



| COPY | |
|---------|-----------|
| BOARD. | 0 |
| G.W. | 1 |
| E.A. | 1 |
| W. RES. | ORIG |
| File- | N7L1-1768 |



John H. Brown
Shell Canada Ltd.
P.O. Box 100, Stn. "M"
Calgary, Alberta
T2P 2H5

Ph. (403) 691-3502
Fax(403) 269-7505
Email - john.brown@shell.ca

To: Mr. Gordon Wray - Chairman
Re: N7L1 - 1768 Contingency Plans Submission

Date : 2/8/01 3:34 PM

Dear Sir;

As required by the above Water License, please find attached the required Contingency Plans. A letter of Credit for the required \$150,000.00 will follow under separate cover.

If you have any questions or require additional information please do not hesitate to call the undersigned at 403-691-3502.

Yours truly,

John H. Brown
Sr. Seismic Supervisor

Sewage Discharge Contingency Plan

Effective date: January 18, 2001

Revision History

| Rev No | Effective Date | Description | Prepared by (name) | Reviewed by (name) |
|-------------------------------------|------------------|-------------|-----------------------------|-----------------------------|
| 1-2001 | January 18, 2001 | | Stacey Kelley John Brown | Stacey Kelley John Brown |
| Latest revision approved by (name): | | | Signed: | |

1. Purpose

The purpose of this document is to provide an action plan for Shell Canada Limited and its contractors to respond to sewage spills to protect human safety and minimise damage to facilities and the environment, and for the rapid notification of Company staff and government authorities.

2. Scope

This procedure applies to the Shell Canada Limited geophysical operations in the NWT. This includes contractors working directly for Shell Canada Limited and their sub-contractors.

3. References

4. Definitions

4.1.1. Incident Commander

The Incident Commander is the person with the highest level of authority on the worksite. This individual is responsible for ensuring that the standard is complied with onsite. The Shell Field Supervisor is the Incident Commander on site. In the event the Shell Field Supervisor is not present, the Incident Commander will be the Shell Line Clearing Supervisor. The Project Manager is responsible for designating the Incident Commander.

5. Responsibilities

5.1.1. A Project Manager

- a) Ensure all those on the project are compliant with this standard.
- b) Ensure that the organisational structure for the project is made clear to all involved, including both Shell Canada Limited personnel and subcontractors.

5.1.2. Incident Commander

- a) Supervise the operation to ensure a) compliance with local regulation, Shell Canada Limited Geophysical Operations Safety Manual, and these Standards.

6. Actions

6.1.1. Compliance

- a) Failure to comply with the requirements of this standard may result in disciplinary action, including progressive discipline, cessation of operations, termination of contract and so forth.

6.2. Exploration and Support Program Description

Project Title: Arctic Star, Leased from Arctic Oil & Gas Services

Location: Latitude 68° 57' 00" Longitude 134° 55' 00"

Water Licence: N7LI-1768

6.3. Sewage Treatment

RBC unit with UV treatment prior to discharge.

6.3.1 Contact Lists

Government

Department on Indian Affairs & Northern Development: Inuvik Scott Gallupe 867-777-3361

Department on Indian Affairs & Northern Development: Yellowknife (867-669-2651 Voice)-(867-669-2716 Fax)

24-Hour Spill Report Line: (867-920-8130 Voice)-(867-873-6924 Fax)

GNWT Pollution Control Division: Yellowknife-(867-873-7654 Voice)-(867-873-0221 Fax)

Environment Canada: Yellowknife-867-669-4725

6.3.1. Shell Canada Limited - Contact List

Project Manager: John Brown 403-691-3502

Incident Commander: Dave Berry 867-777-5365

Geophysical Operations Manager: William Westwood 403-691-3168

Staff Safety Specialist: Stacey Kelley 403-691-2240

6.4. Sewage Spill Response Equipment

- 3 Roll of Sorbent Blanket
- 6 Scoop Shovels
- 4 205 litre Empty drums with lids off
- 1 Equipment for constructing containment & clean up

6.5. POSSIBLE SCOPE OF SPILLS

1. Failure of Sewage Treatment Plant.
2. Contamination of Sewage Treatment waste stream.

6.6. RESPONSE ACTIONS

Upon discovery of a spill, the first person on the scene:

1. Protects the lives of anyone in the spill area.
2. Locates likely source or cause of spill and stops flow or release (do not take any unnecessary risk).
3. Assesses the likely size, extent and conditions of spill or discharge.
4. Notifies immediate supervisor, foreman or superintendent.
5. Notify 24 Hour Spill Number utilizing the NWT Spill Report Form.
6. Attempts to contain spread of spill if possible using available equipment/materials.
7. Records all relevant information for reporting purposes.

Discuss & implement appropriate cleanup w/ Government Authorities.

6.7. SPILL RESPONSE COUNTERMEASURES

Samples test every 2 weeks to monitor quality of discharge.

Daily inspections of Sewage Treatment Plant.

In the event of fuel or oil contamination of sewage treatment waste stream the Fuel Spill Contingency Plan will apply.

