

# DAKOTA GASIFICATION COMPANY PROCEDURE

<b>Origination Date:</b>	<b>Procedure No.:</b> 4323	<b>Revision No.:</b> 9
<b>Affected Area(s):</b>  All	<b>Originating Department:</b> Protection Services	
	<b>Final Approval:</b>  /s/ Dale Johnson	<b>Date:</b>  12/17/19
<b>Procedure Description:</b>  <b style="text-align: center;">SNG Pipeline Emergency Response Plan</b>		

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## I. PURPOSE

The purpose of the Emergency Response Plan (ERP) is to establish a set of guidelines to ensure the public safety in the event of a synthetic natural gas pipeline emergency.

The SNG Pipeline transports synthetic natural gas at 1400 psig from the Dakota Gasification Company Plant Site to the Hebron Meter Station near Hebron, North Dakota where custody transfer with Northern Border Pipeline is made. The synthetic natural gas transported by this pipeline shall be a gas when released to the atmosphere and the danger of ignition is present, therefore this plan addresses an emergency response to a gas release and/or fire and explosion. Because of the gaseous nature of the product, emergency response to spills that may contaminate groundwater, rivers, lakes, or require extensive cleanup have not been included in this plan. Weather related incidents that may affect the pipeline shall also be monitored.

## 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 35-mile synthetic natural gas (SNG) pipeline from Dakota Gasification Company (DGC) to the transfer point with Northern Border Pipeline Company, approximately six miles northwest of Hebron, ND.

## III. REFERENCES

- DGC Procedure No. 026 – D.O.T. Anti-Drug Plan
- DGC Procedure No. 032 – D.O.T. Pipeline/Federal Motor Carriers Alcohol Testing Plan
- DGC Procedure No. 033 – SNG/CO2 Pipeline Operator Qualification Program
- DGC Procedure No. 323 – Electrical Utility Notification
- DGC Procedure No. 30-210 – R911 Computerized System Procedure
- 72-041 Emergency Response for Gas Leak, Fire, or Emergency
- 72-050 Federal Requirements for Reporting SNG Pipeline Incidents
- 72-051 Federal Requirements for Reporting A SNG Pipeline Safety-Related Condition
- Incident Report Form PHMSA F 7100.2 and directions for completing form
- MSDS for Synthetic Natural Gas
- DGC Procedure No. 74-055 and 74-900 (AOC) controller response.

## IV. DEFINITIONS

**Controller:** Those persons (board operator) that monitor SCADA data from control rooms and have operational authority and accountability for the remote operational functions of the pipeline facility.

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**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 SNG to the pipeline.

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

**Emergency Response Crew:** A five man crew of hazardous material technicians dispatched from the plant site to assess the emergency, establish the hot zone, assist the first responders, and carry out an action plan to resolve the emergency situation.

**Emergency “out call” system / R911:** The emergency “out call” system also referred to as the Reverse 911 (R911) 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. The SNG 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 every year.

When a pipeline emergency is declared, the emergency “out call” system shall 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 shall deliver a recorded message alerting the resident of the pipeline emergency. It shall take approximately one minute to complete these calls. Any unanswered calls shall be repeated nine times at three-minute intervals. During the time between the retry intervals any additional residents in the affected area shall 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 shall be notified during the population density survey and asked if the current notification numbers are correct and if they wish to provide alternate phone numbers.

**First Responder:** Local fire rescue, medical, local police and sheriff’s department personnel dispatched to assist with emergency.

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

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

**Incident Command Center:** The communication center set up 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. Shall include times, names of contacts, names of responders, and all activities performed during the emergency.

**Line break Valve:** Valves located along the pipeline route, designed to close automatically when a differential pressure set point is reached indicating a pipeline leak.

**MIS:** Management Information System

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

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**ArcGIS:** Digital mapping program that includes pipeline and receptor locations/information. ArcGIS can be found on *Inside Basin*, under *Software Apps*, As *Portal for ArcGIS*.

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

**Safety Officer:** The Safety Officer assesses hazardous and unsafe situations and develops measures for assuring personnel safety at the incident. The Safety Officer Shall be trained to the hazardous materials technician level and reports directly to the incident commander.

