Appendix B Emergency Response Plan



PGS GEOPHYSICAL SERVICES ONSHORE

CREW 320

DELILAH 3D

EMERGENCY RESPONSE PLAN



| PGS Onshore Inc. |
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| Prepared by: KS |
| Authorized by: KS |
| Issued by: KS |
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| | | | Survey Crew Vehicles | | 1 | Crew HSE |
| | | | Project Coordinator Vehicles | | 1 | Corporate HSE Manager |
| | | | Permit Crew Vehicles | | | |
| | | | | | 1 | Client Office |
| | | | | | | |
| | | | Helicopter Vehicles | | | |
| | | | Project Coordinator Vehicle | 1 | | |

All vehicles, boats, Kubotas, and workshops will have a Quick reference ERP.



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TELEPHONE CONTACT INFORMATION

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1.1 PGS CORPORATE – 15150 Memorial Drive HOUSTON, TX 77079

| NAME | OFFICE NO. | CELL NO. | HOME NO. |
|-----------------------------------|--------------|--------------|--------------|
| ERIC WERSICH – President | 281-509-8384 | 281-948-7573 | 832-595-9429 |
| WAYNE MILLICE, General Manager NA | 281-509-8271 | 281-787-3814 | 281-835-1168 |
| JERRY LAWSON Operations Manager | 281-509-8238 | 713-898-5576 | 281-578-2129 |
| MURRAY SAXTON – HSEQ Manager | 281-509-8331 | 281-948-8869 | 281-277-6582 |
| HOUSTON OFFICE, Receptionist | 281-509-8000 | | |

1.2 PGS CREW 320 -

| NAME | OFFICE NO. | CELL NO. | FAX NO. |
|---------------------------------|--------------|--------------|---------|
| KEITH STEVENS, Field Supervisor | 281-509-8000 | 713-725-4516 | |
| NICKY BLAKENEY, Party Manager | 281-509-8000 | 281-543-3844 | |
| DALE KLUCK, Party Manager | 281-509-8000 | 281-507-9087 | |
| FRED HAMILTON, HSE Officer | 281-509-8000 | 281-229-4839 | |
| LANCE BRYAN, HSE Officer | 281-509-8000 | 281-229-1624 | |
| OBSERVERS, Recorder Truck | | 281-543-6898 | |

1.3 CLIENT - Cimarex

| NAME | OFFICE NO. | CELL NO. | HOME NO. |
|--------------|--------------|--------------|----------|
| Mark Wagaman | 303-285-5814 | 303-810-8344 | |
| | | | |
| | | | |
| | | | |

1.4 PGS CREW 320 CONTRACTORS -

| NAME | OFFICE NO. | CELL NO. | FAX NO. |
|--------------|--------------|----------|---------|
| OGM Land | | | |
| Omni Energy | 337-896-6664 | | |
| Geo Explorer | 713-206-0601 | | |

1.5 EMERGENCY SERVICES -

| NAME | OFFICE NO. | EMERGENCY NO. | |
|-------------------------------------|--------------|---------------|---|
| Highway Patrol | 409-898-0771 | 911 | |
| Sherriff | 409-835-8411 | 911 | |
| Beaumont Police Dept | 409-832-1234 | 911 | |
| Kuntz Police Dept | 409-246-2119 | 911 | |
| FIRE DEPT. | | 911 | |
| AMBULANCE | | 911 | |
| POISON CONTROL | 800-256-9822 | | |
| OSHA – FEDERAL | 800-321-OSHA | | |
| Texas Parks and Wildlife Department | 409-892-8666 | | |
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2 INTRODUCTION

This Emergency Response Plan (ERP) is site specific for PGS Crew 320 on the DELILAH 3D project near and around Sour Lake, TX. The ERP addresses each emergency situation with written instructions and a flow chart. The following situations have been addressed in this ERP:

- Medical Emergency
- Fire Emergency
- Severe Weather Emergency
- Spill Emergency
- Vehicle Incident Emergency
- Search & Rescue Emergency
- Helicopter Emergency

