Duke Energy Indiana Edwardsport IGCC Project Update

2008 GTC Conference

October 5-8, 2008

Washington, DC

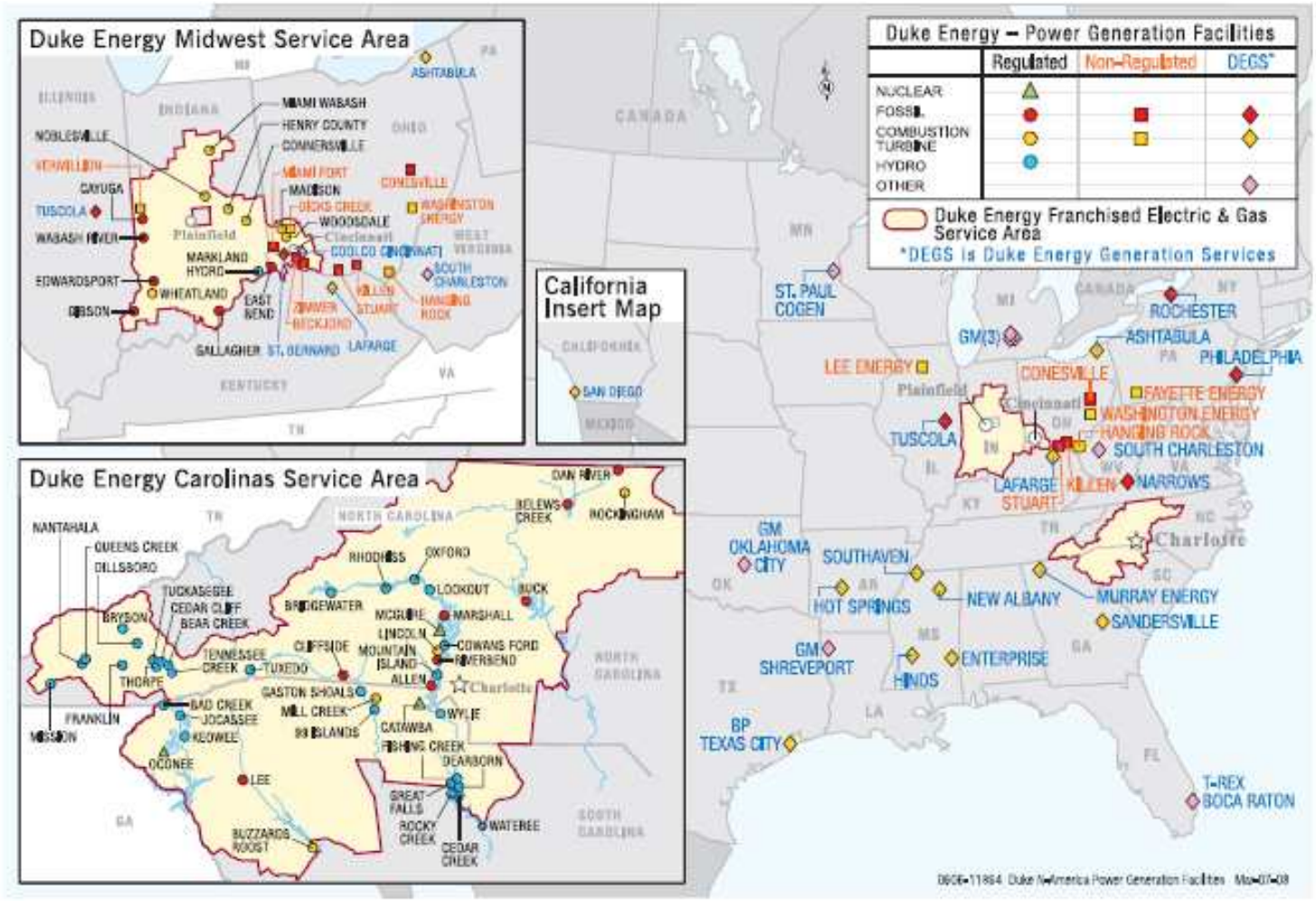
Rex Sears – Project Director, ISBL

Duke Energy Fast Facts

- Headquarters => Charlotte, N.C.
- Employees => 17,800*
- Revenue => $12.7 billion*
- Assets => $50 billion*
- Operating Segments:
  - U.S. Franchised Electric
  - Commercial Power
  - Duke Energy International
  - Crescent Resources
- U.S. Generating Capacity => 35,000 MW*

*As of December 31, 2007.