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

## V. RESPONSIBILITIES

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

Training requirements can be found in DGC Procedure No. 024 Emergency Planning and Response and DGC Procedure No. 4310 - DGC Plant Emergency 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" ([DGC 0342](#)).
- PSCC starts the "Incident Log PLR-E-2" ([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 SNG pipeline emergency and directs the following responses:

- Informs plant Operations Supervision, MIS, and Controllers a SNG pipeline emergency is in progress and that gasifier rates shall be reduced to eliminate flaring at 1700 area.
- Gas Processing Supervisor directs Operator Qualified Controller to isolate gas flow to the pipeline. Qualified controller has authority to shut down the pipeline if

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they believe that continuing to run the pipeline could result in a hazard to the public or the environment.

- PSCC to initiate “out call” phone system for affected pipeline receptors.
- PSCC to notify Operator Qualified Pipeline, Superintendent, Supervisor and pipeline Technicians (see attachment A).
- PSCC to notify Mercer & Morton County Emergency Managers (attachment B).
- PSCC to notify DGC Management (attachment A).
- MIS Technician to notify Northern Border Gas Control (attachment C).
- Shift Superintendent to notify North Dakota Public Service Commission (attachment B).
- Shift Superintendent to notify DOT National Response Center Office of Pipeline Safety (attachment B).

### STEP 3

Incident Commander dispatches 1<sup>st</sup> Emergency Response Crew as quickly as possible. The crew consisting of two Operator Qualified Pipeline Emergency Response Technicians.

- Emergency Crew shall not enter the “hot zone” without a second backup emergency crew and Safety Officer on site.
- Gas Processing Operator confirms that gas flow has been isolated to the pipeline.
- Operator Qualified Supervisor or Operator Qualified pipeline technician confirms Shafer valve closure in the field (Field verification of ESD/Line Break).
- PSCC confirms “out call” system notifications were completed and Management contacts have been made.
- PSCC confirms that Mercer & Morton county Emergency Managers have been contacted.
- PSCC confirms that Northern Border Emergency Contacts have been notified.
- MIS Technician confirms Northern Border Gas Control has been notified.

Incident Commander dispatches 2<sup>nd</sup> Emergency Response Crew consisting of three Operator Qualified Pipeline Emergency Response Technicians.

### STEP 4

1<sup>st</sup> Emergency Response Crew arrives at incident site and initiates on scene response

- Establish communication plan and call back frequency with PSCC.
- Verify all pipeline line break valves are closed.

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- 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 5

Incident Commander performs risk assessment based on information from 1st Emergency Response Crew

- Determine if there are receptors, population centers or public facilities at risk.
- Determine if involved receptors shall be evacuated.
- 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 1st Emergency Crew to assist in evacuation of receptors in the risk area as soon as the 2nd emergency Crew is on site to act as backup.
  - Alternative digital mapping is available, go to Inside Basin>Software Apps>Portal for ArcGIS>DGC Emergency.
  - Go to Layer List, activate SNG Receptor layer.
- 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 2nd Emergency Crew to mitigate the amount of gas released at the incident site by blowing down the pipeline at an alternative location.
- Directs PSCC to initiate the second “out call” message with specific evacuation or Shelter-In-Place data for the affected receptors.

#### STEP 6

1st & 2nd Emergency Crews confirm that all receptor locations in the risk area have been checked and the residents successfully evacuated.

#### STEP 7

1st Emergency Crew remains at the incident site to assist the First Responders.



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2nd Emergency Crew proceeds with blowing down the pipeline at a safe location.

**STEP 8**

1st & 2nd Emergency Crews determine pipeline has vented to atmospheric pressure and no longer provides a hazard to the public, this information is relayed to the Incident Commander.

**STEP 9**

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

**STEP 10**

1st & 2nd Emergency Crews prepare 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 11**

After emergency is resolved the Incident Commander shall hold a Critique and Debriefing with all affected personnel involved with the incident.