2.1 OSHA REGULATIONS

Emergency response plans are developed to provide guidelines on what actions to take if an emergency should occur. In 29 CFR 1910.38(a), OSHA lists the minimum elements that should be included in all PGS emergency response plans. These elements include:

- Emergency escape procedures and emergency escape route assignments.
- A procedure to account for you and your coworkers after emergency evacuation has been completed. It is important to make sure that all employees have been safely evacuated.
- Rescue and medical duties for those employees who are to perform them.
- The procedure for reporting fires, injured personnel and other emergencies.
- Names of persons who can be contacted for further information or explanation of duties.

2.2 REVIEW

This plan shall be reviewed each month and/or every time there is a drill or an incident. The Party Manager and the Crew HSE Officer will assess the effectiveness of the plan. All revisions will be communicated to the crew through meetings and revised documentation.

2.3 TRAINING REQUIREMENTS

The ERP must be reviewed with each employee when:

- The plan is introduced (orientation training).
- The employee's responsibilities or designated actions under the plan change.
- The plan is changed (each new job site)

Responsibilities of individual crew members should be determined and assigned. Drills should be conducted at job start and at regular intervals thereafter as stated in the Crew HSE Plan.



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2.4 EMERGENCY RESPONSIBILITIES

CREW SUPERVISOR; maintains communication with PGS and Client Mgmt. in Houston.

PARTY MANAGER; manages overall emergency response.

- Evaluates incoming emergency-related information.
- Determines the response plan of action and activates it.
- Notifies and updates upper management of status of the crisis.
- Acts as the official representative who communicates with outside fire and rescue agencies.
- Directs and monitors the emergency activities. Assigns personnel as needed.
- Provides information to upper management and/or public relations.
- Assists in determining when the resumption of normal activities can begin.

HSE OFFICER; assists PM with emergency response.

- In the absence of the PM or APM, the HSEO will assume their ERP duties.
- Maintains a current list of their location personnel for emergency roll call purposes.
- Manages the securing of any records of value and confidentiality.
- Based on hours of operation, location and crew size will appoint and train the appropriate number of ERP Team leaders and members. Maintain a current list of these personnel and appoint replacements as necessary.
- Conducts ERP induction training for new crew personnel and update briefings.
- In the event of an evacuation, the Emergency Coordinator will perform a roll call and determine if all persons and visitors were accounted for.

CREW 320 EMERGENCY TEAM LEADERS; are assigned to respond to the following:

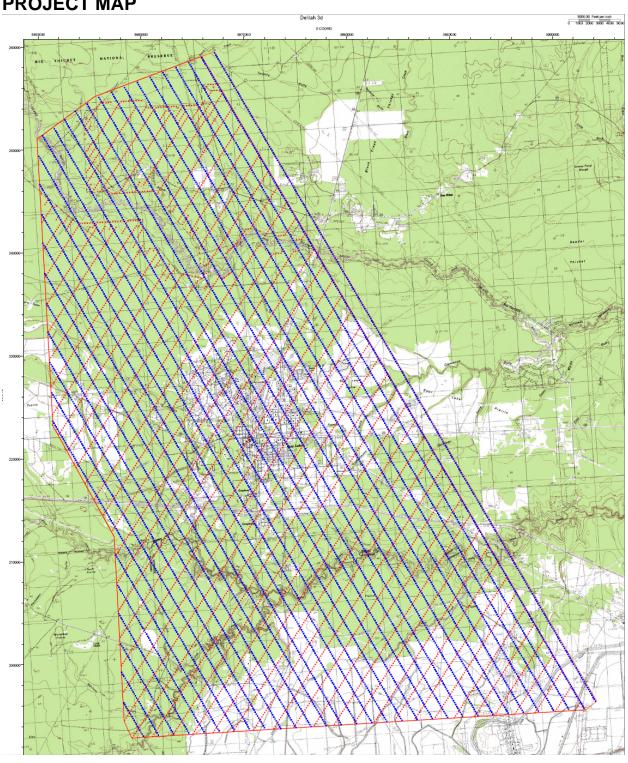
| MEDIVAC | FIRE | H2S |
|-------------|-------------|-------------|
| PM | PM | PM |
| HSEO | HSEO | HSEO |
| CLERK | CLERK | CLERK |
| FIRST AIDER | FIRST AIDER | FIRST AIDER |



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PROJECT MAP





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Take Hwy 105 to Hwy 69 and turn south (right). Travel south until you reach the Delaware St. Calder Ave. EXIT. Exit and continue on service road until you reach North St., turn east (left) continue to Emergency Entrance.