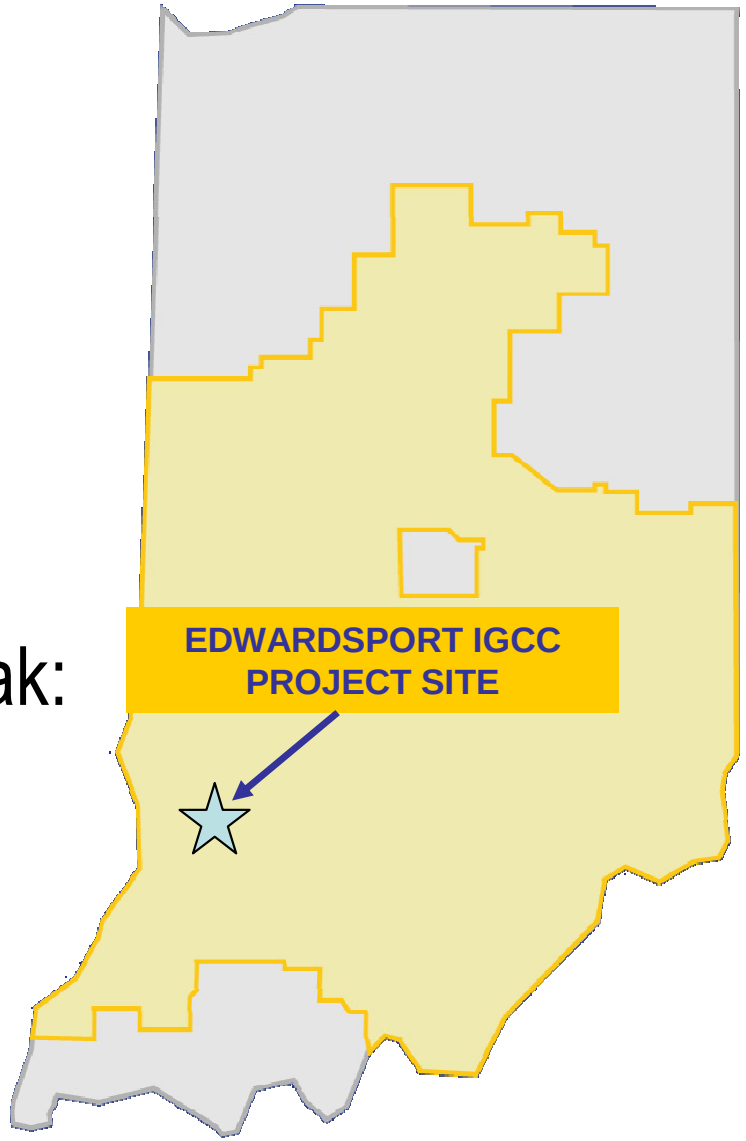
North American Power Generation Facilities



Additional information about Duke Energy can be found at www.duke-energy.com.

Edwardsport IGCC Project Location

- State: Indiana
- County: Knox
  - Population 38,500
- Town: Edwardsport
  - Population 348
- IGCC Project Construction Peak:
  - Manpower => ~2,000



Project Development Milestones

- Initiated Project Development – June 2004
- Initiated FEED Study – February 2006
- State and Local Tax Credits Legislation – April 2006
- Filed Air Permit – August 2006
- Filed Petition for a Certificate of Public Convenience and Necessity to construct the Edwardsport IGCC Plant – September 2006
- Received Federal Investment Tax Credit Award ($133.5 Million) – November 2006

