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10. EMERGENCY AND REMEDIAL RESPONSE PLAN
40 CFR 146.94(a)

HEARTLAND GREENWAY STORAGE PROJECT

Facility Information

Facility name:	Heartland Greenway Storage Site (HGSS)
Facility operator:	Heartland Greenway Carbon Storage, LLC (HGCS)
Facility contact:	David Giles, President and COO
	2626 Cole Ave., Dallas, Texas, USA 75204
	Phone: (210) 880-6000; Email: dgiles@navco2.com
Well name/location:	Taylorville, Christian County, Illinois
	39°35'47.1"N, 89°16'12.4"W

Pursuant to 40 CFR 146.94(a), Heartland Greenway Carbon Storage, LLC (HGCS) has prepared an Emergency and Remedial Response Plan (ERRP) which describes actions that HGCS shall take to address movement of the injection fluid or formation fluid in a manner that may endanger an underground source of drinking water (USDW), public health, and safety of the environment during the construction, operation, or post-injection site care periods.

If HGCS obtains evidence that the injected CO_2 stream and/or associated pressure front may cause an endangerment to a USDW, public and/or the local environment, HGCS will perform the following actions:

1. Initiate shutdown plan for the injection well.
2. Take all steps reasonably necessary to identify and characterize any release.
3. Notify the permitting agency (UIC Program Director) of the emergency event within 24 hours.
4. Implement applicable portions of the approved ERRP.

Where the phrase "initiate shutdown plan" is used, the following protocol will be employed: HGCS will immediately cease injection. However, in some circumstances, HGCS will, in consultation with the UIC Program Director, determine whether gradual cessation of injection is appropriate.

10.1. Local Resources and Infrastructure

Resources in the vicinity of HGSS that may be affected as a result of an emergency event at the project site include:

- Shallow and deep USDW zones
- Rivers/lakes

- Farmland
- Nature Preserves
- Pre-Cambrian basement

Infrastructure in the vicinity of the HGSS that that may be affected as a result of an emergency at the project site include:

- Project infrastructure – CO_2 capture and compression systems (outside project area of review), CO_2 pipeline (buried), CO_2 injection wells, in-zone monitoring wells, above-zone monitoring wells, monitoring, and SCADA equipment
- Potable water wells
- Residential areas
- Commercial properties
- Recreational properties

Resources and infrastructure addressed in this plan include those encompassed in the 102 mi^2 project area of review (AoR) that was delineated using a combination of computer modeling using existing data as well as threshold pressure calculated recommended by the U.S. EPA. **Figure 10-1** and **Figure 10-2** are maps indicating infrastructure and natural resources that lie within the project AoR respectively.

