
Finding Green Supply...

• Although we came to a good resolution, Delaware’s search for renewable solutions was a bumpy path
  – The public policy debate involved regulators, legislators, the media, environmental activists and industry experts and came right on the heels of the significant rate increases in 2006
  – Our key concerns from day one were:
    • Finding the least cost renewable solutions
    • Assuring fair treatment across the state
    • Reducing risk to our customers
Delmarva Power has entered into four long term wind contracts with three developers for providing renewable energy to our Delaware customers:

- **Bluewater Wind 200 MW** (costs shared by all distribution customers through a non-bypassable surcharge)
- **Synergics 100 MW** (two land-based wind farms for SOS customers only)
- **AES 70 MW** (one land-based wind farm for SOS customers only)
Policy Points
Renewable Portfolio

• Consistent policies need to apply across the state.
• A diverse portfolio of renewable sources should be encouraged.
• An understanding of the trade-off between low cost alternatives and renewable energy is important.
• Once state policy is set, utilities should be left to meet the policy goals through competitive sourcing.
Walking the Talk

In addition to efforts to help our customers become more environmentally friendly, we know that as a major corporation in the region, environmental stewardship starts inside the company.

- **Energy and Resource Conservation** – Using less in our day to day operations
- **Environmental Sustainability** – Reducing our carbon footprint
- **Natural Resource Management** – Minimize the impact our projects have on the environment
- **Environmental Compliance** – Assure we meet all laws and regulations where we serve
- **Education and Outreach** – Work in and with the communities we serve to educate and partner on efforts to help the environment
The Gray...
A New Power Pathway

- There is no “silver bullet”
  - Meeting our needs will require a mix of new generation, new transmission, DSM and energy efficiency programs
- It’s been 25 years since the last major interstate transmission line was built in the Mid-Atlantic region
- PJM studies show that the Mid-Atlantic region has become one of the most heavily congested in the nation
- Demand for power during peak usage times is projected to increase by nearly 20 percent over the next 10 years
The Mid-Atlantic Power Pathway (MAPP) spans 230-miles.

The project will be constructed in three segments, Possum to Calvert Cliffs, Calvert Cliffs to Indian River, and Indian River to Salem.

The line is scheduled for completion in 2013 at a cost of about $1 billion.

PJM Staff is reviewing a Direct Current alternative for a portion of the line (adds $.45 billion - PHI is working with PJM in reviewing this alternative).
The Benefits

• Improves the flow of electricity in the Mid-Atlantic Region for delivering new clean energy solutions such as wind, solar power and emissions-free nuclear

• Creates multiple paths for importing power into our growing region, complementing other proposed transmission projects

• Promotes regional growth by ensuring a safe, reliable supply of electricity over the long-term

• Delivers lower-cost power during periods of highest demand and reduces congestion costs
Policy Points

MAPP

- Major infrastructure projects such as MAPP require time and large capital investments to complete.
- Policy maker support of the benefits of this line are helpful in gaining public support in our community outreach.
- State and Federal regulators can help facilitate the benefits of MAPP and similar projects by supporting:
  - Timely approval of any necessary siting and certificates
  - Timely cost recovery
  - Appropriate investment incentives to recognize siting, permitting, construction and financial risks; use of advanced materials and technology; other innovations (such as first crossing of the Chesapeake Bay and potential HVDC technology for MAPP)
Smart Grid

Gray and **Green**?

*A Smart Grid will vastly improve how we use our assets enabling a more efficient use and lowering energy usage.*

- **Automatically accommodates changing conditions**
  - Isolate fault, expeditious automatic restoration
  - Reroute power flows, change load patterns, improve voltage profiles
  - Minimal workforce intervention, auto notification for corrective actions and maintenance activities

- **Enables more efficiency in the use of assets**
  - Better asset management – optimize grid design
  - Optimized grid operations
  - Greater reliability and security
Infrastructure Improvement

- Over time, we have replaced / enhanced the majority of our existing infrastructure as a result of:
  - Electric system expansion and load growth
  - Non-Utility infrastructure expansion (Subway installations, road improvements, etc)
  - Reliability Centered Maintenance (RCM) programs

- Focusing on the Smart Grid / the overall Blueprint for the Future represents a fundamental change in how we operate / manage the electric system

“This is NOT a Smart Grid!!!”

Age is not the determining factor when evaluating the maintenance and replacement of electric system infrastructure
Reliability Centered Maintenance

• Reliability Centered Maintenance (RCM) is a scientific and systematic methodology for defining and improving a maintenance program and is based on far more than just the age of the equipment.

• RCM was first used by the commercial aircraft industry and proved that time-based maintenance related to aging is not effective in many cases.

• RCM helps ensure that maintenance is effective and funding is well spent.

Maintenance focuses on
both time and
equipment condition

Maintenance focuses on
time-based
maintenance tasks
The Green Revolution is indeed a strong one, and at PHI, across all aspects of our business, we are doing our part.

Supportive, balanced, clear and consistent public policy is an important part of making this revolution a success.

Green efforts alone are not enough - transmission, and traditional generation still play very important roles in our portfolio.