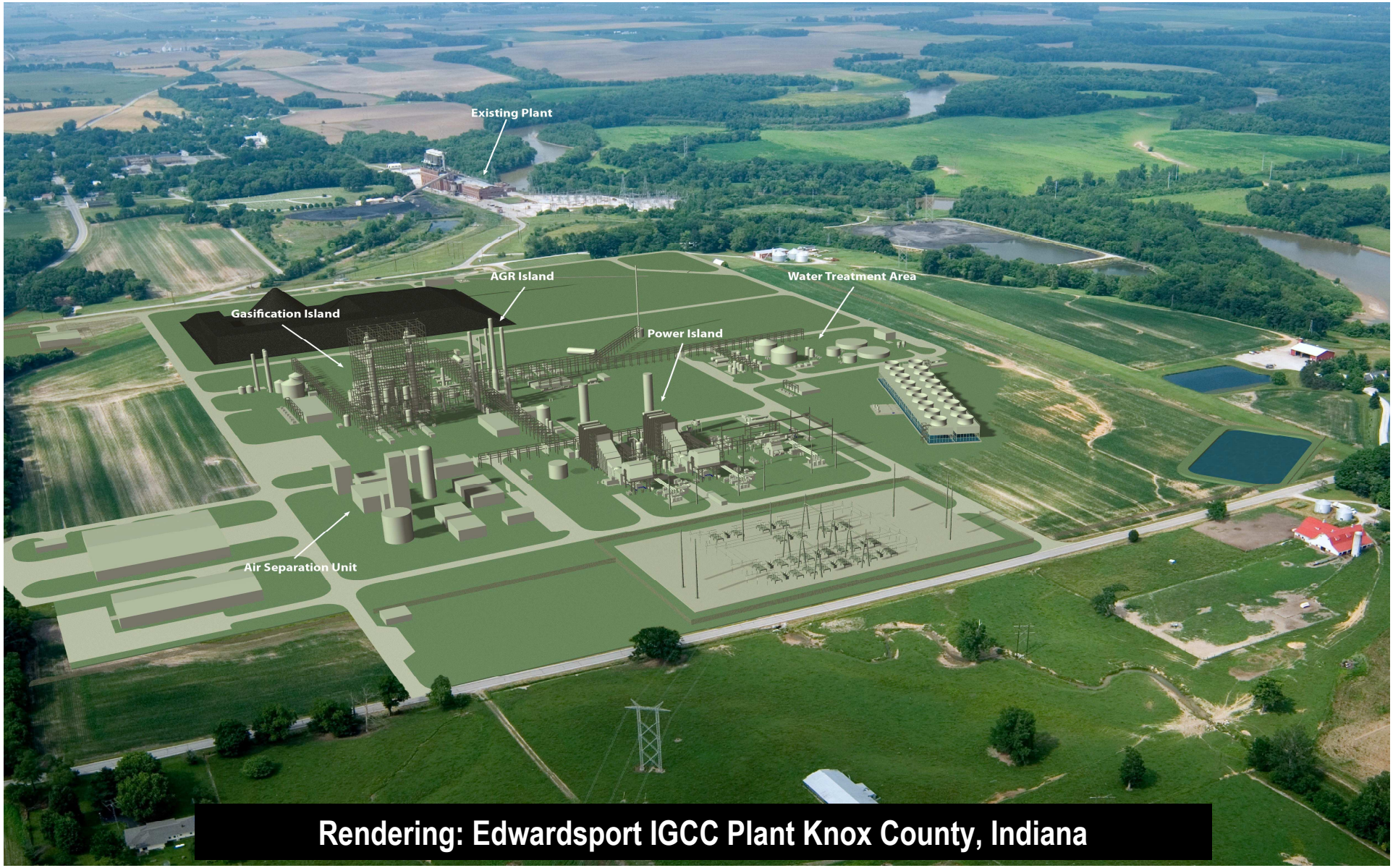
Project Development Milestones

- FEED Study Report submitted to IURC - April 2007
  - Total Installed Cost => $1.985 billion
  - Schedule => 47 Months FNTP to substantial completion
- Completed Preliminary Design Reviews => GE Tollgate requirement – September 2007
- Received Duke Energy Board of Director Approval – October 2007
- Received CPCN Order from IURC– November 2007
  - Included condition regarding study of CO2 capture & sequestration