**B. Initial Notification of a Pipeline Emergency**

1. This notification may be received by DGC Protection Services Control Center (PSCC) from the public, fire/police/sheriff departments, or pipeline operator.
2. Notification may also be received from the Gas Processing Control Room or Oxygen Plant Control Room based on the pipeline operating pressures. If the leak is of sufficient size the differential pressure shall cause the automatic line break valves to close. When these valves close the pressure at the discharge of GB1901/21 Shall sharply increase until the pressure control valves in the 1700 area open.
3. Upon notification of a pipeline emergency, personnel stationed at the Protection Services Control Center (PSCC) shall record the information on PLR-E-1, "Record of Emergency Notification" ([DGC 0342](#)). All information shall be recorded in as much detail as possible.

**C. PSCC Reports to Shift Superintendent**

1. Based on the information provided by PSCC and Plant Operations, the Qualified Shift Superintendent shall determine if an emergency response is required. If an emergency response is required, the Shift Superintendent shall assume the role of Incident Commander and direct the following responses:
  - a) Inform Plant Operations Supervision that a SNG pipeline emergency is in progress and that gasifier rates shall be reduced to eliminate flaring at 1700 area. The qualified controller has authority to shut down the pipeline if they believe that continuing to run the pipeline could result in a hazard to the public or the environment.
  - b) Notify Gas Processing Supervisor to isolate all gas flow to the SNG pipeline.



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- c) PSCC to establish an Incident Command Center.
- d) PSCC to initiate the “out-call” phone system for receptors in the affected pipeline area. This call shall broadcast a prerecorded message warning that a pipeline emergency has occurred that may affect the tenants/landowners in the area and are advised to evacuate. (Receptor lists divided by pipeline section are provided with this plan).
  - 1. Portal for ArcGIS map may be helpful in determining exact location.
- e) PSCC to initiate the second automated “out call” session for the agencies. This call shall broadcast a pre-recorded message warning that a pipeline emergency has occurred that may affect residents in their district.
- f) PSCC to notify Pipeline Superintendent, Supervisors, and Technicians.
- g) PSCC to notify DGC Plant Management.
- h) PSCC to notify Morton County Emergency Manager.
- i) PSCC to notify Mercer County Emergency Manager.
- j) Shift Superintendent to notify North Dakota Public Service Commission.
- k) PSCC to notify Northern Border Pipeline Emergency Contact.
- l) Shift Superintendent to notify the DOT National Response Center Office of Pipeline Safety within the first hour of the incident.
- m) MIS Technician to notify Northern Border Gas Control.

#### D. Incident Command Center Established

1. PSCC shall establish itself as the Incident Command Center, until the Incident Commander arrives at the Incident command Center. PSCC shall begin an incident log, which shall include times, names of responders, and all other activity associated with the emergency response. PLR-E-2 ([DGC 0343](#)) can be used for this purpose.
2. The Incident Commander shall report to the PSCC and determine if the PSCC is adequate to remain the Incident Command Center, or if the Incident Command Center needs to be relocated to another, more fitting location. A workspace with tables suitable for review of drawings and maps shall be provided as needed to perform the risk assessment. At least two phones shall be available and staffed by Protection Services Specialist to coordinate activities with the emergency crews and First Responders.

#### E. Emergency Crew Dispatched to Site

1. A two-man crew shall be dispatched from the plant site as quickly as possible. The first emergency crew shall normally consist of two Operator Qualified Pipeline Emergency Response Technicians. Additional emergency crews shall be dispatched as soon as they are available
2. Before leaving Plant site, each Emergency Crew shall:
  - a) Obtain portable gas detection monitors.

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- b) Have appropriate personal protective equipment in the vehicle.
- c) Sign out on log at PSCC naming each person in the crew and the suspected destination.
- d) Leave cell phone number with PSCC, and establish a call back time. A call back to the Incident Command Center shall occur before approaching the incident site.

**F. First Emergency Crew Arrives at Site**

1. The first emergency crew approaching the incident site shall follow these guidelines:
  - a) Establish communication plan and call back frequency with PSCC personnel, if communication is lost, do not approach site, move to a position where communication can be re-established and wait for a backup team.
  - b) Have all flammable gas detection 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 first emergency crew shall assess the situation and report back to the Incident Command Center 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?
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 and county First Responders using the contact list provided in Attachment B of 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.