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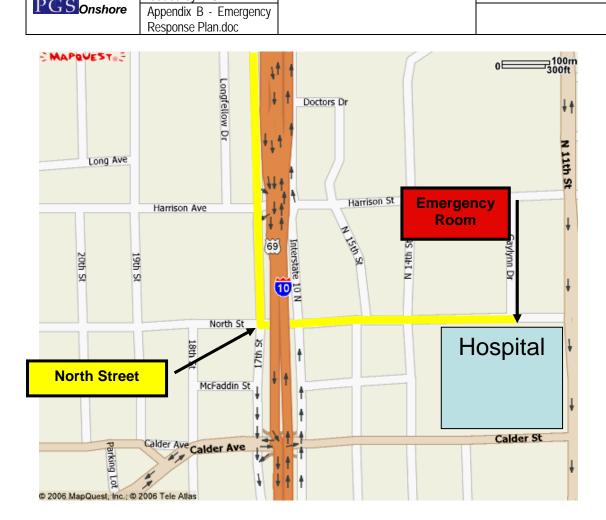
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MEDICAL EMERGENCY

3.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities. Assesses damage and directs medivac response.
- HSE Officer; assists PM in all activities.

3.2 EQUIPMENT REQUIREMENTS

- Radio/Cell Phone
- First Aid Equipment
- Fire Extinguishers

3.3 IMMEDIATE RESPONSE

After assessing the injured person notify the Party Manager, Observer or senior person. Be prepared to provide the following:

- Exact location of incident site (best route for access)
- Number of people injured and nature of injuries (do not mention the names of injured on radio)
- What resources you have at hand (personnel, vehicles, medical equipment etc.)
- · What resources are needed
- How you can be contacted
- Observer will cross reference the location with closest muster point on map to give to EMS.
- Observer will dispatch someone to meet EMS at muster point and guide them to incident location

3.4 STAGE #2 RESPONSE

Provide 1st aid care for injured person.

Stay Calm
 Assess what has happened

Fire, Electricity, Road Traffic, Falling Debris, and Extreme Cold

• Do Not Move Victim(s) Do not attempt to move anyone who is unconscious, has a broken

limb or injured back. Keep person from moving.

• **Apply BBP protection:** Put on gloves, glasses and mask as needed to protect yourself. In certain situations there may be numerous injured personnel. Identify and treat first those who have an immediate life threatening condition. To preserve life, ensure the following:

Airway Ensure airway is open and maintained

Breathing Check for breathing – rescue breathing if necessary

Circulation Check victim for pulse - CPR if necessary
 Control Bleeding: Direct pressure, elevation, pressure points

Treat for Shock:
 Treat injuries:
 Collect information:
 Elevate feet (if no head injury) insulate patient from heat or cold
 Treat injuries, make patient comfortable, do no further harm.
 Record if conscious (signs, and symptoms, allergies, medication

taken, pertinent past illnesses, last oral intake, events leading to

pertinent past illnesses, events leading to the illness/injury.)



