

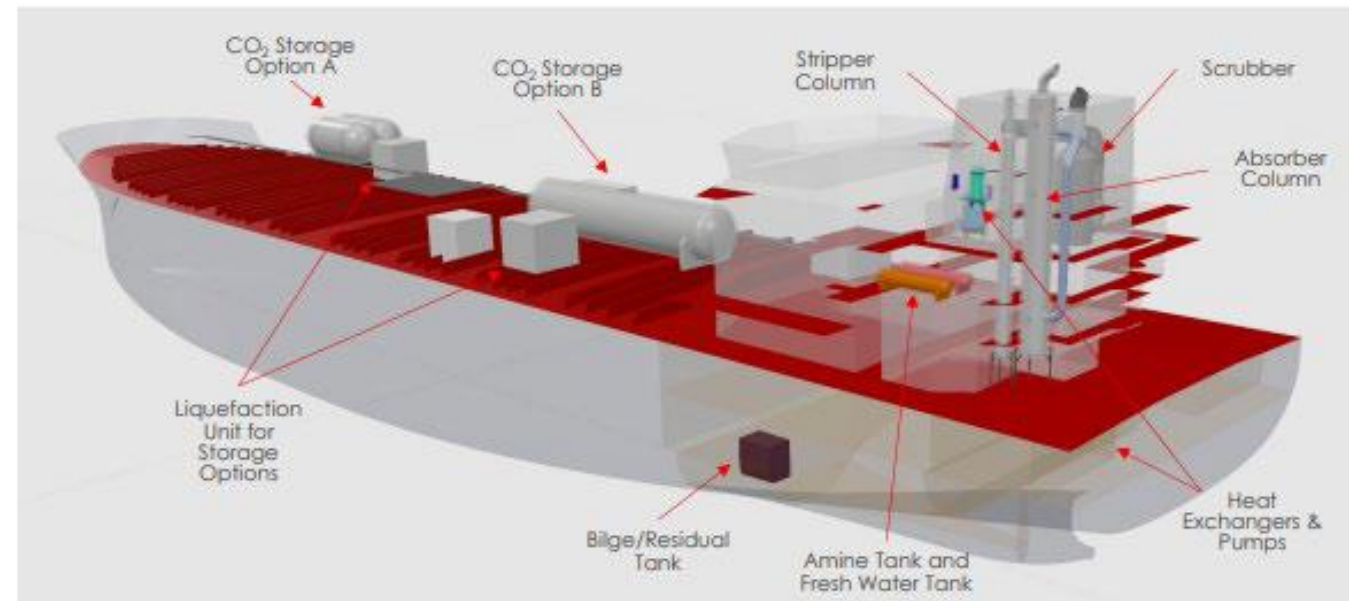
Mobile Sources

FY24 SBIR/STTR Phase I Release 2 Topic Area

Dylan Leary

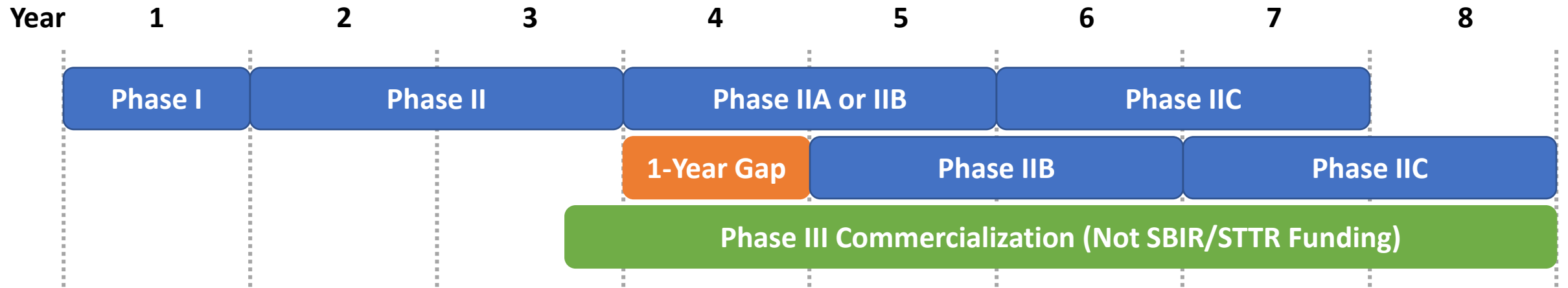
Point Source Carbon Capture Project Manager

Preliminary Installation Plan – Stena Impero



Carbon Capture for Mobile Sources

SBIR/STTR Phase Overview and Timeline



Phase I

- Feasibility studies
- Lab-scale experimentation
- \$200k/\$250k
- 6-12-month duration
- ~350 awards per year

Phase II

- Focus on prototype, demonstration, and commercialization
- \$1.1m/\$1.6m
- 2-year duration
- ~160 awards per year

Phase IIA/IIB

- For projects requiring additional R&D for commercialization
- Phase IIA – work within Phase II scope
- Phase IIB – work beyond Phase II scope
- \$1.1m
- 2-year duration
- ~30 awards per year

Phase IIC

- Pilot program which requires 1:1 matching funds
- \$1.1m
- 2-year duration

Carbon Capture for Mobile Sources

PSCC Program Phase 1 Schedule and Reporting Requirements



4-month Reporting

- All projects are required to provide a 3-month update at the end of the 4th month
- A virtual Teams call is required with the option to submit an RPPR

9-month Reporting

- Phase II applications will be due around the 9th month
- All projects must submit a formal report at the end of the 9th month
 - 12-month projects: 8-month RPPR submitted to PAMS
 - 9-month projects: final technical report submitted to OSTI (after FPM feedback)
- All projects must hold a virtual project update or closeout meeting around the 9th month

12-month Reporting

- All 12-month projects must submit their final technical report to OSTI (after FPM feedback)
- All 12-month projects are encouraged to hold a virtual closeout meeting

Carbon Capture for Mobile Sources

PSCC Program Regular Reporting Content Expectations

- All projects must conduct a conceptual design and feasibility study of a mobile carbon capture process. This design must include:
 - Process flow diagrams and description of the component technology including operating conditions
 - Heat and mass balances of the process including specifications of energy sources for CO₂ regeneration and offtake
 - Proposed scheme for CO₂ offtake from the mobile source including CO₂ purity and pressure requirements
 - Specifications of size and weight of the capture and onboard storage unit
 - An evaluation of the CO₂ capture rate and of the capture system's ability to perform in transient operating conditions (i.e., acceleration and deceleration)
- Additionally, all projects must conduct:
 - A technology gap analysis for identification of critical elements that need to be further developed and validated
 - A detailed life cycle analysis (LCA)
 - A techno-economic analysis (TEA)
- Projects may also conduct lab-scale experiments to support any required analyses

While no formal deliverables are required, all projects are expected to deliver the required content in any formal reports and presentations.