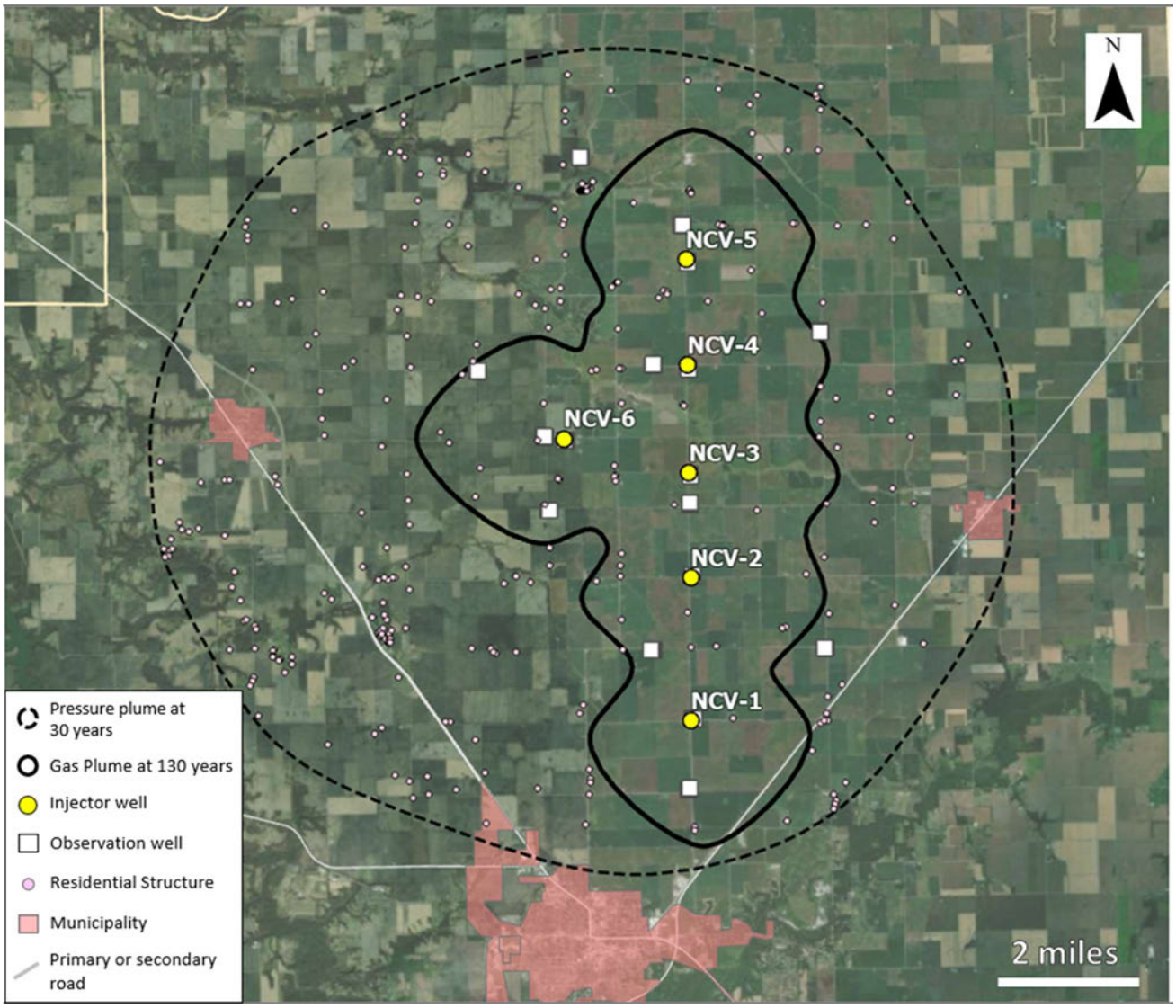

Figure 10-1. Map of Infrastructure in HGSS AoR (dotted line).