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EMERGENCY FLOW CHART



STAGE 1 FIRST AID

CALL FOR HELP

- Contact the Recorder or call # 911
- Dispatch some one to muster point

VICTIM ASSESSMENT

- Determine responsiveness
- Perform initial assessment of ABC's

INJURED VICTIM

- Physical exam treat serious injuries
- SAMPLE history

SICK VICTIM

- SAMPLE history
- Physical exam examine only area of pain

LAND EVACUATION

PM or Observer calls # 911 with the following:

- Location of incident (GPS)
- Number of persons needing help
- Injuries sustained
- Treatment Given
- Victims condition
- Location to meet Ambulance (muster point)
- Do not hang up until EMS does

EMS AMBULANCE 911

LIFE FLIGHT 911 **DISPACHED BY EMS**

AIR EVACUATION LANDING ZONE REQUIREMENTS

- Locate area clear of loose debris & dust
- Establish wind sock (Flagging)
- All personnel moved out of LZ
- Secure all equipment and supplies

STAGE 2 MED-**EVAC**



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4 FIRE EMERGENCY

4.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, assesses damage and directs fire response
- HSE Officer; assists PM in all activities
- Fire Team Leader; in charge at fire scene
- Fire Team Members; assist Team Leader at fire scene

4.2 EQUIPMENT REQUIREMENTS

- Radio for Team Leader
- First Aid Equipment
- Fire Extinguishers
- · Field piss pumps
- Field shovels
- Field flappers

4.3 IMMEDIATE RESPONSE

It is the responsibility of all crew members to understand their duties and responsibilities in case of a fire emergency. When the alarm sounds, all crew members shall muster at their assigned stations. Upon detection of fire, no matter how small:

- Sound Alarm / Call Fire Dept.
- Fire team attempts to extinguish small fires with hand-held extinguisher or fire blankets
- Move to muster point immediately
- Shut off main electrical power

4.4 STAGE #2 RESPONSE

If the fire is too large to extinguish with available resources call the Fire Dept. if not done yet.

- Get help quickly.
- Everyone is to leave immediately by the nearest exit and proceed to the Muster Point.
- Account for all personnel. Conduct head count, keep all at point until all clear is given.
- Determine Exact location and the Extent of fire Size, Equipment involved.
- Note wind direction. Assess the state of the fire.
- Dispatch vehicle to meet the fire department to lead them to the fire area.
- Secure the incident scene after fire is extinguished for investigation.
- PGS personnel should assist the fire department if requested. Otherwise, the crew should remain out of the way.
- Make sure that access to fire by fire apparatus is not blocked by company vehicle



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FIRE EMERGENCY FLOWCHART





CALL FOR HELP

Call the Recorder OR call # 911

MOVE TO MUSTER POINT

Account for all personnel

ASSESS THE SITUATION

- Observer assesses safety with team on site
- Determine if fire can be controlled safely

CONTROL FIRE

- Determine wind direction and exit routes
- PGS Fire Team moves to suppress fire





CALL LOCAL FIRE DEPT

- PM calls # 911
- Location of fire street address or GPS
- Injuries sustained
- **Treatment Given**
- Location to meet Fire Department
- 11 Communication available at fire

FIRE CONTROL

- PGS assists Fire Dept. as requested
- PGS vehicles moved out of harms way

SECURE INCIDENT SCENE

- Close site for investigation
- Enter only after Fire Dept. gives all clear







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6 SEVERE WEATHER – LIGHTNING EMERGENCY

6.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, assesses situation and directs response
- HSE Officer; assists PM in all activities
- Observer, Severe Weather Team Leader; in charge in field
- Troubleshooters, assist Team Leader in field to disconnect cables and muster personnel

6.2 EQUIPMENT REQUIREMENTS

- Radio for Team Leader
- First Aid Equipment
- Fire Extinguishers

6.3 IMMEDIATE RESPONSE

In the event of an electric storm the seismic recording line offers a large expanse of conductive material which is attractive to lightning. Some warning time will generally be given in the form of lightning in the distance which is normally accompanied by thunder.

Lightning can strike as much as 10 miles away from the rain area in a thunderstorm. That's about the distance one can hear thunder. When a storm is 10 miles away, it may even be difficult to tell a storm is coming.

The speed of sound is roughly 750 mph or approximately **one mile every 5 seconds**. The speed actually varies greatly with the temperature but the thumb rule is 5 seconds = 1 mile.

