DAKOTA GASIFICATION COMPANY PROCEDURE

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All	Protection Services	
	Final Approval:	**Date:**
	/s/ Dale Johnson	3/21/17
Procedure Description:		
Souris Valley Pipeline Limited Emergency Response Procedure		

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I. PURPOSE

The purpose of the Emergency Response plan is to establish a set of guidelines to ensure the public safety in the event of a carbon dioxide pipeline emergency.

The CO_2 pipeline transports CO_2 containing up to 2% H_2S at 2700 psig from the Dakota Gasification Company plant to a central receiving terminal near Goodwater, Saskatchewan. The CO_2 product transported by this pipeline will be a gas when released to the atmosphere, therefore this plan addresses an emergency response to a gas release due to line leak or rupture. Because of the gaseous nature of the product, emergency response to spills that may contaminate groundwater, rivers, lakes, pose a hazard to wildlife, or require extensive cleanup have not been included in this plan.

II. SCOPE:

This Emergency Response Plan (ERP), in its entirety is intended to provide the necessary information for pre-emergency planning as well as a step-by-step procedure to be used during an emergency.

This plan encompasses the portion of the carbon dioxide pipeline that originates Northwest of Noonan, ND at the U.S./Canadian border and terminates at the Weyburn oil field in Southeastern Saskatchewan.

III. REFERENCES:

- DGC Procedure No. 323 – Electrical Utility Notification
- DGC Procedure No. 30-210 – R911 Computerized System Procedure
- DGC Procedure No. 30-135 – Release of Information to the News Media
- 74-001 Federal Requirements for Reporting Pipeline Accidents
- 74-002 Federal Requirements for Reporting Carbon Dioxide Pipeline Safety-Related Conditions
- 49 CFR Part 195.402E
- 49 CFR Part 1910.120
- Canadian CSA Z662-11-Oil and Gas Pipeline Systems
- CAN/CSA Z731-03 – Emergency Preparedness and Response
- MH-1-98-NEB Reasons for Decisions

IV. DEFINITIONS

Dakota Gasification Company: *(DGC);* Coal gasification plant owned and operated by Dakota Gasification Company. Located Northwest of Beulah, ND. U.S.A. Produces, compresses, and exports CO_2 to the pipeline.

DGC Protection Services Control Center (PSCC): On-site Emergency Operations center that will receive first notification of an emergency, will initiate additional notifications, and will serve as the incident command center for emergency planning and response.

Emergency out-calling system: The emergency "out call" system is designed to notify those residents living or working within the pipeline corridor that a pipeline emergency has occurred with the potential to affect them. In Canada the pipeline corridor is two kilometers in width on each side of the pipeline or four kilometers total, while in the United States the pipeline corridor is two miles in width, one mile on either side of the pipeline. The population density in this corridor is surveyed and the information updated bi-annually.

When a pipeline emergency is declared, the emergency "out call" system may be initiated from Dakota Gasification Company for those residents on the affected pipeline segment(s). The computer driven system has four hundred dedicated phone lines which will deliver a recorded message alerting the resident of the pipeline emergency. It will take approximately one minute to complete these calls. Any unanswered calls will be repeated nine times at three-minute intervals. During the time between the retry intervals any additional residents in the affected area will be called.

The emergency "out call" system also has the capability of calling an alternate phone number if unable to reach a resident on the first try.

Each resident will be notified annually and asked if the current notification numbers are correct and if they wish to provide additional phone numbers

Emergency Response Crew: A five-man crew dispatched to the incident site to assess the emergency, establish the hot zone, assist the first responders, and carry out an action plan to resolve the emergency situation. This crew will be trained in the use of the Emergency Response procedure, the expected hazards that may be present in an emergency and the use of all emergency equipment.

EPA (Environmental Protection Agency) Level B Chemical Protection: A Level of personnel protective equipment that gives the wearer the maximum amount of respiratory protection and a medium level of skin protection. Level B equipment consists of a Self-Contained Breathing Apparatus, Chemical Resistant Clothing, Inner and Outer Chemical Resistant Gloves, and Chemical Resistant Safety boots.