Edwardsport IGCC Project - Highlights

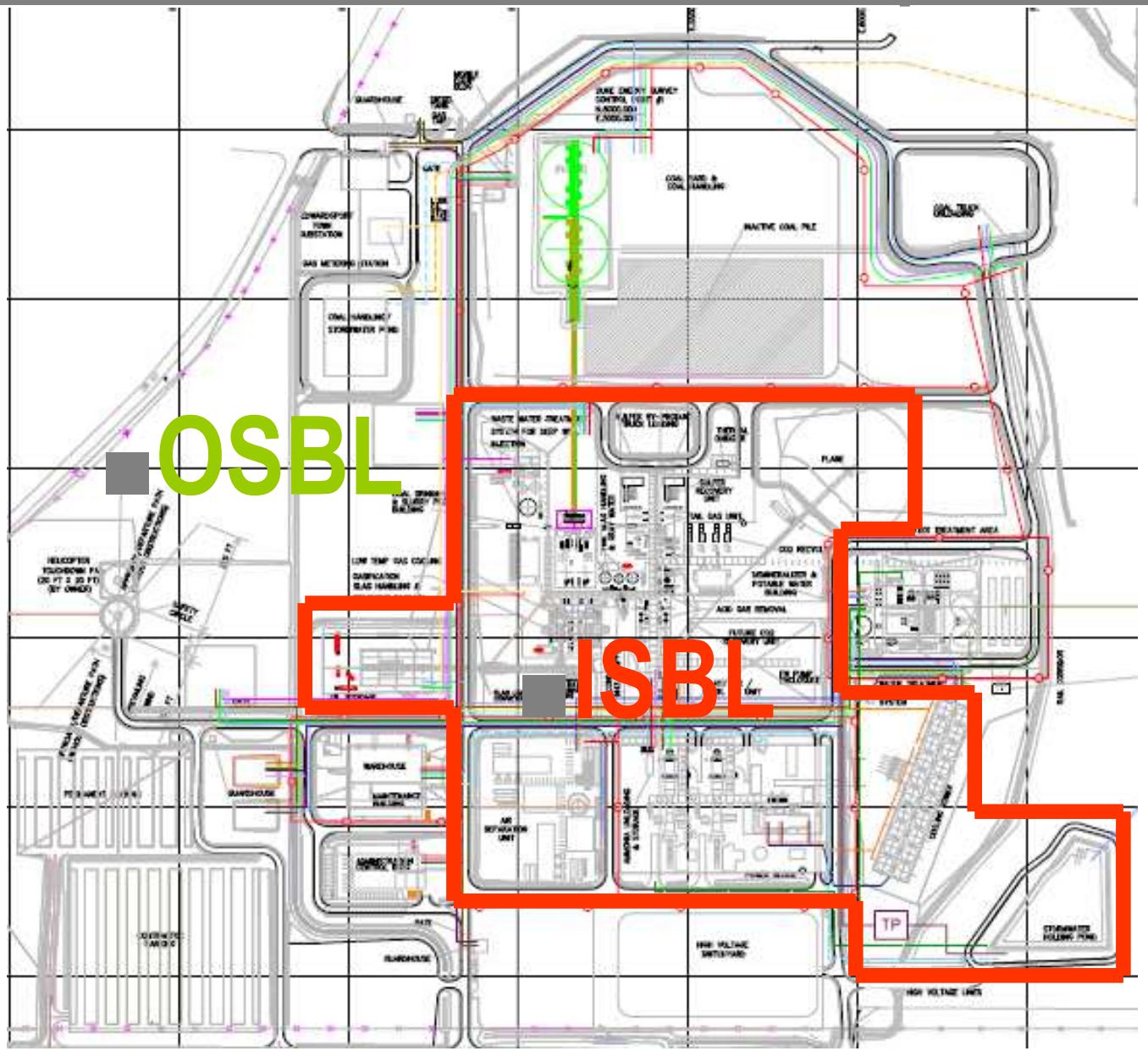
- Net Output: 632 MW
- Heat Rate: < 9,000 Btu/kWH
- Target Availability: 85%
- Low Emissions Profile
- Total Installed Cost: $2.35 billion
- Bulk Materials:
  - 1MM cubic yards of soil to be moved
  - 70,000 cubic yards of concrete
  - 20,000 tons of structural steel
  - 500,000 linear feet of piping
  - 3MM feet of cable
- Projected Commercial Operation date: Summer 2012