6.4 STAGE #2 RESPONSE

Survey: Drop all metal tools and survey range poles.

Drilling: lower the mast of the drill, move the drills away from overhead power lines, move all personnel away from the drills. Drop all metal tools, loading poles, pipe or drill stems.

Recording: disconnect the recording truck from the line, disconnect the power supply unit from the line, lower all antennas. Get all personnel into the vehicles (NOT under), be prepared to sit and wait it out.

Explosives: Suspend all explosives operations: transportation, loading, shooting, etc. Explosive magazines made of metal should be grounded with a cable and metal stake or grounding rod.

Transport: Suspend grounded vehicle operations and move clear of the unit. You are safer inside a rubber-tired vehicle but park it in a low open area rather than under trees. Do not shelter underneath a vehicle. If a vehicle has taken a lightning strike, the occupants should avoid panicking and must remain inside the vehicle until the body has been earthed before dismounting. A length of chain thrown over any metal part and touching ground will prove sufficient to earth the residual static.



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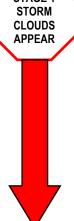
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SEVERE WEATHER - LIGHTNING EMERGENCY FLOWCHART



STAGE 1 STORM



Call the recorder to report lightning in field

ASSESS THE SITUATION

- Observer assesses safety with PM
- DetermineSAMPLE history

INFORM FIELD CREWS

- Contact all field crews via radio
- Arrange for vehicles to move to crews .



DISTANCE TO LIGHTNING – 10 MILE MOBILIZE TROUBLESHOOTERS

- 50 seconds = 10 miles
- Start plan for disconnect & vehicles to crew

DISTANCE TO LIGHTNING – 5 MILE SHUT DOWN OPERATIONS

- 25 seconds = 5 miles
- Shut down line Take shelter inside vehicle

DISTANCE TO LIGHTNING – 3 MILES TAKE IMMEDIATE SHELTER

- 1 15 Contact the Recorder or call # 911
- 2 Dispatch some one to muster point

MONITOR WEATHER on AM RADIO

> STAGE 2 **THUNDER HEARD**



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SPILL EMERGENCY

7.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, Assesses damage and directs spill response
- HSE Officer; assists PM in all activities
- Spill Emergency Team Leader; in charge at spill site
- PGS Personnel assist Team Leader at spill site

7.2 EQUIPMENT REQUIREMENTS

- Fire extinguishers, fire prevention equip.
- Absorbent material
- Containment Berns
- Plastic tarps & liners
- Drip Trays
- First Aid Equipment
- Special PPE (neoprene gloves, aprons, goggles, breathing apparatus)
- Liquid pumps (properly rated to handle the hazmat being pumped)
- Tools (shovels, etc.)
- Plastic Bags / Containers for the cleaned up HAZMAT

7.3 IMMEDIATE RESPONSE

Assess the scene for hazards to yourself and the public. If safety hazards exist:

- Evacuate the area
- Notify the local authorities
- Notify the public in the area, if necessary
- Eliminate the hazard if you can do so safely
- · Take steps to prevent fires or explosions
- Stop the source of the spill as soon as it is safe to do so.
- Contain the extent of the material / liquids already spilled
- Clean up the contaminated area if it is safe to do so

7.4 2nd STAGE RESPONSE

Major hydrocarbon spills will necessitate the pumping of surface fluid /collection of contaminated soils into tanks or fuel drums. Waste hydrocarbons will then be stored for later transportation to a suitable re-cycling facility.