ESD: Emergency Shut Down

First Responder: Local fire rescue, medical, local police and RCMP personnel dispatched to assist with emergency.

Hot Zone: Area around a pipeline leak with any concentration of H_2S gas and/or oxygen levels below 19.5% or greater than 23.5%. Hot Zone will be determined by the use of gas/air monitoring equipment.

***Incident Commander*:** The individual responsible for directing and coordinating the overall emergency response.

Incident Command Center: The communication center set up to receive information from the emergency crew, as well as an assembly point to coordinate response activities and carry out risk assessment.

Incident Log: Log completed by Protection Services Control Center and Emergency Response Crew to log all activities during the emergency. Should include; times, names of contacts, names of responders, and all activities preformed during the emergency.

Incident Site: The location where the pipeline emergency exists.

Mainline Valve: (MLV) Valves located along the pipeline route can be remotely operated from DGC. There are 13 valves between DGC and the Weyburn CO2 Miscible flood project.

MIS: Management Information System

Mutual Aid Contractor: A contract exists between SVPL and Aecom-Carson Energy Services Ltd. to supply personnel and equipment to respond to an emergency situation.

NEB: National Energy Board, An independent Federal Canadian regulatory agency. (See Attachment J, NEB Role and Responsibilities)

Pipeline Corridor: Consists of an area 2 kilometers on either side of the pipeline centerline along the length of the pipeline.

Pipeline Incident: An event or occurrence on the pipeline that results in the death of a person or an injury that requires hospitalization. An inadvertent and uncontrolled escape of gas, resulting in the discharge of toxic substances on land or into a body of water.

Pipeline Section: Refers to a section of pipeline between MLV sites. (Example: section 12 refers to the section from MLV #10 to MLV #11, section 13 refers to the section from MLV #11 to Goodwater).

Pipeline Emergency: unplanned gas release or pipeline failure that may pose a risk to the public or the environment.

Qualified: An individual that has been evaluated, can perform assigned covered tasks, recognize and react appropriately to abnormal operating conditions.

RCMP: Royal Canadian Mounted Police

Receptors: Individuals who might possibly “receive” adverse effects in the event of a pipeline emergency. Includes; all residences, businesses and public facilities within two kilometers on either side of the pipeline centerline.

Site Safety/Logistics officer: Person at the incident site who is responsible for site safety and advising the Incident Commander of the status of the Incident. The Site Safety/Logistics officer may also advise the Incident Commander of the need for additional resources and will be the communicator between the Incident Site and the Incident Command Center.

Span of Control: The maximum number of non-qualified individuals that a qualified individual can direct and observe performing a covered task.

SVPL: Souris Valley Pipeline Limited

V. RESPONSIBILITIES:

DGC Protection Services in collaboration with the DGC Shift Superintendent, Pipeline Controllers, SVPL Operator and emergency response operator qualified personnel are responsible for the implementation, training, and review of this emergency response plan.

Review of this emergency plan shall occur at intervals not to exceed 15 months, but at least once each calendar year.

VI. INSTRUCTIONS

A. Emergency Response Quick Reference Flow Chart

STEP 1

Pipeline emergency reported to DGC Protection Services Control Center (PSCC)

- All pertinent information is recorded on “RECORD OF EMERGENCY NOTIFICATION PLR-E-1” (Form DGC 0342).
- PSCC starts the “INCIDENT LOG PLR-E-2” (Form DGC 0343).
- PSCC notifies Shift Superintendent of the pipeline emergency.
- PSCC establishes INCIDENT COMMAND CENTER.