Duke Energy Edwardsport IGCC Layout



Rendering: Edwardsport IGCC Plant Knox County, Indiana

ISBL / OSBL Division of Responsibility



Project Execution Status

- GE Engineered Equipment Package Contract – December 2007
  - Issue for Design Process Design Package
  - Radiant Syngas Cooler Fabrication Initiated
  - ASU Procurement Initiated
- Mine Remediation Completed – January 2008
- Air Permit Issued – February 2008
- CPCN Order Requires 6 Month Updates
  - Submitted update Petition – May 2008
    - Update of cost estimate – Total Installed Cost $2.35 billion
    - Cost recovery for Study of Carbon Capture, Sequestration, and/or Enhanced Oil Recovery
  - IURC Update Hearing – August 2008
    - Ruling Expected – November 2008

Project Execution Status

- Completed Term Sheet and Technical Services Contract for Execution Phase EPCM Services – June 2008
- Gasification Systems HAZOPs Completed – August 2008
- GE Engineered Equipment Package: All Equipment on Order – August 2008
- ASU detail Engineering initiated with completion of P&ID reviews – September 2008

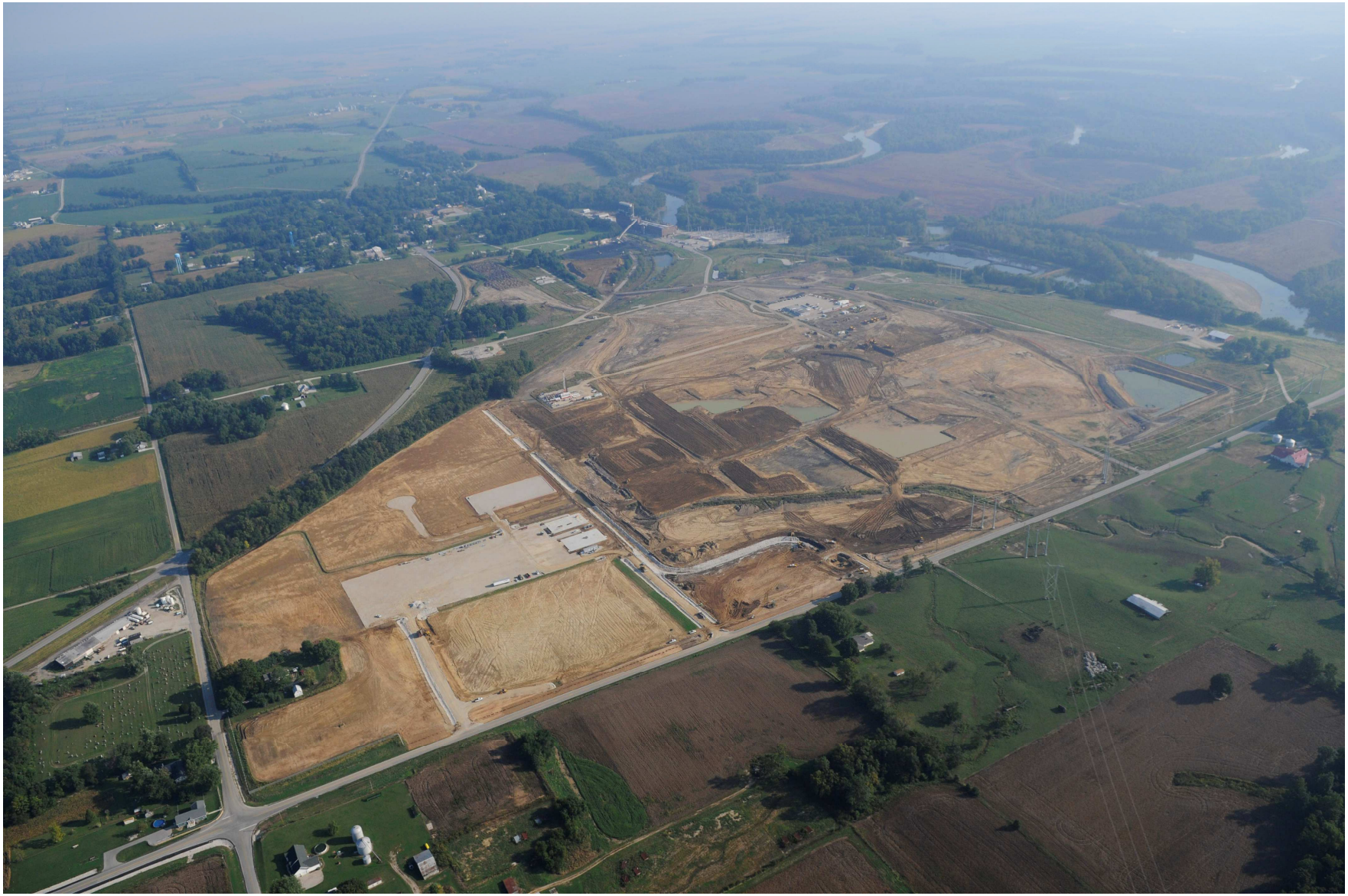
Project Execution Status

- Drilling of Injection Test Well - Ongoing
- Construction of Raw Water Ranney Wells – Ongoing
- Water Treatment Design – Ongoing
- Coal Delivery and Handling Package - Awarded
- Overall Site Grading - Ongoing
- Procurement of ISBL Engineered Equipment - Ongoing
  - Completed bid cycle for 50 engineered equipment requisition packages
  - Completed the evaluate and award cycle for 24 engineered equipment packages