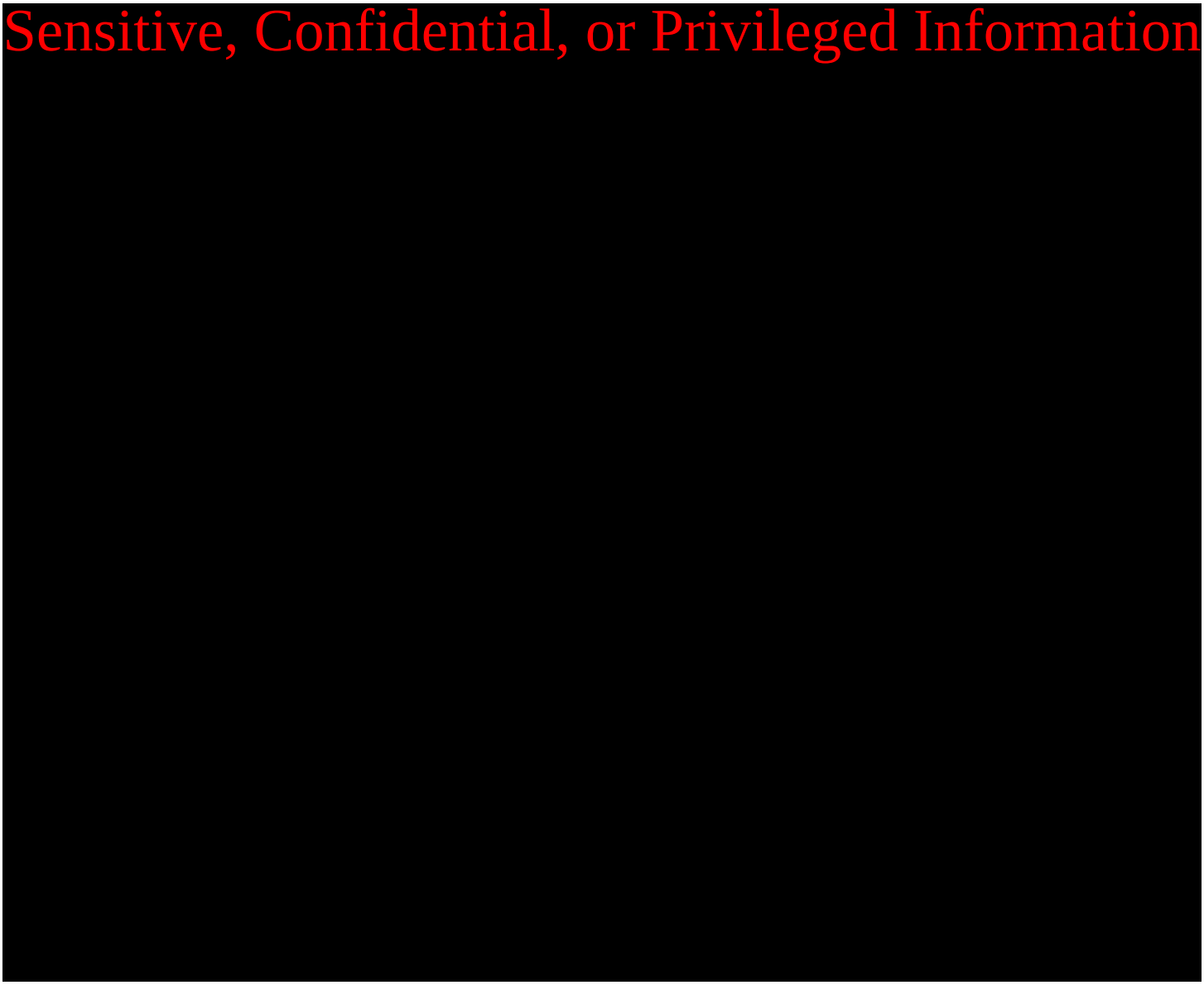

Figure 10-2. Map of Natural Resources and Water Wells in HGSS AoR (dotted line).

10.2. Potential Risk Scenarios

The following scenarios were assessed in relation to the HGSS to characterize emergencies that would require a remedial response:

- Injection or monitoring (verification) well integrity failure;
- Injection well monitoring equipment failure (e.g., shut-off valve or pressure gauge, etc.);
- A natural disaster (e.g., earthquake, tornado, lightning strike);
- Fluid (e.g. brine) leakage to a USDW;
- CO_2 leakage to USDW or land surface; or
- Induced seismic event.

Specific situations and project risk events that require planning, characterization, and mitigation are detailed in a risk matrix presented below.

10.2.1. Risk Assessment Matrix

HGCS conducted a preliminary site-based risk assessment was to capture and address key project risks that impact the safety of CO_2 injection operations and storage security. Risks assessed included capture, transport, injection, and monitoring risks that directly or indirectly relate to the risk of CO_2 or brine leakage and induced seismicity, as well as health and safety of project stakeholders. **Table 10-1** through **Table 10-4** illustrate the standards and ratings used for assessing and ranking risks.

Table 10-1. Risk Likelihood Matrix.

Risk Factor for Probability		Description
1	Improbable	<1% chance of occurring*
2	Unlikely	1-5% chance of occurring*
3	Possible	> 5% chance of occurring*
*During the life of the project or 100 years after project closure, whichever is shorter		

Table 10-2. Risk Consequence Matrix.

It is important to note that for an emergency event to be classified as insubstantial, substantial, or catastrophic, at least one of the criteria outlined in **Table 10-2** needs to be met.

Table 10-3. Risk Consequence Matrix (Risk ratings are shown in parentheses).

Probability of occurrence	*Insubstantial*[2]	*Substantial*[2]	*Catastrophic*[2]
>5%[1]	Medium risk (3)	High risk (6)	High risk (9)
1-5%[1]	Low risk (2)	Medium risk (4)	High risk (6)
<1%[1]	Low risk (1)	Medium risk (2)	Medium risk (3)

[1]Probability of occurrence over injection and 100 years of post-injection period

[2]Severity of potential consequences, further elaborated in Table 2

Response actions will depend on the severity of the event(s) triggering an emergency response. "Emergency events" are categorized as shown in **Table 10-4**.