STEP 2

Shift Superintendent assumes role of Incident Commander and moves to the PSCC, Incident Commander declares a CO2 pipeline emergency and directs the following responses:

- Informs Oxygen Plant Controllers that an emergency is in progress. The qualified Controller has the responsibility and authority to mitigate the effects of the condition by taking extreme measures such as shutting down all or part of the pipeline, utilizing the flare system, curtailing product transfer, or the operation of remote valves if they believe that continuing to run the pipeline could result in a hazard to the public or the environment.
- Incident Commander contacts local emergency response agency by (live) telephone informing them of the current situation and establish a line of communication.
- Qualified Superintendent directs (unqualified superintendent advises) O2 Plant Supervision to initiate ESD of the pipeline by closing MLV’s to isolate affected pipeline sections and shutdown Tioga Booster.
- PSCC to initiate “out call” phone system for affected pipeline sections and agencies.
- PSCC to notify SVPL Representative to mobilize to the incident site.
- PSCC to notify Pipeline Superintendent, Supervisor’s, and Technicians.
- PSCC to notify Aecom-Carson Energy Services Ltd. to mobilize to the incident site.
- PSCC to notify DGC Management.
- MIS Technician to notify Cenovus and Apache Representative.

STEP 3

Emergency Crew arrives at incident site with SVPL emergency response trailer.

- Emergency Crew will not enter the "hot zone" without a second backup emergency crew and Safety Officer on site.
- O2 Plant confirms ESD of CO2 pipeline.
- PSCC confirms "out call" system notifications were completed and Management contacts have been made.
- Open continuous communication with PSCC.
- Determine if there are injured people requiring immediate rescue.
- Request medical assistance for any injured people.
- Determine exact location of the incident.
- Determine wind speed and direction.
- Establish initial "hot zone" and monitor for changes in size, boundary or direction.
- Restrict access to incident site, keep spectators and traffic away.
- Standby to assist First Responders.
- Assess the need for additional emergency crews or additional resources.

STEP 4

Incident Commander performs risk assessment based on information from the Emergency Response Crew

- Determine if there are receptors, population centers or public facilities at risk.
- Determine if involved receptors should be evacuated or shelter in place.
- Determine if an environmentally sensitive area is at risk.
- Determine if it is necessary to vent down the pipeline at a lower risk location.

Incident Commander directs the following responses to mitigate the emergency:

- Utilizing population density maps directs Emergency Crew to assist in evacuation of receptors in the risk area.
- Directs First Responders to the incident site to assist in evacuation, care and treatment of the injured and restrict access to the incident site.
- Directs PSCC to initiate the second "out call" message with specific evacuation or shelter in place data for the affected receptors.

STEP 5

Emergency Crew confirm that all receptor locations in the risk area have been checked and the residents successfully evacuated or have sheltered in place.

STEP 6

Emergency Crew determines pipeline has vented to the atmospheric pressure and no longer provides a hazard to the public; this information is relayed to the Incident Commander.

STEP 7

Incident Commander informs the First Responders that an emergency condition no longer exists.

STEP 8

Emergency Crews prepares a detailed Emergency Response report, make sure the incident site is barricaded to prevent injury to persons or livestock and maintain a 24hr surveillance of the incident site until relieved.

STEP 9

After emergency is resolved the Incident Commander will hold a Critique and Debriefing with all affected personnel involved with the incident at the DGC plant site. The SVPL representative will hold a critique and debriefing with all Emergency responders that were involved at the incident site.

VII. EMERGENCY RESPONSE PROCEDURE

A. Initial Notification of a Pipeline Emergency

1. This notification may be received by DGC Protection Services Control Center (PSCC) from the public, fire/RCMP departments, or pipeline operator.
2. Notification may also be received from the DGC Oxygen Plant Control Room based on information provided by the leak detection system.
3. Upon notification of a pipeline emergency, personnel stationed at the DGC Protection Services Control Center will record the information on PLR-E-1, “Record of Emergency Notification” (DGC 0342). All information must be recorded in as much detail as possible.