6.8. POST SPILL REPORTS

a) Any spill

The diaries of the on-site personnel are the primary sources of information. The report should include the following:

- an analysis of events leading up to the spill, cause of the spill, type of oil spilled, duration of spill
- a chronological description of all areas contaminated by the spill and extent of contamination
- cleanup procedures utilized in each area, including duration of activities, number of personnel involved in the cleanup, types and number of equipment employed
- description of weather conditions, and river currents.
- an analysis of the success of cleanup in each area contaminated, and evaluations of equipment used
- description of environmental protection measures and their success
- initial statement of environmental impacts

- statement of property damage
- summary of total volume of the spill and volume recovered, and estimates of the fate of the oil lost including approximate amount lost to each natural process
- statement of damage to company property as well as damage to others' property, including details of cause, type and extent of damage
- salvage operations and their success (if applicable)
- a list of all government personnel and other authorities contacted including date, time and title
- all news released, government communications and records of interviews
- summary cost breakdown of cleanup, including equipment, manpower, materials, accommodations, transportation claims
- summary of injuries or deaths caused by the spill or occurring during cleanup
- suggestions to improve cleanup operations during future responses
- summary analysis of what went right and what went wrong including reporting procedures

Provide a detailed report to the Water Resources Inspector within 30 days of occurrence.

FEB 02 10:10 AM 10 10010032117 P.08/10

Fuel Spill Contingency Plan

Effective date : January 18, 2001

Revision History

| Rev No | Effective Date | Description | Prepared by (name) | Reviewed by (name) |
|-------------------------------------|---------------------|-------------|-----------------------------|-----------------------------|
| 1-2001 | January 18, 2001 | | Stacey Kelley John Brown | Stacey Kelley John Brown |
| Latest revision approved by (name): | | | Signed: | |

1. Purpose

The purpose of this document is to provide an action plan for Shell Canada Limited and its contractors to respond to fuel spills to protect human safety and minimise damage to facilities and the environment, and for the rapid notification of Company staff and government authorities.

2. Scope

This procedure applies to the Shell Canada Limited geophysical operations in the NWT. This includes contractors working directly for Shell Canada Limited and their sub-contractors.

3. References

4. Definitions

4.1.1. Incident Commander

The Incident Commander is the person with the highest level of authority on the worksite. This individual is responsible for ensuring that the standard is complied with onsite. The Shell Field Supervisor is the Incident Commander on site. In the event the Shell Field Supervisor is not present, the Incident Commander will be the Shell Line Clearing Supervisor. The Project Manager is responsible for designating the Incident Commander.

5. Responsibilities

5.1.1. A Project Manager

- a) Ensure all those on the project are compliant with this standard.
- b) Ensure that the organisational structure for the project is made clear to all involved, including both Shell Canada Limited personnel and subcontractors.

5.1.2. Incident Commander

- a) Supervise the operation to ensure compliance with local regulation, Shell Canada Limited Geophysical Operations Safety Manual, and these Standards.

6. Actions

6.1.1. Compliance

- a) Failure to comply with the requirements of this standard may result in disciplinary action, including progressive discipline, cessation of operations, termination of contract and so forth.

6.2. Exploration and Support Program Description

Project Title: Arctic Star, Leased from Arctic Oil & Gas Services

Location: Latitude 68° 57' 00" Longitude 134° 55' 00"

Water Licence: N7LI-1768

6.3. Oil Spill Response Equipment

- 3 Roll of Sorbent Blanket
- 6 Scoop Shovels
- 4 205 litre Empty drums with lids off
- 1 Equipment for constructing containment & clean up

6.4. Contact Lists

6.4.1. Government

Department on Indian Affairs & Northern Development: Inuvik Scott Gallupe 867-777-3361

Department on Indian Affairs & Northern Development: Yellowknife (867-669-2651 Voice)–(867-669-2716 Fax)

24-Hour Spill Report Line: (867-920-8130 Voice)–(867-873-6924 Fax)

GNWT Pollution Control Division: Yellowknife–(867-873-7654 Voice)–(867-873-0221 Fax)

Environment Canada: Yellowknife-867-669-4725

6.4.2. Shell Canada Limited - Contact List

Project Manager: John Brown 403-691-3502

Incident Commander: Dave Berry 867-777-5365

Geophysical Operations Manager: William Westwood 403-691-3168

Staff Safety Specialist: Stacey Kelley 403-691-2240

6.5. POSSIBLE SCOPE OF SPILLS

6.5.1. Vehicle Fuel Transfer

Diesel fuel spills on frozen ground, snow or ice while transferring fuel from fuel tanks to field vehicles.

10 1007002713 P.12/15

6.5.2. Camp

Diesel, oil, glycol spill from camp storage tanks, lines, equipment.

6.6. INITIAL RESPONSE ACTIONS

Upon discovery of a spill, the first person on the scene:

1. Protects the lives of anyone in the spill area.
2. Isolates or removes any potential ignition sources if possible.
3. Locates likely source or cause of spill and stops flow or release (do not take any unnecessary risk).
4. Assesses the likely size, extent and conditions of spill.
5. Notifies immediate supervisor, foreman or superintendent.
6. Notifies at 24 Hour Spill Number utilising the NWT Spill Report Form.
7. Attempts to contain spread of spill if possible using available equipment/materials.
8. Records all relevant information for reporting purposes.

