ATTACHMENT G: EMERGENCY AND REMEDIAL RESPONSE PLAN
40 CFR 146.94(a)

DONALDSONVILLE SITE

Facility name:	Ciel CIEL NO.1
Facility contact:	Emily Larkin – Senior Environmental and Regulatory Manger BKVerde Field Office 4800 Blue Mound Rd, Fort Worth, TX 76106 Ph: 940-394-2000; email: emilylarkin@bkvcorp.com A site-specific list of facility contacts will be developed and maintained during the life of the project. The current list of facility contacts can be found in Table 1.
Well location:	Donaldsonville, Ascension, Louisiana NAD 1927 (Louisiana South Zone) X: 2,114,245.33′; Y: 511,857.41′

On behalf of BKVerde, LLC (BKVerde), this plan has been prepared to meet the requirements of 40 CFR 146.94. This Emergency and Remedial Response Plan (ERRP) describes actions the permittee (BKVerde) will take at the Ciel facility in the unlikely event of an emergency that could endanger any underground source of drinking water (USDW) within the project Area of Review (AoR) during construction, operation, or post-injection site care. Such events may include unplanned CO2 release or detection of unexpected movement of CO_2 or associated fluids in or from the injection zone.

Location of the Plan

A copy of this plan will be maintained at the field office closest to the facilities or wells described in this plan that is normally attended 4 or more hours a day and at the operating companies, BKVerde's Field office at:

4800 Blue Mound Rd, Fort Worth, TX 76106

A dedicated field office will be located nearer to the planned Class VI Injection Well (Ciel No.1) at the Ciel facility prior to construction and injection operations.

This emergency and remedial response plan (ERRP) describes actions that the owner-operator shall take to address movement of the injection fluid or formation fluid in a manner that may endanger an USDW during the operation or post-injection site care periods.

If operator obtains evidence that the injected CO_2 stream and/or associated pressure front may cause an endangerment to a USDW, operator must perform the following actions:

1. Initiate shutdown plan for the injection well.

2. Take all steps reasonably necessary to identify any release.

3. Notify the permitting agency (Underground Injection Control Louisiana) 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: Operator will immediately cease injection. However, in some circumstances, operator will, in consultation with the UIC Program Director, determine whether gradual cessation of injection is appropriate.

Local Resources and Infrastructure

Resources in the vicinity of the Ciel facility that may be affected because of an emergency event at the project site include USDWs, potable water wells, nearby oil and gas wells, and the Mississippi River. Figure 1 shows the project site and the proposed well.

A map of the local area with oil and gas wells is provided as Appendix 1 and a map of the water wells is provided in Appendix 2 at the end of this plan. Oil, gas, and water well lists are also provided in Appendix 3 and Appendix 4, respectively, for wells located within 2 miles of the proposed Class VI Ciel No.1 well as depicted in Appendix 1 and Appendix 2. There are no Class I wells located within a 2-mile radius of the proposed Ciel No. 1 location.