B. PSCC Reports to Shift Superintendent

1. Based on the information provided by PSCC, the Shift Superintendent will determine what level of emergency exists. (See Attachment K, NEB Levels of Emergency Classification) If an emergency response is required, the Shift Superintendent will assume the role of Incident Commander and direct the following responses:

   a) Notify Oxygen Plant Supervision a CO2 pipeline emergency is in progress and to route all CO2 to the boilers.

   b) Notify Oxygen Plant to initiate an ESD of the pipeline by isolating all affected MLV’s in the affected pipeline section. Once all MLV valve positions indicate closed this information should be immediately relayed to the Incident Commander.

   c) PSCC to establish an Incident Command Center

   d) PSCC to initiate the first out-call session for the receptors in the affected pipeline section. This call will broadcast a pre-recorded message warning that a pipeline emergency has occurred that may affect the tenants/ landowners in the area and are advised to evacuate or shelter in place.

e) PSCC to initiate the second automated out call session for the agencies in the affected section of the pipeline. This call will broadcast a pre-recorded message warning that a pipeline emergency has occurred that may affect residents in their district.

f) PSCC to notify SVPL Representative or designate. The SVPL representative or designate will assume the role as Site Safety and Logistics officer and will mobilize to the incident site.

g) PSCC to notify Aecom-Carson Energy Services Ltd. Personnel to mobilize to the incident site and meet with Site Safety and Logistics officer.

h) PSCC to notify Pipeline Superintendent, Supervisor's, and Technicians.

i) PSCC to notify DGC Plant Management.

j) MIS technician will notify Cenovus and Apache of interruption in CO2 flow.

k) PSCC shall immediately make contact with the Transportation Safety Board of Canada (TSB) to inform them that there is a pipeline emergency with an international pipeline. A detailed Incident Report shall be faxed to the TSB as soon as possible.

l) PSCC shall make contact with the Nation Energy Board (NEB) to inform them there is a pipeline emergency with an international pipeline. (Attachment B)

m) PSCC shall contact the Saskatchewan Emergency Management agency and advise them of the situation. (Attachment B)

C. Incident Command Center Established

1. PSCC shall establish itself as the Incident Command Center, and be staffed as needed. PSCC shall begin an incident log, which will include times, names of responders, and all other activity associated with the emergency response. PLR-E-2 "Incident Log" (DGC 0343) can be used for this purpose.

2. The Incident Command Center shall also be used as an assembly point for the Incident Commander. A workspace with tables suitable for review of drawings and maps will be provided as needed to perform the risk assessment. At least two phones should be available and staffed by PSCC to coordinate activities with the emergency crews and First Responders.

D. Emergency Crew Dispatched to Site

1. A five man-crew will be dispatched to the incident site. The crew will consist of the SVPL representative or his designate and four employees from Aecom-Carson Energy Services Ltd. The SVPL Emergency Response trailer will be brought to the incident site.

2. Before leaving for the incident site, the crew will make the following notifications:

a) Notify the PSCC that they are proceeding to the incident site.

b) The PSCC shall fill in a log sheet naming each person in the crew and the suspected destination.

c) Leave cell phone number with PSCC, and establish a call back time.

E. Emergency Crew Arrives at Site

1. The emergency crew approaching the incident site should follow these guidelines:

   a) Establish continuous communication with PSCC personnel, if communication is lost, do not approach site, and move to a position where communication can be re-established.

   b) Have all multi gas monitoring equipment in operation in the vehicle before approaching the incident site to avoid driving into the hot zone without being aware of it.

   c) Approach the suspected incident site from an upwind direction.

   d) Make visual observation of area looking for casualties and trying to locate the incident site.

   e) Park vehicle a safe distance away from, and upwind of incident site.

2. Upon arrival at site, the emergency crew will assess the situation and report back to PSCC with the following information:

   a) Exact location and severity of emergency.

   b) Any known injuries, request additional medical staff as needed.

   c) Any immediate danger to a population center.

   d) Wind direction and best approach route.

   e) Evacuation route.

   f) What additional emergency support is required?

   g) Determine if there have been any injuries or near misses involving SVPL employees or contractors at the incident site. If there have been injuries or near misses involving SVPL employees or contractors at the incident site the Site Safety and Logistics officer will notify the PSCC. At this time the PSCC shall contact the Saskatchewan Occupational Health and Labor Safety Division and National Energy Board (NEB) to inform them or the situation. (Attachment B)

3. Based on the above information, the Incident Commander shall:

   a) Perform a risk assessment to determine if:

      (1) A public facility, population center, or gathering area is at risk.