Table 10-4. Degrees of Risk for Emergency Events.

Emergency Condition	Definition
Major emergency (high risk)	Event poses immediate substantial risk to human health, resources, or infrastructure. Emergency actions involving local authorities (evacuation or isolation of areas) should be initiated.
Serious emergency (medium risk)	Event poses potential serious (or significant) near term risk to human health, resources, or infrastructure if conditions worsen or no response actions taken.
Minor emergency (low risk)	Event poses no immediate risk to human health, resources, or infrastructure.

Table 10-5 shows a risk assessment matrix (RAM) that includes pertinent project risks that may result in emergencies requiring careful planning prior to occurrence and prompt mitigation strategies post-occurrence. Risks were ranked prior to and post-mitigation to fully evaluate the effectiveness of mitigation strategies and ensure all project risks that were rated medium and higher were adequately addressed.

Table 10-5. The HGSS Risk Assessment Matrix (RAM) listing risks relevant to risk scenarios in the ERRP.

Category	Risk	Risk Probability (1-3)	Risk Severity (1-3)	Risk Rating (1-9)	Risk Prevention	Risk Mitigation	Post-Mitigation Probability (1-3)	Post-Mitigation Severity (1-3)	Post-Mitigation Rating (1-9)
Capture and Transmission	Cyber security risk	3	3	9	Security procedures incorporated to reduce likelihood; isolated systems to keep access into one system allowing access to another; training to aid workers to identify threats; redundant systems to reduce any impacts	Emergency procedures; remote operations; use backup systems	1	2	2
Operations - Injection/Storage	Loss of well control during workover leading to CO_2 reaching the atmosphere	2	3	6	Plan for having the right quality and quantity of kill fluid; emergency response plan; HSE planning; surface CO_2 monitoring kits; include a BOP during workover	Pump kill fluid using a kill string; notify regulator; isolate the spill area; address leak and workover problems; stakeholder outreach	1	2	2
Operations - Injection/Storage	Increased reservoir pressure creates induced seismic event causing injection to be halted	2	3	6	Design injection away from the basement; design injection pressure to stay below 80% fracture pressure; rigorous site characterization	Trigger shutoff; report to regulator; reduce flow rates; drill and permit additional wells; stakeholder outreach	1	3	3

Category	Risk	Risk Probability (1-3)	Risk Severity (1-3)	Risk Rating (1-9)	Risk Prevention	Risk Mitigation	Post-Mitigation Probability (1-3)	Post-Mitigation Severity (1-3)	Post-Mitigation Rating (1-9)
Operations - Injection/Storage	Injection pressure above caprock hydraulic fracture pressure	2	3	6	Site characterization to determine fracture gradient; design injection pressure to stay below fracture pressure; program RTU for injection pressure below frac pressure; pressure monitoring; filter to stop pore plugging	Shutdown, notify regulator; investigate pressure induced effects; redesign operating conditions for affected well(s)	1	2	2
Existing and New Wellbores	CO_2 or brine leaks through a legacy well impacting a USDW or reaching the atmosphere	1	3	3	Periodic AoR surveillance for new/existing wellbores and their interaction with CO_2 injected at HGSS	Above zone and USDW monitoring to identify leaks if they occur; stop injection, notify regulator; implement corrective action	1	2	2
Existing and New Wellbores	CO_2 leaks through a fault or fracture impacting a USDW or reaching the atmosphere	1	3	3	Permit the entire Mt. Simon as a storage zone, upper Mt. Simon could serve as a secondary CO_2 storage/monitoring zone if needed	Site characterization to map faults/fractures, monitoring to identify early; stop injection, notify regulator and implement corrective action	1	2	2
Existing and New Wellbores	Loss of mechanical integrity leads to CO_2 leaking through a project well impacting a USDW or reaching the atmosphere	1	3	3	Permit the entire MT Simon (upper Mt. Simon could be a secondary CO_2 zone); monitor above-zone for leakage, MITs for well integrity; fiber/DTS along well to detect temperature changes.	Detect leak before USDW; stop injection, notify regulator, implement corrective action	1	2	2
Existing and New Wellbores	Unreported/unknown legacy well location.	1	3	3	Periodic AoR surveillance for new/existing wellbores and their interaction with CO_2 injected at HGSS	Above zone and USDW monitoring to identify leaks if they occur; stop injection, notify regulator, implement corrective action	1	2	2