6.7. SPILL RESPONSE COUNTERMEASURES

Seismic operations will be conducted during the winter months only.

6.7.1. Land Spills - Winter and Confined to Land

Detection

Areas are usually snow covered and spills are highly visible.

Containment

Deploy the on-site spill containment equipment as required

Notify and request assistance if required from external NWT Emergency Spill Response line.

Erect barriers to minimise the migration of the spill

Recovery

The goal of recovering the spilled fuel is to ensure that as much as possible is recovered as soon as possible therefore minimising the impact on the environment.

- ensure that the spill has been adequately contained before starting recovery procedures
- depending on the characteristics of the spill, containment and recovery may be done simultaneously

- if required, set up a decontamination site so that individuals involved with containment/recovery operation don't spread the material beyond its contained limits.
- assess which recovery method is most suitable/efficient for the circumstances, taking into account the amount of fuel to be recovered, where the spill has occurred and the anticipated dangers to human life and the natural environment.

Contaminated Snow Cleanup

Use mechanical and hand equipment to scrape up product-in-snow mixture and load into dump trucks.

Haul product-in-snow mixture to a suitable site with pit or container facilities, e.g., Arctic Tire in Inuvik.

Caution

If terrain conditions indicate long term terrain damage may result by bulldozer scraping, then hand cleanup may be necessary with a final cleanup done as the snow melts and the terrain surface starts to thaw.

Burning

Immediate burning may be desirable as decided by the Incident Commander. Pick up residue after burn has been completed.

Soil Removal

Contaminated soil may be removed to storage for acceptable disposal. In most cases, however, contaminated soil should be left in place and the hydrocarbon contaminant allowed to biodegrade. Enhancement of this process through use of amendments may also be warranted.

6.7.2 Land Spills - Winter, On Ice

Caution

Be sure to check ice thickness for load bearing capacity.

Detection

Determine perimeter of spill area.

Burning

Immediate burning may be desirable as decided by the Incident Commander, in consultation with Land Use Inspectors. Pick up residue after burn has been completed.

Containment

Construct frozen snow dikes or ice trenches around perimeter of spill for containment.

Erect barriers to minimise the migration of the spill and seal with snow/water mixture

Recovery

Recover pumpable product and store in steel drums or tanks for future disposal.

Cleanup

Pick up contaminated snow using mechanical equipment or hand labour.

Store in steel drums for ultimate disposal or transport by means of dump truck to a disposal site.

Use sorbent to cleanup remaining contained product.

Recover oiled sorbents and place into steel drums for ultimate disposal.

6.8. DISPOSAL

The following are a number of methods available in Inuvik for the disposal of oil spill products.

6.8.1. In-Situ Burning at Spill Site

In the case of a major spill, some of the fuel released at the site may be disposed of through onsite burning. Precautions must be taken to ensure fire cannot burn back to fuel storage tanks.

6.8.2. Open Pit-Burning

Incineration of oiled debris in open pits or open top barrels is another alternative at remote sites.

Surface burning, using berms and built-up areas wherever possible, is preferred to disturbing the permafrost substructure.

If there is a possibility of oil spill debris disposal in Inuvik or any other community permission may also be required from the Government of Northwest Territories.

Contact: Regional Superintendent (GNWT, Inuvik)

(867)777 -7200

6.8.3. Slop Oil Disposal Site - Inuvik

Oil contaminated snow and recovered oil, either fluid or frozen, may be transported to Inuvik, contact Arctic Tire for transportation of contaminated snow from spill site to Inuvik for disposal or burning.

6.9. POST SPILL REPORTS

Any spill

The diaries of the on-site personnel are the primary sources of information. The report should include the following:

- an analysis of events leading up to the spill, cause of the spill, type of oil spilled, duration of spill
- a chronological description of all areas contaminated by the spill and extent of contamination

- cleanup procedures utilised in each area, including duration of activities, number of personnel involved in the cleanup, types and number of equipment employed
- description of weather conditions, and river currents and how they affected the movement of the oil and the cleanup operations
- an analysis of the success of cleanup in each area contaminated, and evaluations of equipment used
- description of environmental protection measures and their success
- initial statement of environmental impacts
- statement of property damage
- summary of total volume of the spill and volume recovered, and estimates of the fate of the oil lost including approximate amount lost to each natural process
- statement of damage to company property as well as damage to others' property, including details of cause, type and extent of damage
- salvage operations and their success (if applicable)
- a list of all government personnel and other authorities contacted including date, time and title
- all news released, government communications and records of interviews
- summary cost breakdown of cleanup, including equipment, manpower, materials, accommodations, transportation claims
- summary of injuries or deaths caused by the spill or occurring during cleanup
- suggestions to improve cleanup operations during future responses
- summary analysis of what went right and what went wrong including reporting procedures

Provide a detailed report to the Water Resources Inspector within 30 days of occurrence.