      (2) An environmentally sensitive area is at risk.

      (3) If it is necessary to vent gas down at a different location.

   b) Direct PSCC to contact and dispatch local First Responders using the contact list provided in Section VII of with this plan, and provide them with the location of the

incident site and specific directions on how to approach, what roads to restrict access and any casualties requiring medical attention.

c) PSCC shall print a data log from the R911 out bound calling on the sessions that they launched. All operator intercepts and unanswered calls from the data log will be manually called. Any answered calls from this list will be given the evacuation message.

4. The emergency crew at the site will:

a) First isolate the incident in all directions a minimum of 300 meters (1000 feet). This will be the initial hot zone. A more defined hot zone will be established with gas monitoring equipment.

b) Restrict access to the site.

c) Keep spectators and traffic away.

d) Remain at site to assist first responders.

F. First Responders Arrive at Site

1. The First Responders primary goal will be to protect the public. This will be accomplished by:

a) Blocking/barricading roads to restrict access to emergency site. Restrict access to hot zone. First Responders are advised NOT to enter hot zone.

b) Evacuate tenants/landowners in the affected area.

c) Provide medical attention for the injured.

G. Emergency Crew establishes the hot zone

1. Emergency crew can establish a more defined hot zone with the use of multi gas monitoring equipment.

a) With a safety officer and a backup team in place. Two emergency responders dressed in EPA level B chemical protective clothing equipped with gas monitoring equipment and red flags or red cones can enter the site from the upwind direction. At the point where any H2S gas is detected, mark the area with red flags. Survey the area upwind and cross wind of the pipeline leak, marking the hot zone where any trace of H2S gas is present. The Emergency Response Guidebook recommends that during large release persons downwind of the release are protected at a minimum of 2.0 Kilometers (1.3 miles) during daylight hours and a minimum of 6.2 Kilometers (3.9 miles) at night.

b) At this point the emergency crew can carry out the action plan that the Incident Commander has developed.

H. Termination of Emergency

1. The emergency response crew will determine when an emergency can be terminated, or declared “ALL-CLEAR” The criteria for making this determination will include:

a) All individuals have been evacuated from affected section.

b) The exact location of the leak resulting in an emergency has been identified, that portion of the pipeline has been adequately isolated, and product is no longer being released.

c) It is determined that the emergency does not pose a threat to the public or environment.

2. Incident Commander shall contact the First Responders and inform them of the status.

3. After the emergency is resolved the Incident Commander shall hold a Critique and Debriefing with all affected personnel involved at the DGC plant site. The SVPL representative or designate will also hold a critique and debriefing with all the responders involved at the incident site. A written report will be generated and corrective action shall be implemented where deficiencies are found.

I. Required Reports and Notification of State and Government Agencies.

1. **PLR-E-1 Record of Emergency Notification (form DGC 0342)** shall be completed by DGC Protection Services Control Center at the time initial notification is made. The information on this form will be required to initiate an accurate response as well as providing details for any subsequent reports, which may be filed.

2. The specialist at Protection Services Control Center as well as the emergency response crew in the field shall complete **PLR-E-2 Incident Log (form DGC 0343)**. This log will serve as a record of all activity involving the emergency response. This information will be used as a guide for completing and filing any subsequent accident / incident reports.

3. **DOT 7000-1 Accident Report-Hazardous Liquid Pipeline** To be completed and filed according to the guidelines in the procedure #74-001 Federal Requirements for Reporting Carbon Dioxide Pipeline Accidents

4. **National Energy Board in Canada requires a report any time flow is interrupted for an emergency.** This is to be sent to the Transportation Safety Board of Canada (TSB.) To meet the information requirements of this regulation, the NEB Detailed Incident form will be utilized. This report is to be sent to the Transportation Safety Board of Canada (TSB) as soon as detailed information on the incident is available. The TSB will forward all applicable reports to the National Energy Board. (Section 51) : MH-1-98

5. **Notification shall be made to the North Dakota Public Service Commission.**

J. Statements to the News Media

1. All “at-the-scene” statements to the media will be handled in accordance with DGC Plant Management recommendations at the time of the incident.

