



**BASIN ELECTRIC
POWER COOPERATIVE**

A Touchstone Energy® Cooperative 

Primary Reformer Member Managers Conference

Gavin McCollam

February 2022

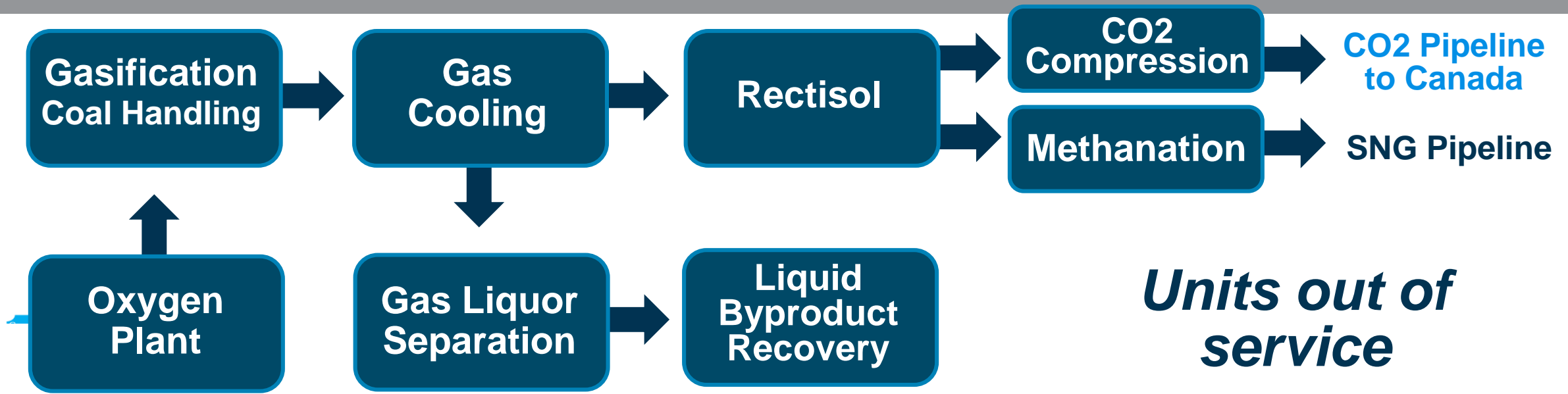
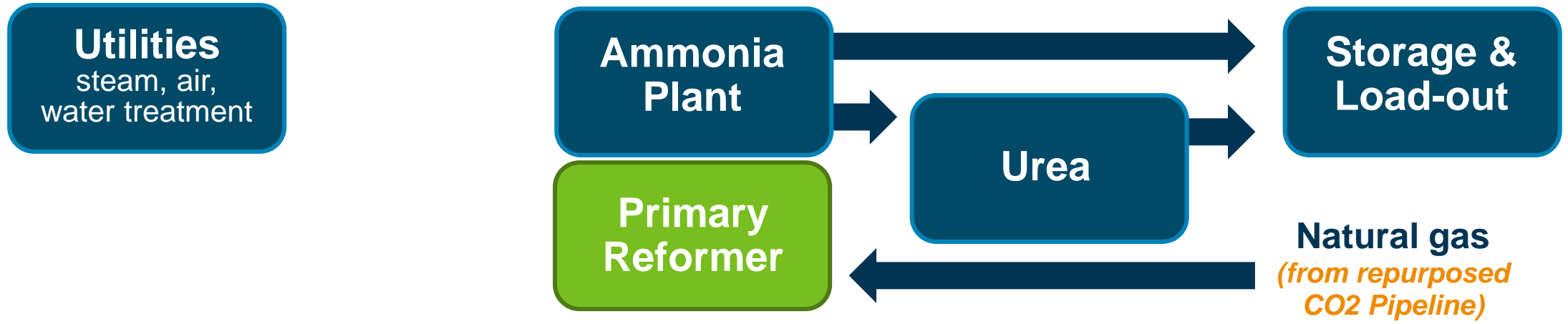
Reformer Design

- Large fired heater with catalyst filled tubes
 - Endothermic reaction (very energy intensive)
 - Reformer will replace existing feed gas heater



**Ammonia Plant
Reformer Example**

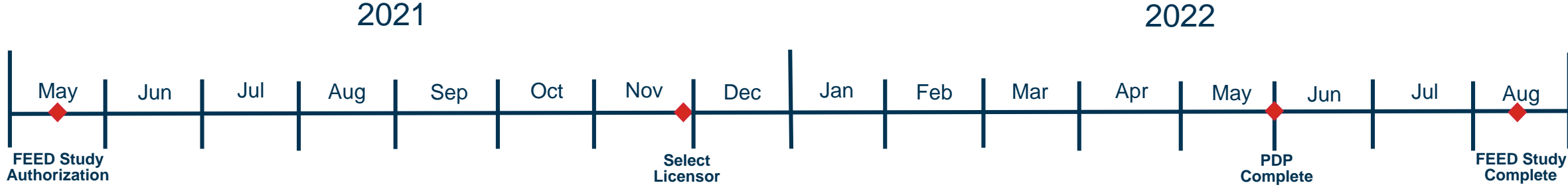
New Process Flow



Project Status

- May 2021
 - Board approved FEED Study phase of the project (\$6.15M)
 - Awarded FEED Study engineering contract to Worley
- June 2021
 - Started the Technology Assessment phase of the project to select a Technology Licensor
- November 2021
 - Awarded the Process Design Package (PDP) to KBR and signed a License Agreement with KBR.
- Spent \$1.6M to date

FEED Study Schedule



Technology Selection

Estimate & Schedule Development

Process Design Package

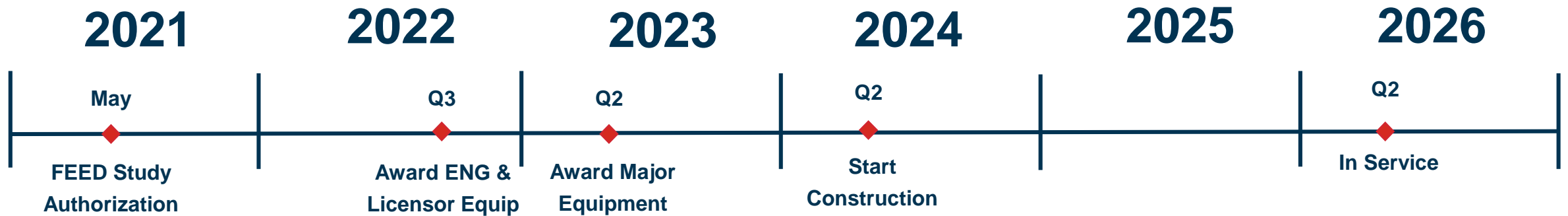
OSBL Design

FEED Report

Next Steps

- August 2022
 - Complete the FEED Study
- September/October/Fall 2022
 - Economic Analysis
 - Report findings of the FEED Study to the Board
 - Request partial/full project authorization
 - Award Detailed Engineering
 - Award Licensor Equipment

Preliminary Project Schedule



Engineering

Procurement

Construction

Off Ramps

- ~~FEED Study authorization (May 2021)~~
- Detailed Engineering & Licensor Equip Award (Sept. 2022)
- Major Equipment Award (Q2 2023)
- Construction Award (TBD)

Discussion