Category	Risk	Risk Probability (1-3)	Risk Severity (1-3)	Risk Rating (1-9)	Risk Prevention	Risk Mitigation	Post-Mitigation Probability (1-3)	Post-Mitigation Severity (1-3)	Post-Mitigation Rating (1-9)
Operations - Injection/Storage	Vehicles/third-parties damage wellhead	1	3	3	Establish SOPs; plan for emergency response; install bollards to prevent third party damage; establish a fence/perimeter around wellsite	Trigger shutoff, report to regulator; evacuate the site and establish a safety perimeter; engage safety contractor; kill the well; replace wellhead	1	2	2
Operations - Injection/Storage	Loss of well control during injection leading to blow out	1	3	3	Establish SOPs; plan for emergency response; check valves at the surface; overdesign for pressurized components; have a safety contractor under contract; extend kill pipe to a safe surface zone; RTU at the wellhead to have pressure monitoring	Trigger shutoff; report to regulator; evacuate the site and establish a safety perimeter; engage safety contractor; kill the well; replace wellhead	1	2	2
Capture and Transmission	Flooding affects pipeline and injection service	1	3	3	HDD for river crossings; no lakes or water bodies; pumping stations and wells outside of flood plains	Flood mitigation	1	3	3
Legal and Logistical	Landowner outside the storage project claims CO_2 leak	3	1	3	Continuous public outreach; activate ERRP; stream characterization for CO_2 isotopes and related constituent concentrations to assess project interaction with landowner's pore space.	Prompt and transparent response; use background data to determine the veracity of the claim.	3	1	3
Operations - Injection/Storage	Climate Risk (Fire, Wind, Flood, Ground Subsidence) causes interruptions to project (monitoring/injection)	3	1	3	Avoid flood plains; plan for adequate road access; battery backup; capture emergencies and other natural disasters in ERRP	Evacuate site; remotely control wells; trigger emergency shutdown if needed	3	1	3

Category	Risk	Risk Probability (1-3)	Risk Severity (1-3)	Risk Rating (1-9)	Risk Prevention	Risk Mitigation	Post-Mitigation Probability (1-3)	Post-Mitigation Severity (1-3)	Post-Mitigation Rating (1-9)
Capture and Transmission Risks	Pipeline shutdown	3	1	3	Planned shutdown operations; unplanned shut down SOPs	Manual operation to correct unplanned shutdown	2	1	2
Monitoring	Theft/damage of surface equipment (SCADA) results inability to collect monitoring data	3	1	3	Protect wellsite; fencing; backup monitoring equipment; redundancy in monitoring	Assess and repair damage; utilize backups if needed; estimate missing data	3	1	3

10.3. Emergency Identification and Response Actions

Steps to identify and characterize the event will be dependent on the specific issue identified, and the severity of the event. The potential risk scenarios are detailed below.

10.3.1. Well Integrity Failure

Integrity loss of the injection well and/or verification well may endanger USDWs. Integrity loss may have occurred if the following events occur:

- Automatic shutdown devices are activated:
    - Wellhead pressure exceeds the specified shutdown pressure specified in the permit.
    - Annulus pressure indicates a loss of external or internal well containment.
    - Pursuant to 40 CFR 146.91(c)(3), HGCS will notify the UIC Program Director within 24 hours of any triggering of a shut-off system (i.e., down-hole or at the service).
    - Mechanical integrity test results identify a loss of mechanical integrity.

Response actions:

- Notify the UIC Program Director within 24 hours of the emergency event per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
    - Initiate shutdown plan.
        - Shut in well by closing flow control valve then close isolation valve.
        - Limit wellhead access to authorized safety personnel only.
        - Communicate with HGCS personnel and local authorities to initiate evacuation procedures.
        - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
        - If contamination is detected, identify, and implement appropriate well and environmental remedial actions to counteract contamination (in consultation with the UIC Program Director).
- For a Minor emergency:
    - Conduct assessment to determine whether there has been a loss of mechanical integrity.

    - If there has been a loss of mechanical integrity, initiate shutdown plan.
        - Shut in well closing flow control valve then close isolation valve.
        - Determine cause and remediate issue.
        - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure.
        - Identify and, if necessary, implement appropriate well and environmental remedial actions (in consultation with the UIC Program Director).
    - Remediate issues.
    - Restart injection.