2. All formal statements to the media will be generated by Basin Electric communications department.

VIII. HEALTH, SAFETY, AND ENVIRONMENTAL STATEMENT

SVPL is committed to protecting the health and safety of people and the environment.

SVPL will comply with government regulations, follow accepted industry practices, and maintain its own corporate policies in order to protect the health and safety of individuals affected by SVPL operations.

We are committed to pursuing these objectives and accept, individually, the responsibility for doing so.

We will communicate on health, safety and environmental matters in an open and timely manner with all affected parties and will take health, safety and environmental matters into account when making business decisions.

We will maintain SVPL as a healthy and safe place to work and a desirable member of the communities in which we operate.

_____
Plant Manager
Dakota Gasification Company

IX. PIPELINE OPERATIONS AND PLANT MANAGEMENT CONTACT LIST

- Pipeline Operations (Attachment A)
- Plant Management list (Attachment A)

X. FIRST RESPONDERS AND EMERGENCY SERVICES CONTACT LIST

- First Responders and Emergency Services Contact List by Section (Attachment B).

XI. MAPS

A. Mainline Valve Site Locations
   - Provide written instruction for the best route to mainline valve sites.

B. Receptor Maps
   - Shows location of receptors in relationship to pipeline.
   - Receptors identified by “receptor number”.
     - Map 1 of 2 (Attachment C)
     - Map 2 of 2 (Attachment D)

C. Mainline Valve Site Locations

MLV #11 – From the intersection of secondary Highway #606 and Highway #18 near Torquay, travel north on the #606 for 3.2 kilometers (2 miles). At the correction line curve turn right and travel east on the gravel for 2.4 kilometers (1.5 miles). Turn left and travel north for 3.2 kilometers (2 miles). Turn left and travel west for 0.8 kilometers (0.5 miles) to the valve station.

Goodwater Station – From Weyburn at the intersection of Highways 35 & 39, travel south on Highway #35 for 22.1 kilometers (13.8 miles). Turn left and travel east for 9.7 kilometers (6 miles), then turn right and travel south for 3.2 kilometers (2 miles). Turn left and travel east for 1.6 kilometers (1 mile). Turn right and travel south for 0.9 kilometers (0.5 miles) to the Goodwater valve station.

From Midale at the intersection of main street in Midale and Highway 39 (as a starting point), travel northwest for 6.7 kilometers (4.1 miles) on Highway 39 on the "Goodwater 19 km" sign. Turn left and travel west for 15.5 kilometers (9.7 miles), then turn left and travel south for 0.9 kilometers (0.6 miles). Then turn left and travel east approximately 0.8 kilometers (0.5 miles) to the Goodwater valve station.

XII. RECEPTOR LISTS

Lists names and phone numbers of receptors, sorted by receptor number, and used in conjunction with receptor maps.

- Receptor Contact List, Sorted by Section (Attachment E)
- Receptor list (Attachment F)

XIII. ATTACHMENTS

ATTACHMENT A	**#4322 Attachment A - SVPL Pipeline Operations Plant Management Contact List**
ATTACHMENT B	**#4322 Attachment B-First Responders & Emergency Services**
ATTACHMENT C	**#4322 SVPL Receptor Map 1 of 2 (Attachment C)**
ATTACHMENT D	**#4322 SVPL Receptor Map 2 of 2 (Attachment D)**
ATTACHMENT E	**#4322 Attachment E-Receptor List by Section**
ATTACHMENT F	**#4322 Attachment F Receptor List**
ATTACHMENT G	**DGC 0342 - PLR-E1 Record of Emergency Notification**
ATTACHMENT H	**DGC 0343 - PLR-E2 Incident Log**
ATTACHMENT I	**Carbon Dioxide MSDS (Rev 7)**
ATTACHMENT J	**#4322 Attachment J-NEB's Role & Responsibilities**
ATTACHMENT K	**#4322 Attachment K-NEB Levels of Emergency Classification**