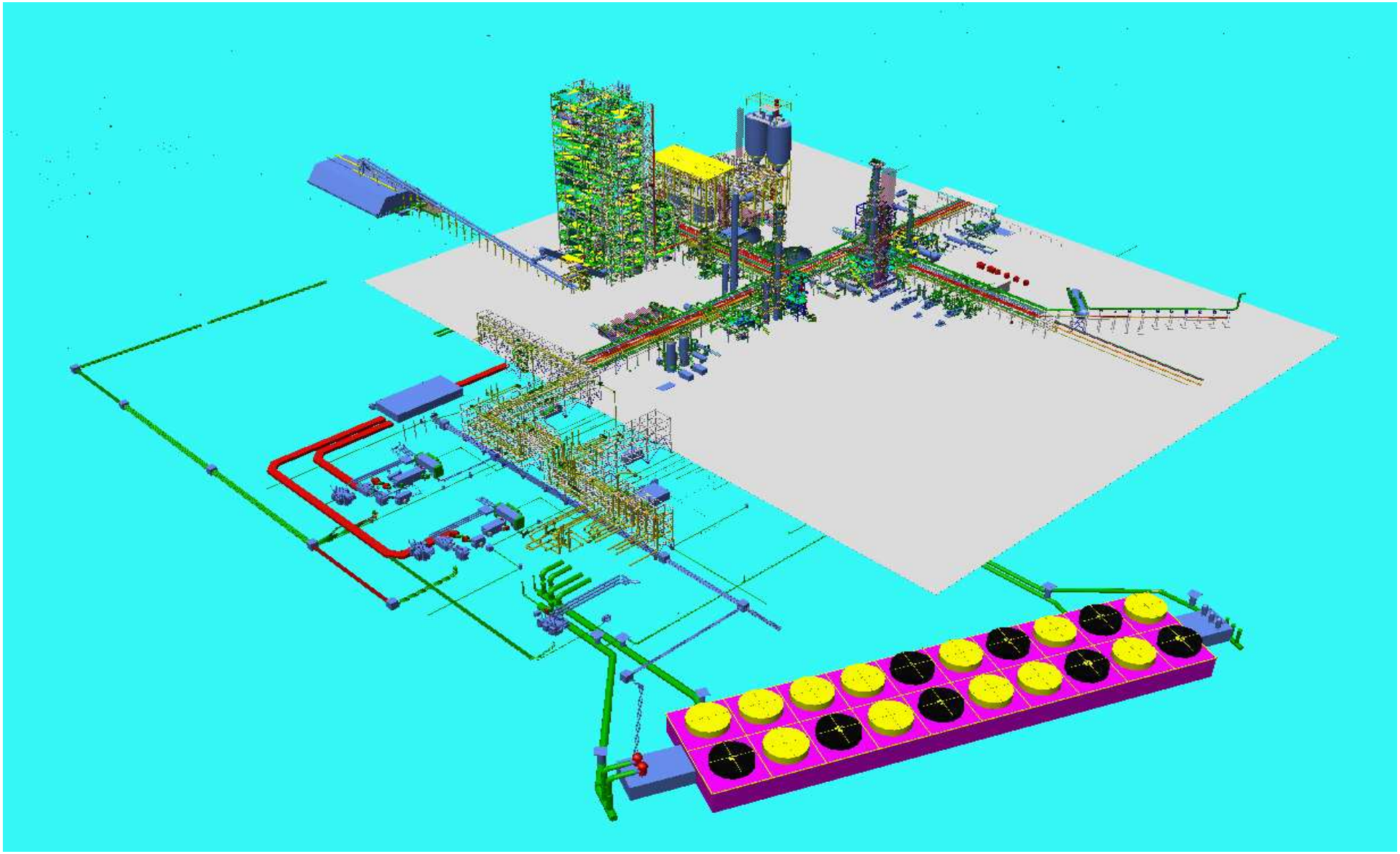
Project Execution Status

- Issue for Design P&IDs - Ongoing
- Gasification 30% 3D Model Reviews- Ongoing
- Finalization of Execution Phase EPCM Services Contract - Ongoing
- Proposals received for Site Piling - Evaluation Ongoing
- Duke Energy Underground Scope Utility Packages Developed and Out For Bid
- Detailed Engineering for ISBL Scope at 18%
  - Engineering Staffing Current => 250, Forecast Peak => 350.