- Contact the Proper authorities to eliminate hazard, if necessary fire department-hazmat response team
- All spills into water must be reported immediately. Often State/Fed regulations exist.
- Stop & contain the spill immediately (Speed of action on this is important) (Preplanning!)
- Contact professionals to assist if necessary & available
- Skim and pump hazmats from water to proper container



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SPILL EMERGENCY FLOWCHART





LESS THAN 10 GALLONS

- Stop source of spill if safe to do so
- Mobilize to the site w/ PPE
- Prevent fire explosion
- Contain & clean up the spill area
- Report spill to Party Manager
- Record GPS coordinates of site



10-50 GALLONS

- Stop source of spill if safe to do so
- Report spill to Party Manager
- Mobilize to the site w/ PPE
- Prevent fire explosion
- Contain & clean up the spill area
- Record GPS coordinates of site







- Stop source of spill if safe to do so
- Report spill to Party Manager
- Report spill to EPA immediately
- Contact professionals to assist
- Mobilize to the site
- Contain & clean up the spill area
- Record GPS coordinates of site









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9 VEHICLE INCIDENT EMERGENCY

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9.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, assesses damage and directs incident response
- HSE Officer; assists PM in all activities

9.2 EQUIPMENT REQUIREMENTS

- Radio
- First Aid Equipment
- Fire Extinguishers
- Vehicle Crash Kit for remote locations
- 2 waterproof flashlights with spare batteries
- 2 shovels, 1 hacksaw with spare blades
- 2 knives, 2 tow straps w/
- shackles, 1 bolt cutter
- 1 crowbar, 1 come along, 1 sledge hammer

9.3 IMMEDIATE RESPONSE

If you arrive at the scene of the accident, the first priority is to make the accident site safe by warning approaching vehicles and getting those involved away from any potential danger. If there are any casualties provide 1st aid until EMS arrives. Contact your Supervisor, if not available, call the office with the following information:

- Location of accident
- Number of casualties
- Seriousness of injuries
- Vehicles involved

9.4 STAGE #2 RESPONSE

Once the incident scene is secured and injured personnel treated, begin to collect the following:

Incident Data

- o Date
- o Time
- o Place
- o Roadway
- o Landmark

Injury

- Persons injured
- Persons killed
- Persons transported for medical treatment
- Who transported them

Investigation

o Was the incident investigated by the Police?

o Dept. Name Badge # Officer Name

o Citations issued? List persons cited or arrested

Vehicle Information

o Make Model Year

o Driver Address License & Phone #

o Owner Address Phone #

o Insurance Company

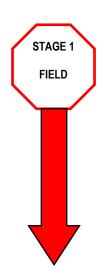


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10 VEHICLE INCIDENT FLOW



CALL FOR HELP

Call Recorder or # 911

PROVIDE 1ST AID CARE

See MEDICAL EMERGENCY CHART

ACTION AT SCENE

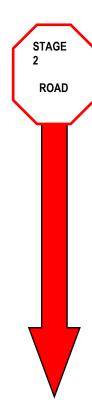
- Do not move vehicle
- Move people away from vehicle
- Secure incident scene for investigation
- Conduct Drug/Alcohol test



VEHICLE INCIDENT ON THE ROAD



- Stop vehicle and turn on flashers
- Do not move vehicle from scene
- Set up warning triangle or flagman
- **3** Provide 1st APhysDetermine responsiveness
- 4 Perform initial assessment of ABC's
- isor or PGS Office
- 5 Provide only the PoContact the Recorder or call # 911
- **6** Dispatch some one to muster point
- 7 veness
- **8** Perform initial assessment of ABC's
- required alcohol/drug test
- Obtain witnesses info use Report Kit
- Do not admit fault to anyone
- If other driver admits fault ask them to
 - o Sign statement that exonerates you and PGS from blame w/date
- Protect vehicle and equipment if towed







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| Issued by: KS |
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11 SEARCH & RESCUE EMERGENCY

Response Plan.doc

10.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, assesses situation and directs lost man response
- HSE Officer; assists PM in all activities

10.2 EQUIPMENT REQUIREMENTS

- First Aid Equipment
- Project Maps, ERP, Cell Phones, Radios, compasses, GPS, Spot lights
- Binoculars, Spare Food & Water, Blankets, Flares, Flash lights
- Fire Extinguishers
- SAR Kits

10.3 IMMEDIATE RESPONSE

The golden rule in these situations is, calm and deliberate preparation, careful planning, and regular reporting by the SAR Team to the PM who is co-coordinating the operation. Consider the following first:

