# ATTACHMENT A

# SUMMARY OF REQUIREMENTS

## 1. FACILITY INFORMATION

Facility Name: CarbonFrontier

Facility Contact: Randy Hoyle, Chief Carbon Solutions Officer
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Well Information:

| Well Number | County, State | Latitude | Longitude |
|---|---|---|---|
| CI1-64Z-27N | Kern County, CA | 35°33'9.4877"N | 119°48'26.3702"W |
| CI2-64Z-35N | Kern County, CA | 35°32'32.6713"N | 119°47'37.0682"W |
| CI3-64Z-35N | Kern County, CA | 35°32'11.6457"N | 119°47'7.5912"W |
| CI4-64Z-35N | Kern County, CA | 35°31'55.4154"N | 119°46'51.7864"W |
| 27R-27N | Kern County, CA | 35°33'2.4280"N | 119°48'28.6103"W |
| 55-26N | Kern County, CA | 35°32'43.2520"N | 119°47'32.7755"W |
| 64-35N | Kern County, CA | 35°31'44.3600"N | 119°46'44.9788"W |
| 9-1N | Kern County, CA | 35°31'31.6480"N | 119°46'37.0154"W |
| 64-27N | Kern County, CA | 35°32'38.0979"N | 119°47'54.6576"W |

**Version History**

| File Name | Version | Date | Description of Change |
|---|---|---|---|
| Attachment A – Aera CCS Summary of Requirements.pdf | 1 | January 19, 2023 | Original document |
| Attachment A – CarbonFrontier Summary of Requirements V2 04182024.pdf | 2 | April 18, 2024 | Revisions made based on reduced operating conditions to below 80% of fracture pressure |

## 2. INJECTION WELL OPERATING CONDITIONS

**Table 1** below includes the limitation or permitted values for well parameters or condition.

**Table 1: Injection Well Operating Conditions**

| Parameter/Condition | Limitation or Permitted Value | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **27R-27N** | **55-26N** | **64-35N** | **9-1N** | **64-27N** | **CI1-64Z-27N** | **CI2-64Z-35N** | **CI3-64Z-35N** | **CI4-64Z-35N** |
| Maximum Injection Pressure - Surface (psia) | 2,800 | 2,800 | 2,800 | 2,800 | 2,800 | 2,800 | 2,800 | 2,800 | 2,800 |
| Maximum Injection Pressure – Bottomhole (top of perforated interval) (psia) | 4,368 | 4,340 | 4,340 | 4,468 | 4,279 | 4,401 | 4,296 | 4,295 | 4,322 |
| Annulus Pressure-maximum* (psia) | 4,468 | 4,440 | 4,440 | 4,568 | 4,379 | 4,501 | 4,396 | 4,395 | 4,422 |
| Annulus Pressure/Tubing Differential (psi) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| Maximum $CO_2$ Injection Rate (tons/day) | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |

* variable, maintained at the largest of hydrostatic pressure (tubing bottom hole pressure + 100 psi)
psi: pounds per square inch
psia: pounds per square inch absolute

The maximum injection pressure, which serves to prevent confining-formation fracturing, was determined using the fracture gradient obtained from a leak off test conducted in the overlying Temblor Sands and extrapolated to the 64 Zone, then multiplied by 0.8. Additional information on the determination of the fracture gradient is detailed in **Section 2.5** of the **Application Narrative**. Proposed operational parameters are designed to operate below 80% fracture pressure of the injection or confining zones and pressure will be monitored continuously to comply with 40 CFR 146.88(a).

## 3. ROUTINE SHUTDOWN PROCEDURE

For injection shutdowns occurring under routine conditions (e.g., for well workovers), Aera will reduce $CO_2$ injection incrementally over a seven-day period. Injection rates will be reduced by 10% per day for the first four days and 20% per day during days five through seven. Procedures that address immediately shutting in the well are in the Emergency and Remedial Response Plan (**Attachment I**).

**Table 2: Class VI Injection Well Reporting Requirements**

| Activity | Reporting Requirements |
|---|---|
| $CO_2$ stream characterization | Semi-annually |
| Injection pressure, injection rate, injection volume, pressure on the annulus, and annulus fluid level | Semi-annually |
| Corrosion monitoring | Semi-annually |
| External MITs | Within 30 days of completion of test |
| Pressure fall-off testing | In the next semi-annual report |

Note: The testing and monitoring frequencies and methodologies are included in the Testing and Monitoring Plan (**Attachment E**).

**Table 3: Class VI Project Reporting Requirements**

| Activity | Reporting Requirements |
|---|---|
| Groundwater quality monitoring | Semi-annually |
| Plume and pressure front tracking | In the next semi-annual report |
| Monitoring well MITs | Within 30 days of completion of test |
| Microseismic monitoring | Semi-annually |
| Financial responsibility updates pursuant to H.2 and H.3(a) of this permit | Within 60 days of update |

Note: All testing and monitoring frequencies and methodologies are included in the Testing and Monitoring Plan (**Attachment E**).