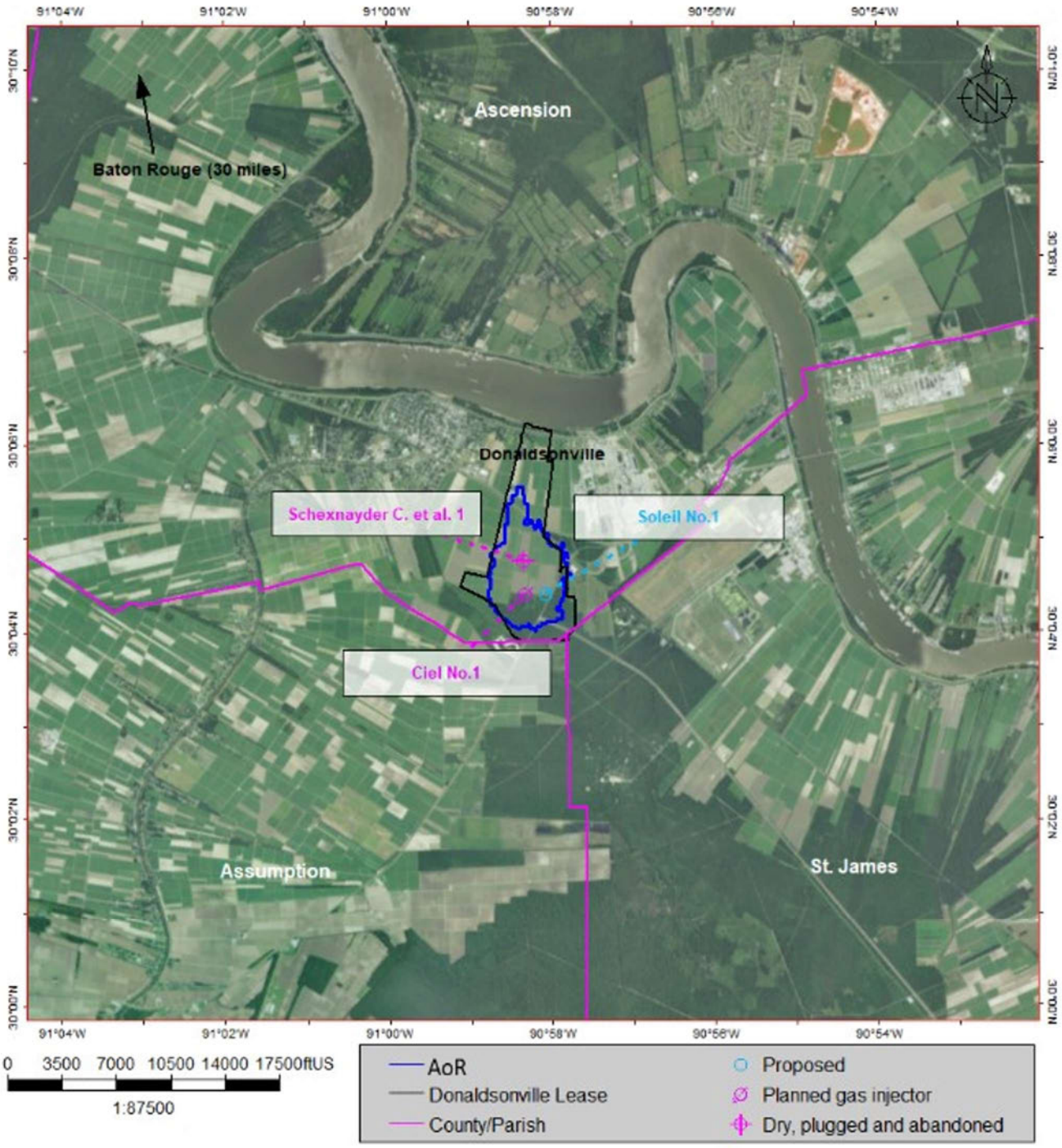


Figure 1. Map of the Donaldsonville site, showing the proposed well, Ciel No.1.

Potential Risk Scenarios

The following events related to this project could potentially result in an emergency response:

- Injection or monitoring (verification) well integrity failure
- Injection well monitoring equipment failure (e.g., shut-off valve or pressure gauge, etc.)
- Brine or CO_2 leakage to USDW or land surface
- A natural disaster (e.g., earthquake, tornado, lightning strike, hurricane)
- Injected stream (CO_2) communication with existing oil, gas, or water well.
- Induced seismic event.

Response actions will depend on the severity of the event(s) triggering an emergency response. "Emergency events" are categorized as shown in Table 1.

Table 1. Degrees of risk for emergency events.

Emergency Severity	Definition
Major emergency	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	Event poses potential serious (or significant) near term risk to human health, resources, or infrastructure. Monitor and notify local authorities.
Minor emergency	Event poses no immediate risk to human health, resources, or infrastructure.

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.

Well Blowout

During the drilling phase of the injection and monitor wells, an influx of formation fluid could enter the wellbore and cause a release of saline water. Due to monitoring and reporting regulatory requirements in the State of Louisiana, public database information regarding nearby historical drilling data is available. This information has been utilized to develop the drilling

prognosis for each well. The formations encountered will be normally pressured and composed of saline water.

Avoidance measures: Carefully develop a drilling prognosis specific to each well that incorporates publicly available historical well information and private records from the nearby C. Schexnayder etal. No. 1 (API 170052026500) well. This includes information such as offset well pore pressures, mud weights, cementing details, and wellbore construction as installed.

Response actions:

- Stop drilling. Shut-down mud pumps and check for flow.
- Shut well in with the annular preventer.
- Record shut-in drill pipe pressure and shut-in casing pressure.
- Notify Drilling Engineer.
- Circulate kill weight fluid to stabilize well.
- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- The onsite company man will make an initial assessment of the situation and determine which other project personnel to notify.
- Supervisor will determine the severity of the event, based on the information available, within 24 hours of notification.
- For a Major or Serious Emergency:
    - Stop drilling and initiate well control plan.
    - Kill well and shut in well (close flow valve).
    - Communicate with project team personnel, National Response Center, and local authorities to initiate evacuation plans, as necessary.
    - Monitor well pressures, temperature, and mud pit level gains or losses 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 remedial actions (in consultation with the UIC Program Director).
- For a Minor Emergency:

- Conduct an assessment to determine whether there has been a loss of pressure control on the wellbore.
- If there has been a loss of pressure control, initiate well control plan.
- Shut in well (close flow 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).