- **Incident** If the missing person has had an accident, he may be injured. He is not lost, and probably will be found in the work area or between the camp and the work area.
- **Mechanical Trouble** If his vehicle will not run or if he is stuck, he is not lost and probably will be found in the work area or between the camp and work area.
- Lost If the missing person is lost on the way to work, he probably will try to return to camp after looking for the work area. He could easily bypass the camp and be somewhere on the opposite direction of the camp in relation to the work area. If he gets lost while returning to camp after work, he probably will start in the right direction and bypass the camp, ending up again in the opposite direction in relation to the work area.
- Lost and accident A lost person who continues driving tends to drive faster and faster as time goes by. He feels the camp must be just over the next hill and when it is not, panic sets in. For some people, this is very dangerous, and accidents are likely to occur.
- **State of mind** Every crew member must realize that sooner or later, they may be involved in an accident or breakdown, or get lost, and not be able to return to camp.

10.4 STAGE #2 RESPONSE

Search teams should include personnel with the most experience in work area. Search teams must not put additional personnel at risk. A search party should never leave it's base location until they understand the following information:

- Names and the number of people lost
- The departure time, ETA and planned route of lost vehicle
- The color and model of vehicle
- What communications the lost vehicle has
- Size and type of search to be conducted GPS & maps distributed to competent person
- Radio discipline and reporting protocol back to base
- Return to base ETA for search teams



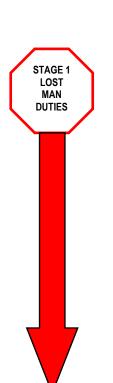
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CREW 320 DELILAH 3D EMERGENCY RESPONSE PLAN

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11 SEARCH & RESCUE EMERGENCY FLOWCHART





LOST / BROKE DOWN VEHICLE

STAY WITH YOUR VEHICLE!!

CALL PGS VIA RADIO OR PHONE

- No reply CALL # 911
- STOP Don't drive w/o plan-waste of gas
- THINK Can you follow your tracks?
- **OBSERVE** Look for high point for radio
- PLAN Make plans to stay one night

SIGNAL - SHELTER - WATER

- Set up ground to air signal, prepare fire
- Use vehicle for shelter, shade, heat
- Conserve your sweat, not your water



E.T.A. 1 HOUR OVERDUE

- Call overdue vehicle and others in area
- Prepare SAR Team for search

E.T.A. 2 HOURS OVERDUE

- Call field crew to begin road search
- Call Sheriff to notify of possible SAR need
- Dispatch Crew SAR Team to site
- PM controls search from fixed point

E.T.A. 3 HOURS OVERDUE

- Call Sheriff to request SAR assistance
- Assist Sheriff SAR team







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12 HELICOPTER EMERGENCY

12.1 PERSONNEL REQUIREMENTS

- Party Manager; in charge of all activities, assesses damage and directs incident response
- HSE Officer; assists PM in all activities
- LZ Foreman; Team Leader in charge at incident scene
- LZ Crew; assist Team Leader at incident scene

12.2 EQUIPMENT REQUIREMENTS

- Radio for Team Leader
- 1 Trauma kit
- 1 basket stretcher
- 20 lbs Powder/CO2 ext
- 8 lbs Foam extinguisher
- 1 Hack Saw w/blades
- 1 Crowbar
- 1 Sledge hammer

- 2 Large cutting pliers
- 1 Bolt Cutter
- 1 fire blanket
- 2 pr heat pro gloves
- 2 pr safety glasses
- 1 hammer
- 1 grab hook
- 1 tow strap w/shackles

- 1 axe / chainsaw
- 2 Space blankets
- 1 Trauma 1st aid kit
- 1 Signal mirror
- 1 aluminum ladder
- 1 come along puller
- 1 duffel bag for kit

12.3 IMMEDIATE RESPONSE

Crew Observer, Staging Area Foreman, Helicopter Load Master and Crew HSE Officer are to ensure that the Crash kit and Fire extinguishers are correctly placed.