10.3.2. Injection Well Monitoring Equipment Failure

The failure of monitoring equipment for wellhead pressure, temperature, and/or annulus pressure may indicate a problem with the injection well that could endanger USDWs.

Response actions:

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
    - Initiate shutdown plan.
        - Shut in well by closing flow control valve then close isolation valve.
        - Limited access to wellhead to authorized safety personnel only.
        - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure; identify and implement appropriate remedial actions to repair damage to the well (in consultation with the UIC Program Director).
        - Fix malfunctioning equipment.
        - Identify and, if necessary, implement appropriate environmental remedial actions (in consultation with the UIC Program Director).
    - Remediate issues.
    - Restart injection.
- For a Minor emergency:
    - Conduct assessment to determine whether there has been a loss of mechanical integrity.
    - If there has been a loss of mechanical integrity, initiate shutdown plan.
        - Shut in well closing flow control valve then close isolation valve.
        - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure.

        - Identify and, if necessary, implement appropriate remedial actions (in consultation with the UIC Program Director).
        - Fix malfunctioning equipment.
        - Identify and, if necessary, implement appropriate environmental remedial actions (in consultation with the UIC Program Director).
    - Remediate issues.
    - Restart injections.

10.3.3. Natural Disaster

Well problems (integrity loss, leakage, or malfunction) may arise as a result of a natural disaster affecting the normal operation of the injection well. An earthquake may disturb surface and/or subsurface facilities; and weather-related disasters (e.g., tornado or lightning strike) may affect surface facilities.

If a natural disaster occurs that affects normal operation of the injection well, perform the following:

Response actions:

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious emergency:
    - Initiate shutdown plan.
        - Shut in well by closing flow control valve then close isolation valve.
        - Isolate supply pipeline, if required.
        - Vent CO_2 from surface facilities, if required.
        - Limit access to wellhead to authorized personnel only.
        - Communicate with HGCS personnel and local authorities to initiate evacuation plans, as necessary.
        - Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any damage.
        - Determine if any leaks to ground water or surface water occurred.
        - If contamination or endangerment is detected, identify, and implement appropriate environmental remedial actions (in consultation with the UIC Program Director).
    - Remediate issues.
    - Restart injection.
- For a Minor emergency:
    - Conduct assessment to determine whether there has been a loss of mechanical integrity.

- If there has been a loss of mechanical integrity, initiate shutdown plan.
    - Shut in well by closing flow control valve then close isolation valve.
    - Vent CO_2 from surface facilities if required.
    - Monitor well pressure, temperature, and annulus pressure to verify integrity loss and determine the cause and extent of failure
    - Identify and, if necessary, implement appropriate remedial actions (in consultation with the UIC Program Director).
    - Identify and, if necessary, implement appropriate environmental remedial actions (in consultation with the UIC Program Director).
- Remediate issues.
- Restart injection.

10.3.4. Potential Brine or CO_2 Leakage to USDW

Elevated concentrations of indicator parameter(s) in groundwater sample(s) or other evidence of fluid (brine) or CO_2 leakage into a USDW.

Response actions:

- Immediately notify the HGCS site supervisor or designee.
- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- Project safety personnel will determine the severity of the event, based on the information available, within 24 hours of notification.
- For all emergencies (Major, Serious, or Minor):
    - Initiate shutdown plan.
        - Shut in well by closing flow control valve then close isolation valve.
    - Collect a confirmation sample(s) of groundwater and analyze for indicator parameters. (Potential indictors are listed in the *Testing and Monitoring Plan*).
    - If the presence of indicator parameters is confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to:
        - Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and
        - Remediate unacceptable impacts to the affected USDW.
        - Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards.
    - Proceed with efforts to remediate USDW to mitigate any unsafe conditions including and not limited to installing an extraction system to remove brine or CO_2 from unintended zones, and "pump and treat" to aerate CO_2-laden water.
        - Continue groundwater remediation and monitoring on a frequent basis (frequency to be determined by HGCS and the UIC Program Director) until unacceptable adverse USDW impact has been fully addressed.

- Remediate issues.
- Restart injections.