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:

- Automated shutdown devices are activated.
  - Wellhead pressure exceeds the shutdown pressure specified in the permit.
  - Annulus pressure indicates a loss of external or internal well containment.
- Mechanical integrity test results identify a loss of mechanical integrity.

Avoidance measures: Care in well construction particularly with respect to cement placement including use of casing centralizers and cementing stage tools.

Response actions:

- The facility foreman will make an initial assessment of the situation and determine which other project personnel to notify.
- Project contacts will determine the severity of the event, based on the information available, within 24 hours of notification.
- When required, notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- For a Major or Serious Emergency:
  - Initiate shutdown plan.
  - Shut in well (close flow valve).
  - Vent CO_2 from surface facilities.
  - Limit access to wellhead to authorized personnel only.
  - Communicate with project team personnel and local authorities to initiate evacuation plans, as necessary.
  - 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 remedial actions (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 (close flow valve).
  - Vent CO_2 from surface facilities.
  - Reset automatic shutdown devices.
  - 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).

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.

Avoidance measures: Routine maintenance and inspection of applicable equipment to maintain safe and working equipment.

Response actions:

- The facility foreman will make an initial assessment of the situation and determine which other project personnel to notify.
- Project contacts will determine the severity of the event, based on the information available, within 24 hours of notification.
- When required, notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- For a Major or Serious Emergency:
  - Initiate shutdown plan.
  - Shut in well (close flow valve).
  - Vent CO_2 from surface facilities.
  - Limit access to wellhead to authorized personnel only.
  - Communicate with project team personnel and local authorities to initiate evacuation plans, as necessary.
  - 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 remedial actions (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 (close flow valve).
  - Vent CO_2 from surface facilities.
  - Reset automatic shutdown devices.
  - 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).

Potential Brine or CO_2 Leakage to USDW or the Surface

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

Avoidance measures: The entire CO_2 injection project is focused on preventing the escape of CO_2 while disposing of CO2. Incorporate gas cleaning processes to remove at least 95% of contaminants, including mercury, prior to injection. Trace contaminants that might be entrained in CO_2 leaking into USDWs will pose inconsequential risk to the water quality.

Leakage can be detected through USDW aquifer monitoring around well site during regular groundwater sampling.

Response actions:

- The facility foreman will make an initial assessment of the situation and determine which other project personnel to notify.
- Project contacts will determine the severity of the event, based on the information available, within 24 hours of notification.
- When required, notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- For all emergencies (Major, Serious, and Minor):
  - Initiate shutdown plan.
  - Shut in well (close flow valve).
  - Vent CO_2 from surface facilities.

- Collect a confirmation sample(s) of groundwater and analyze for indicator parameters.
- 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 impacted groundwater well(s) to delineate the extent of impact; and remediate unacceptable impacts to the impacted 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 (e.g., install system to intercept/extract brine or CO_2 or "pump and treat" to aerate CO_2-laden water).
- Continue groundwater remediation and monitoring on a frequent basis (frequency to be determined by project team and the UIC Program Director) until unacceptable adverse USDW impact has been fully addressed.

Natural Disaster

Well problems (integrity loss, leakage, or malfunction) may arise because of a natural disaster impacting the normal operation of the injection well. Weather-related disasters due to hurricane conditions, tornados, flooding, and lightning strikes can affect wellbore functionality and integrity.

Avoidance measures: Routinely monitor local weather stations for upcoming severe weather that could potentially affect normal operations at the facility. Shut in the well when applicable.

Response actions:

- The facility foreman will make an initial assessment of the situation and determine which other project personnel to notify.
- Project contacts will determine the severity of the event, based on the information available, within 24 hours of notification.
- When required, notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- For a Major or Serious Emergency:
  - Initiate shutdown plan.
  - Shut in well (close flow valve).
  - Vent CO_2 from surface facilities.
  - Limit access to wellhead to authorized personnel only.
  - Communicate with project team personnel, National Response Center, and local authorities to initiate evacuation plans, as necessary.

  - 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 remedial actions (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 (close flow valve).
  - Vent CO_2 from surface facilities.
  - Reset automatic shutdown devices.
  - 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).

Injected Stream Communication with Existing Oil, Gas, or Water Wells

If the CO_2 plume extends beyond the expected range and encounters other existing wells, unwanted communication is possible. This could be detected through aquifer monitoring practices, well monitoring equipment alerts, or monitoring of wells controlled by neighboring operations.