Site Grading

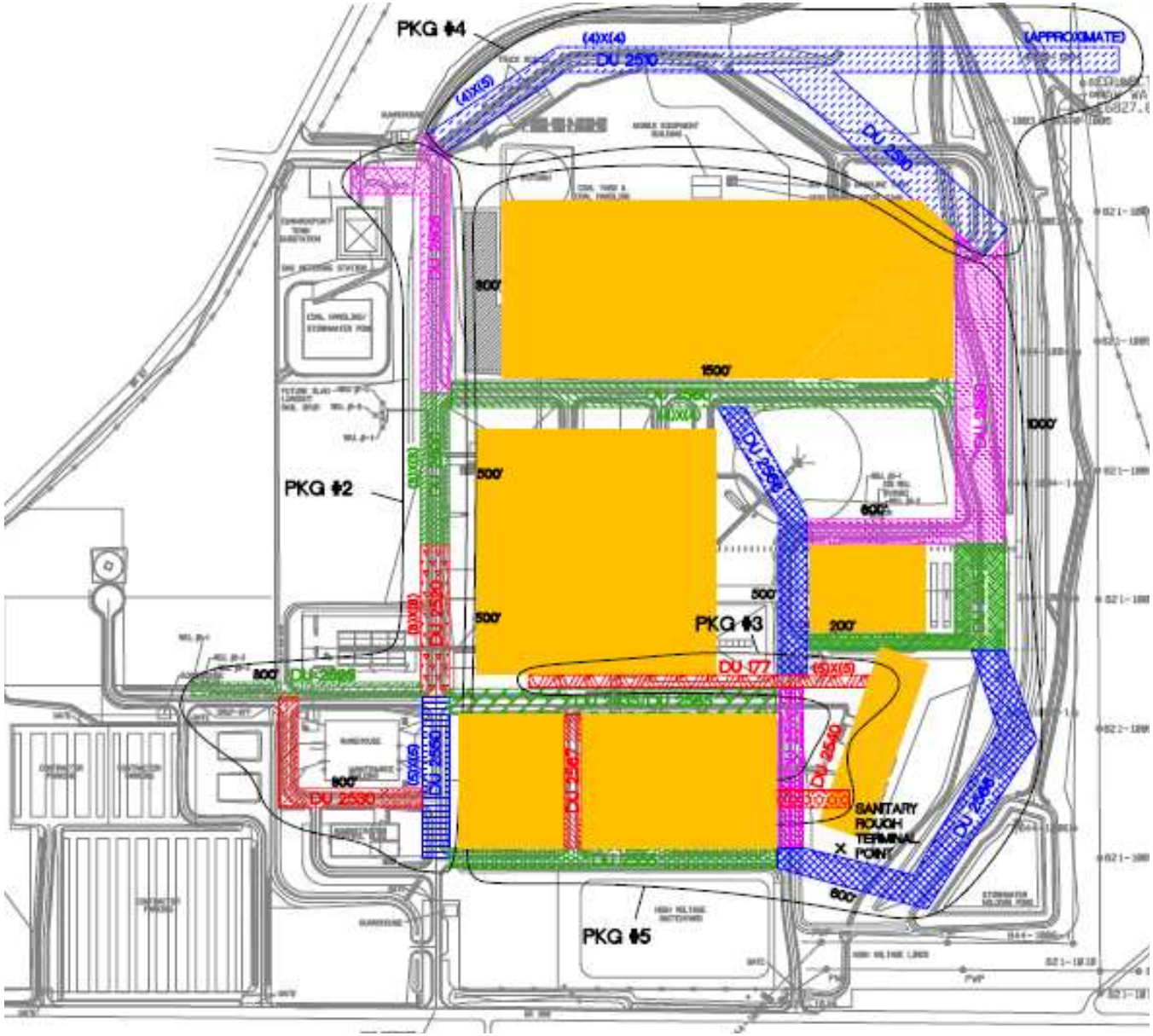


Inside Battery Limit – 3D Model



Power Block – 3D Model

OSBL Underground Utility Infrastructure Corridors



Project Execution Forecast Activities

- Engineering Activities
  - ISBL Engineered Equipment
    - Technical Specifications for Material Requisitions
    - Technical Evaluations and Recommendations
  - Issue For Design P&IDs
  - 50% 3D Model Reviews
  - 90% 3D Model Reviews
  - Issue For Construction P&IDs
  - Issue For Construction engineering discipline drawings

Project Execution Forecast Activities

- Procurement Activities
  - ISBL Engineered Equipment Awards
    - All purchases on Duke Energy paper
    - ISBL Equipment Awarded to Date
      - Grinding Mills
      - Refrigeration Packages
      - CO2 Compressors
      - Coal and Slag Handling
      - Gasification Pressure Vessels
  - Develop Procurement Process for Bulk Commodities
    - Maximizing utilization of Duke Energy Integrated Suppliers

Project Execution Forecast Activities

- Construction Activities
  - OSBL Underground Utility Infrastructure
  - ISBL & OSBL
    - Piling
    - Foundations & Underground Utilities
    - ASU
      - Piling & Foundations Included in Site Wide Contracts
    - Steel
    - Piping
    - Conduit and Cable

First Mover Challenges

- NDA – Non Disclosure Agreement
- NPI – New Product Introduction
- Non LSTK Execution

Non Disclosure Agreement (NDA)