10.3.5. Induced Seismic Event

Based on the project operating conditions, it is highly unlikely that injection operations would ever induce a seismic event outside the area of review. Therefore, this portion of the response plan is developed for any seismic event with an epicenter within a 5.7-mile radius from the injection well. To monitor the area for seismicity, HGCS will implement a network of observation and monitoring wells that will gather information on seismic response to CO_2 injection. Fiber-based downhole techniques such as Distributed Acoustic Sensing and Vertical Seismic Profiling (DAS-VSP) will be deployed to gather real time monitoring data on induced seismicity. Additional details on the monitoring locations and measurement methods can be found in the *Testing and Monitoring Plan*.

Based on the periodic analysis of the monitoring data, observed level of seismic activity, and local reporting of felt events, the site will be assigned an operating state. The operating state is determined using threshold criteria which correspond to the site's potential risk and level of seismic activity. The operating state provides operating personnel information about the potential risk of further seismic activity and guides them through a series of response actions.

The seismic monitoring system structure is presented in **Table 10-6**. The table corresponds each level of operating state with the threshold conditions and operational response actions.

Table 10-6. Seismic monitoring system, for seismic events > M1.0 with an epicenter within the project AoR.

Operating State	Threshold Condition[1,2]	Response Action[3]
Green	Seismic events less than or equal to M1.5	1. Continue normal operation within permitted levels.
Yellow	Five (5) or more seismic events within a 30-day period having a magnitude greater than M1.5 but less than or equal to M2.0	1. Continue normal operation within permitted levels. 2. Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well.
Orange	Seismic event greater than M1.5 and local observation or felt report	1. Continue normal operation within permitted levels. 2. Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well. 3. Review seismic and operational data. 4. Report findings to the UIC Program Director and issue corrective actions.
	Seismic event greater than M2.0 and no felt report	

[1] Specified magnitudes refer to magnitudes determined by local ISGS or USGS seismic monitoring stations or reported by the USGS National Earthquake Information Center using the national seismic network.

[2] "Felt report" and "local observation and report" refer to events confirmed by local reports of felt ground motion or reported on the USGS "Did You Feel It?" reporting system.

[3] Reporting findings to the UIC Program Director and issuing corrective action will occur within 25 business days (five weeks) of change in operating state.

Operating State	Threshold Condition[1,2]	Response Action[3]
Magenta	Seismic event greater than M2.0 and local observation or report	1. Initiate rate reduction plan. 2. Within 24 hours of the incident, notify the UIC Program Director, of the operating status of the well. 3. Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary. *[Note to user: blue text indicates suggestions, please delete text when complete] (Insert additional appropriate steps.)* 4. Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director). 5. Determine if leaks to ground water or surface water occurred. 6. If USDW contamination is detected: a. Notify the UIC Program Director within 24 hours of the determination. b. Initiate shutdown plan. c. Shut in well (close flow valve). d. Vent CO_2 from surface facilities. e. Collect a confirmation sample(s) of groundwater and analyze for indicator parameters. (Potential indictors are listed in Table x of the Testing and Monitoring Plan.) f. If the presence of indicator parameters is confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to: i. Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and ii. Remediate unacceptable impacts to the affected USDW. g. Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards. h. Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e.g., install system to intercept/extract brine or CO_2 or "pump and treat" to aerate CO_2-laden water). 7. Review seismic and operational data. 8. Report findings to the UIC Program Director and issue corrective actions.

Operating State	Threshold Condition[1,2]	Response Action[3]
Red	Seismic event greater than M2.0, and local observation or report, and local report and confirmation of damage[4] Seismic event >M3.5	1. Initiate shutdown plan. 2. Within 24 hours of the incident, notify the UIC Program Director of the operating status of the well. 3. Communicate with facility personnel and local authorities to initiate evacuation plans, as necessary. 4. Monitor well pressure, temperature, and annulus pressure to verify well status and determine the cause and extent of any failure; identify and implement appropriate remedial actions (in consultation with the UIC Program Director). 5. Determine if leaks to ground water or surface water occurred. 6. If USDW contamination is detected: a. Notify the UIC Program Director within 24 hours of the determination. b. Initiate shutdown plan. c. Shut in well (close flow valve). d. Vent CO_2 from surface facilities. e. Collect a confirmation sample(s) of groundwater and analyze for indicator parameters. (Potential indictors are listed in Table x of the Testing and Monitoring Plan.) f. If the presence of indicator parameters is confirmed, develop (in consultation with the UIC Program Director) a case-specific work plan to: i. Install additional groundwater monitoring points near the affected groundwater well(s) to delineate the extent of impact; and ii. Remediate unacceptable impacts to the affected USDW. g. Arrange for an alternate potable water supply, if the USDW was being utilized and has been caused to exceed drinking water standards. h. Proceed with efforts to remediate USDW to mitigate any unsafe conditions (e.g., install system to intercept/extract brine or CO_2 or "pump and treat" to aerate CO_2-laden water). 7. Review seismic and operational data. 8. Report findings to the UIC Program Director and issue corrective actions.