Avoidance measures: Routinely monitor injection well pressures for abnormal changes where communication might have occurred.

Response actions:

- The facility foreman will make an initial assessment of the situation and determine which other project personnel to notify.
- Project contacts will determine the severity of the event, based on the information available, within 24 hours of notification.
- When required, notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- For a Major or Serious Emergency:
  - Initiate shutdown plan.
  - Shut in well (close flow valve).

  - Vent CO_2 from surface facilities.
  - Limit access to wellhead to authorized personnel only.
  - Communicate with project team personnel and local authorities to initiate evacuation plans, as necessary.
  - 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 remedial actions (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 (close flow valve).
  - Vent CO_2 from surface facilities.
  - Reset automatic shutdown devices.
  - 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).

Induced or Natural Seismic Event

Induced seismic events typically refer to minor seismic events caused by human activity that alters the stresses and fluid pressures in the Earth's crust. Induced seismicity could potentially result from the injection of fluids into subsurface formations that lubricate and or change the stress state of pre-existing faults, which causes fault plane movement and energy release.

Avoidance measures: Operate the injection well within permitted parameters.

Response actions:

- Notify the UIC Program Director within 24 hours of the emergency event, per 40 CFR 146.91(c).
- The field foreman will make an initial assessment of the situation and determine which other project personnel to notify.

- Project contacts will 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 (close flow valve).
    - Vent CO_2 from surface facilities.
    - Limit access to wellhead to authorized personnel only.
    - Communicate with project team personnel and local authorities to initiate evacuation plans, as necessary.
    - 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 remedial actions (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 (close flow valve).
    - Vent CO_2 from surface facilities.
    - Reset automatic shutdown devices.
    - 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).

Response Personnel and Equipment

The National Response Center, site personnel, project personnel, and local authorities will be relied upon to implement this ERRP. Table 2 and Table 3 show the emergency contacts for operating company.

Table 2: BKVerde emergency contact list

BKVerde - Emergency Number			**Kim's Answering Service: +1(833)425-8677**	
BKVerde Contact List				
Position	**Name**	**Office Phone**	**Cell Phone**	**Email**

Sr. Manager of Environmental and Regulatory	Emily Larkin	(940)394-2000	[redacted]	emilylarkin@bkvcorp.com
Health & Safety Manager	Justin Clock	[redacted]	[redacted]	justinclock@bkvcorp.com
VP of BKVerde, LLC	Lauren Read	(720)375-9680	[redacted]	laurenread@bkvcorp.com
Project Manager	Scott McEntyre	(720)375-9680	[redacted]	scottmcentyre@bkvcorp.com

