Orlando Gasification Project
Demonstration of a
285 MW Coal-Based Transport Gasifier

MIT Carbon Sequestration Initiative

November 1, 2006
OGP Overview

• 285 MW IGCC comprised of two distinct projects:
  – 1x1 combined cycle (Owned 100% by OUC)
  – Jointly owned gasifier island (Owned: 65% Southern/35% OUC)
• Located at OUC’s Stanton Energy Center in Orlando, FL
• PRB coal
• Electricity from the facility will serve OUC’s customers
• Southern Company responsible for operation of the IGCC with a blended OUC and Southern Company staff
• KBR responsible for Gasification Island EPC
• DOE is participating in the project under CCPI2 and providing $235 million of co-funding
• June 1, 2010 COD for the IGCC
Project Status

• All contracts with the Major Participants are in place
  – DOE/Southern Company Cooperative Agreement
  – EPC subcontract with KBR for Gasifier Island
  – Commercialization Agreement between Southern Company and KBR
  – GE contract for CT supply and syngas testing
  – All contracts between OUC and Southern Company
    • Including ownership, capacity purchase and O&M
Activities for 2006 include NEPA, SCA, Need for Power and FEED.

OUC's Need for Power Application was approved by the Florida Public Service Commission on 5/24/06.

The Supplemental SCA was submitted to the Florida Department of Environmental Protection (FDEP) on 2/17/06. The Site Certification process is expected to be completed this year.

NEPA completion is expected in February 2007.

FEED is progressing and will be completed 1st Qtr 2007.

Detailed design and equipment procurement will begin in April of 2007.
Stanton Energy Center
Combined Cycle Unit A
Air Blown Integrated Gasification Combined Cycle (IGCC) at the Stanton Energy Center
A series of conceptual power plant designs incorporating the Transport Gasifier were developed to:

- Compare oxygen-blown and air-blown gasification
- Evaluate the impact of capturing carbon dioxide
- Calculate plant performance, complete capital and O&M costs, availability, and emissions
TRIG™ Cost Study - Conclusions

• For power production from a Transport Gasifier IGCC, fed with low-sulfur PRB coal, air-blown gasification is more economic than oxygen-blown.

• Impacts of carbon dioxide capture are significant, but air-blown gasification is still more economic than oxygen-blown.

• Complete results are available at http://psdf.southernco.com/tech_papers.html