“Turning the Corner”

Mark Coscio
Vice President, Petrochem Operations
North, Central and South America
WHY MODULARIZATION:

- SAFETY & QUALITY
- CONSTRUCTION COSTS
- SCHEDULE CERTAINTY

KEY DRIVERS & CONSIDERATIONS

- CRAFT AVAILABILITY & SKILL LEVEL
- CONGESTION IMPACTS
- WEATHER IMPACTS

KEY DRIVERS

- MODULAR
- STICK-BUILT

SITE CONSTRAINTS

INFRASTRUCTURE REQUIREMENTS
HOW TO INCORPORATE MODULARIZATION:

Module Team Evaluation & Assessment

- Initial Engagement and Evaluation
- Reference Plot Review
- Site Access routes
- Module List Developed

SOLUTIONS

- Location Review
- Geo Technical Review
- Module Shipping Routes, Size & Constraints
- Report Out on Solutions

- Module List Evaluated & Assessment
- High Level Cost Analysis
- Optimization of Plot/Modules
WHAT DOES MODULARIZATION LOOK LIKE:

Module Solutions From Stick Build to Increasingly Complex Full Process Unit Modularization

STICK BUILD SOLUTIONS

MODULE SOLUTIONS

SUPER PROCESS UNITS

Truckable Pipe Assembly Racks and Skids, Medium to Large Pipe Assembly Rakes, Furnace Process Assembly Units
Challenges to Modularization

- Places more pressure and focus on Engineering deliverables.
- Requires more detailed front-end planning to execute.
- Can result in carry over work if not executed well through all phases.

Benefits of a Well-Executed Module Program

- Offer a less congested site and laydown requirements, which can decrease risk and improve project safety.
- Could have a cost and site personnel reduction.
- Reduces site services, environmental & social impacts.
- Improves overall project schedule certainty and reduces project risk.

Recent Modularization Example
Challenges to Modularization

- Places more pressure and focus on Engineering deliverables.
- Requires more detailed front-end planning to execute.
- Can result in carry over work if not executed well through all phases.

Benefits of a Well-Executed Module Program

- Offer a less congested site and laydown requirements, which can decrease risk and improve project safety.
- Could have a cost and site personnel reduction.
- Reduces site services, environmental & social impacts.
- Improves overall project schedule certainty and reduces project risk.

Recent Modularization Example