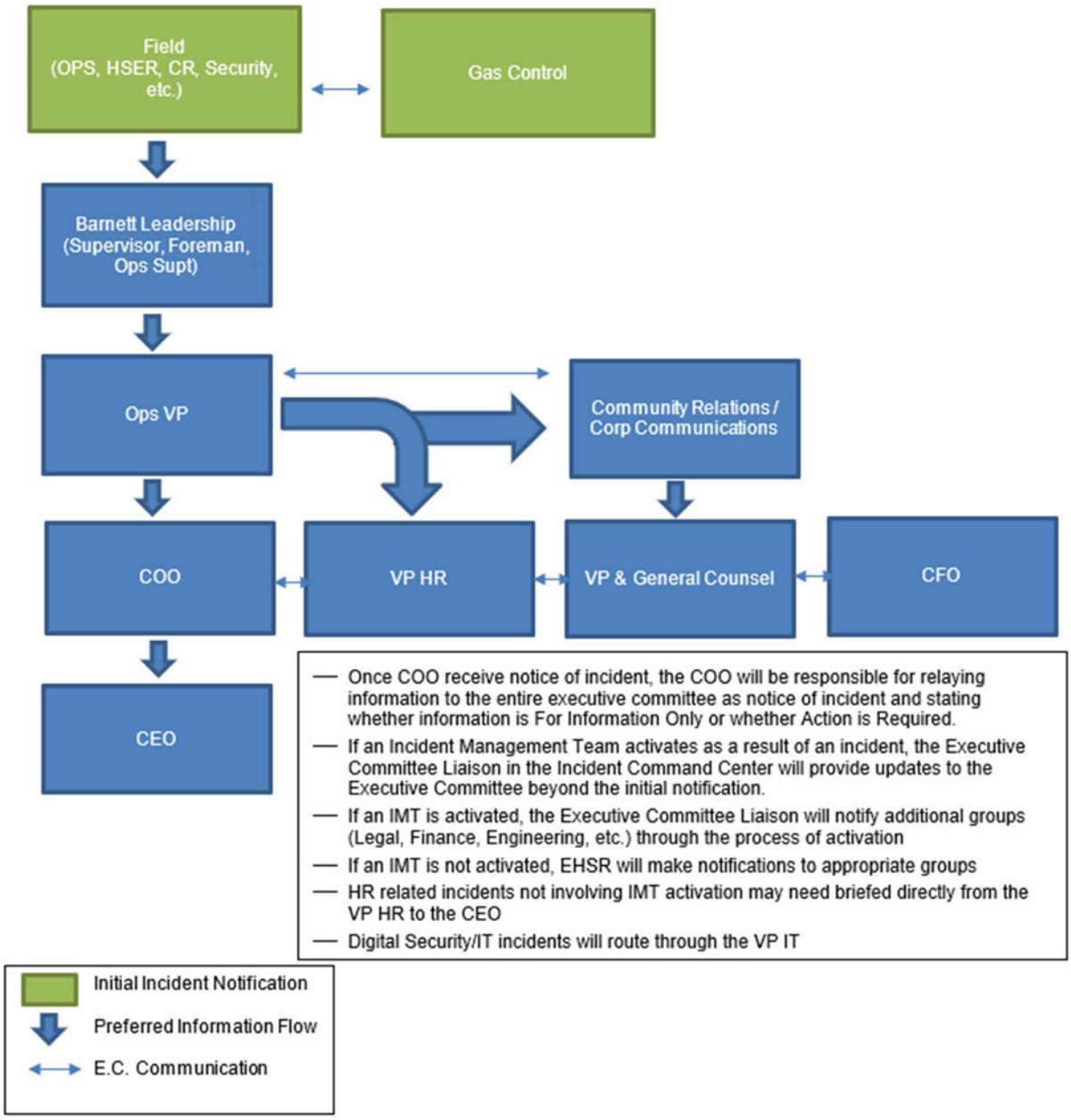
Table 3. Emergency response contact list.

Emergency Phone Numbers	
ORGANIZATION	**PHONE NUMBER**
Emergency Central Dispatch (Where Available – Local Calls Only): 911	
National Response Center	1-800-424-8802
Troop A (Louisiana State Police)	(225)-754-8524
Ascension Parish Sheriff Headquarters	(225) 621-8340
Ascension Parish Sheriff (Donaldsonville)	(225) 621-8851
St. James Parish Sheriff (Non-Emergency)	(225) 562-2200
Ascension Parish Emergency Planning Committee	(225) 621-8300
St. James Parish Emergency Planning Committee	(225) 562-2200
Louisiana Department of Natural Resources (LDNR)	(225) 342-0510
LDNR – Injection and Mining Division	(225) 342-5515
Louisiana Department of Environmental Quality	(225) 342-1234
EPA Hotline (Region 6)	(866) 372-7745

Emergency Communications Plan

BKVerde will communicate to the public about any event that requires an emergency response, in consultation with the UIC Program Director. Prior to the start of CO_2 injection operations, BKVerde will formally communicate to landowners living adjacent to the site and provide information about the nature of the operations, potential risks, and appropriate response approaches under various emergency scenarios. An emergency contact list will be maintained during the life of the project. In the event of an emergency, the Emergency Coordinator will make the appropriate calls and ensure the correct personnel are contacted. Emergency communications with the public will be handled by the operator. The Emergency Coordinator is a BKVerde representative who will coordinate media responses. The series of communication that will be implemented in the event of an emergency is shown in the flowchart in Figure 2.

Figure 2: Series of communication that will be implemented in the event of an emergency.



Plan Review

BKVerde will annually review and, as necessary, revise its ERRP. In addition, the operator will review and, as necessary, revise its ERRP within 1 year of an AoR reevaluation or within 1 year after any significant changes to the facility such as the addition of injection or monitoring wells. Any revised plan will be submitted to the EPA UIC Program Director for approval. If it is determined that no revisions are necessary, BKVerde will submit its determination and supporting documentation to the EPA UIC Program Director.

Staff Training and Exercise Procedures

All operations employees will receive training related to health and safety, operational procedures, and emergency response according to the roles and responsibilities of their work assignments. Periodic training will be provided, no less than annually, to operators, safety and environmental personnel, superintendent, corporate communications, and any other personnel that require on-site presence. The training plan will document that the above listed personnel have been trained and possess the required skills to perform their relevant emergency response activities described in the ERRP.