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1. Establish communication plan with first responders.
  - c) Incident Commander shall dispatch another emergency crew from the plant site as soon as qualified personnel and emergency equipment is available. Two Emergency Crews along with an Incident Safety Officer are the minimum required for entering the hot zone.
  - d) 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 shall be manually called the
4. first emergency crew at the site shall:
  - a) Restrict access to the site.
  - b) Keep spectators and traffic away.
  - c) Remain at site to assist first responders.
- G. First Responders Arrive at Site
  1. The First Responders primary goal shall be to protect the public. This shall 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. The Emergency Response guidebook recommends that during a large release the area shall be isolated a distance of one mile in all directions from the point of release.
    - c) Provide medical attention for the injured.
- H. 2nd Emergency Crew is dispatched to the incident site
  1. The 2<sup>nd</sup> Emergency Crews primary purpose shall be to verify that all failsafe systems have operated as designed and all valves are isolated preventing gas from leaking in to the affected piping. This is accomplished by checking each of the three-line break valves and verifying they are in the closed position and are not leaking by. If any of these valves are leaking by then sealant shall be injected immediately until the leakage is stopped. As each check is completed notify the Incident Commander as to the valve status.
  2. Once the isolation of the pipeline is confirmed then the 2<sup>nd</sup> Emergency Crew shall begin preparations for purging the affected pipeline segment to remove any possibility of the gas igniting inside the pipeline resulting in an explosion.
  3. At this point the Emergency Crew can carry out the action plan that the Incident Commander has developed.
- I. Termination of Emergency
  1. The Emergency Response Crews shall remain in communication with the Incident Command Center and update the Incident Commander on the status of the emergency. Based on the information the Incident Commander Shall determine when an emergency can be terminated, or declared "ALL-CLEAR" The criteria for making this determination shall include:

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- 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. Incident Commander shall contact DGC Plant Management and inform them of the incident status.
  4. Incident Commander shall contact State and County Emergency Manager and inform them of the incident status.
  5. After the emergency is resolved the IC shall hold a Critique and Debriefing with all affected personnel involved in the incident. A written report shall be generated and corrective action shall be implemented where deficiencies are found.
- J. Required Reports and Notification of State and Government Agencies
1. PLR-E-1 Record of Emergency Notification (DGC 0342) shall be completed by DGC Protection Services Control Center at the time initial notification is made. The information on this form shall 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 (DGC 0343). This log shall serve as a record of all activity involving the emergency response. This information shall be used as a guide for completing and filing any subsequent accident / incident reports.
  3. Department of Transportation Transmission System Incident Report In order to comply with CFR Part 191.15 an incident report shall be filed on DOT Form PHMSA F 7100.2 as soon as practical but not more than 30 days after detection of an incident required to be reported under CFR Part 191.5. This report is to be completed according to the guidelines in procedure 72-050 with copies to be sent to:

U.S. Department of Transportation

N.D. Public Service Commission

K. Statements to the News Media

1. All “at-the-scene” statements to the media shall be handled in accordance with DGC Plant Management recommendations at the time of the incident.
2. All formal statements to the media shall be generated by Basin Electric communications department.

## VII. ATTACHMENTS

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A. ATTACHMENT A	<a href="#"><u>#4323 Attachment A-SNG Pipeline Operations &amp; Plant Management Contact List</u></a>
B. ATTACHMENT B	<a href="#"><u>#4323 Attachment B-SNG First Responder &amp; Emergency Service Contact List</u></a>
C. ATTACHMENT C	<a href="#"><u>#4323 Attachment C-NBPL Contact List 011811</u></a>
D. ATTACHMENT D	<a href="#"><u>SNG Receptor Map 1 of 1 (Attachment D)</u></a>
E. ATTACHMENT E	<a href="#"><u>#4323 Attachment E Receptor List Sorted by Section</u></a>
F. ATTACHMENT F	<a href="#"><u>#4323 Attachment F Receptor List</u></a>
G. ATTACHMENT G	<a href="#"><u>DGC 0342-PLR-E1 Record of Emergency Notification</u></a>
H. ATTACHMENT H	<a href="#"><u>DGC 0343-PLR-E2 Incident Log</u></a>
I. ATTACHMENT I	<a href="#"><u>Emergency Equipment List - PROTSEV073</u></a>
J. ATTACHMENT J	<a href="#"><u>Synthetic Natural Gas (SNG) SDS (Rev 4)</u></a>