[4] Onset of damage is defined as cosmetic damage to structures, such as bricks dislodged from chimneys and parapet walls, broken windows, and fallen objects from walls, shelves, and cabinets.

10.4. Response Personnel and Equipment

Site personnel, project personnel, and local authorities will be relied upon to implement this ERRP. A site-specific emergency contact list will be developed and maintained during the life of the project. HGCS will provide the current site-specific emergency contact list to the UIC Program Director. **Table 10-7** lists the contact information for key local and state authorities that will be contacted during emergencies at HGSS.

Table 10-7. Contact Information for Key Local, State, and Other Authorities.

Agency	Phone Number
Taylorville Police Department	(217) 824-2211
Taylorville Fire Department	(217) 824-2295
Taylorville Memorial Hospital	(217) 707-5555
State emergency management agency (24-hour)	(217) 782-7860
Environmental services contractor	Yet to be finalized
UIC Program Director (Andrew Greenhagen, Region 5)	(312) 353-7648
EPA National Response Center (24 hours)	800-424-8802
State geological survey	(217) 333-4747

Equipment needed in the event of an emergency and remedial response will vary, depending on the triggering emergency event. Response actions (cessation of injection, well shut-in, and evacuation) will generally not require specialized equipment to implement. Where specialized equipment (such as a drilling rig or logging equipment) is required, HGCS shall be responsible for its procurement.

10.5. Emergency Communications Plan

HGCS will communicate to the public about any event that requires an emergency response to ensure that the public understands what happened and whether or not there are any environmental or safety implications. The amount of information, timing, and communications method(s) will be appropriate to the event, its severity, whether any impacts to drinking water or other environmental resources occurred, any impacts to the surrounding community, and their awareness of the event.

HGCS will describe what happened, any impacts to the environment or other local resources, how the event was investigated, what responses were taken, and the status of the response. For responses that occur over the long-term (e.g., ongoing cleanups), HGCS will provide periodic updates on the progress of the response action(s).

HGCS will also communicate with entities who may need to be informed about or act in response to the event, including local water systems, CO_2 source(s) and pipeline operators, landowners, and Regional Response Teams (as part of the National Response Team).

10.6. Plan Review

Pursuant to Section C.6(d)(1) of the CCS Protocol, this ERRP shall be reviewed:

- At least once every five (5) years following its approval by the permitting agency; and
- Within one (1) year of an area of review (AoR) reevaluation;
- Within the timeframe indicated by the UIC Program Director following any significant changes to the injection process or the injection facility, or an emergency event; or
- As required by the UIC Program Director.

If the review indicates that no amendments to the ERRP are necessary, HGCS will provide the permitting agency with the documentation supporting the "no amendment necessary" determination.

If the review indicates that amendments to the ERRP are necessary, amendments shall be made and submitted to the permitting agency within two months following an event that initiates the ERRP review procedure.

10.7. Staff Training and Exercise Procedures

The CO_2 infrastructure and injection system will be operated as part of HGSS. Plans for site-specific training, health and safety, and emergency response will be developed along with operating and maintenance (O&M) documents for HGSS. At this time, much of the design has yet to be completed and therefore these documents have not been created. Note that complete documents will be submitted to the UIC Program Director along with a well completion report and revised geologic report/AoR following completion of the first injection well and following the decision to continue with the injection phase of the project.

Periodic training plan components shall include:

- Developing O&M documents;
- Identifying staff who will be operating the CO_2 injection system;
- Location and inventory of response equipment; and
- Notification and contact information.