- Non Disclosure Agreement
  - Major bureaucratic endeavor to administer execution of NDAs
  - GE & Bechtel mark all documents issued to the project as confidential and proprietary which requires all parties that participate to execute the NDA
  - Provisions of NDA are burdensome and some suppliers are balking at participation due to risk of litigation introduced by combination of the terms of the NDA and the extent of the documents marked as confidential and proprietary

New Product Introduction (NPI)

- GE New Product Introduction
  - Reference Plant
  - Radiant Syngas Cooler
  - Advanced Feed Injector
  - 7FBJ
  - Refractory
  - Distributed Control System – Mark VIe
- GE continuing to progress thru NPI toll gate process
  - Track and Manage to ensure Delivery by GE
- Extended Startup period (13 months) to accommodate NPI Testing and Validations

Alternate Contracting Strategy

- Project Developed as Alliance LSTK Offering
  - Not Offered due to Market Conditions
- Transition to Alternate Contracting Strategy
  - Contracting approach applied is a blend of cost reimbursable, target cost, and lump sum pricing, with Duke Energy Indiana managing the Project and holding the escalation and warranty risk
- Challenges
  - Contractual recreation of Alliance Collaboration, and Technology and Engineering Design Responsibilities
  - Interface Coordination at Scope Boundaries
    - Four (4) Engineering Entities with Major Scope


IGCC
YES!