Helicopter main Helipads should have a combination of (20 lbs/45 kg) ABC dry chemical and CO₂ extinguishers as well as (8 lbs/18 kg) foam fire extinguishers available near the landing area. All personnel associated with the helicopter operations, including crew members, should receive training in the use of all firefighting equipment.

Helicopters fly on turbine engines and use kerosene fuels. The type of fuel most commonly used is Jet A-1, and it has a flash point of approximately 40° C. The kerosene grades of fuel will not form ignitable mixtures at normal temperatures and pressures, but it should be remembered that kerosene fuel in the form of spray or when heated is much more readily ignited than in bulk, and in a crash it may be sprayed on to hot engine parts or exhaust ducts.

If firefighting is required at the site of a crash, the following guidelines should be followed: Whatever agents (extinguishers) are available should be discharged at high output rates to suppress flame as quickly as possible.

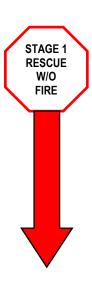
- Where only secondary agents (Dry Powder CO₂) are available, it is important to try to conserve enough of the agent to be able to deal with a flashback.
- Fire crews with branches or applicators should approach the helicopter pressing in to very close quarter as quickly as the situation allows.
- Suppress flames surrounding the cabin area.
- Gain access to the fire in the vicinity of the fuel tanks (e.g. beneath cabin floor, behind bulkhead, or in wing sponsors).
- Dry Powder or B.C.F. may be more rapidly effective that foam against internal fires.



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13 HELICOPTER EMERGENCY FLOW CHART





CALL FOR HELP

- Call Recorder AND # 911
- PM calls Southern Helicopters Office

SURVEY THE SCENE

- Control the scene Keep people away
- Assess the fire danger
- Assess the stability of the helicopter
- Assess entry and exit routes

PROVIDE 1ST AID CARE

- See MEDICAL EMERGENCY CHART
- Assume spinal injury control movement and wait for EMS if no danger of fire

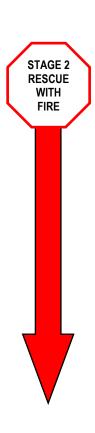


FIRE CONTROL

Helicopter fires are extremely hazardous given high temps, fuel and high pressure lines. Care must be exercised when rescuing crewmembers from the aircraft. Do not try to control a large fire.

- Shut off power If no mechanic is available to shut off the engine the Fire Dept can stop the engine by spraying a jet of water into the air intake
- Foam the fuselage to protect it from heat
- Fire team moves into cabin w/extinguishers
- Beware of toxic smoke SCBA required
- Secure incident scene for investigation
- Conduct Drug/Alcohol test

Southern Helicopters, Inc 702-290-8839





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14 APPENDIX 1 – EMERGENCY RECORDS

Emergency situations requires communication discipline. All official PGS communications regarding an emergency must be cleared through the office of the Crew Supervisor. The following procedures will help deal with any outside inquires regarding an emergency.

All information provided to the client or local authorities shall be limited to facts. Speculative causes of the accident should not be discussed. Information should be provided on a 'need to know" basis.

- Any calls received, which request information about an emergency must be recorded on a time log. This phone log must record the nature and time of the call. The log will be maintained until the emergency is over for use in the accident investigation.
- Under no circumstances release any information to other companies, or the public. A proper response would be: "PGS has had an accident. No details are available. We are currently dealing with the situation and have initiated our emergency procedures".
- If the family of an injured employee calls, the following action should be taken:
 - o Refer all calls from family members to senior management.

14.1 OFFICE RADIO & TELEPHONE LOG SHEET

This form should be maintained at the radio or telephone for the duration of the emergency.

| DATE & TIME | CALLERS NAME, NATURE OF CALL | |
|-------------|------------------------------|--|
| | | |
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14.2 FIELD 1ST AID LOG SHEET – (form optional to assist in collecting information)

| $\sqrt{}$ | FIELD TO PM - INFO REQUIRED | DETAILS |
|-----------|--|---------|
| | Incident location | |
| | Personnel involved (Name & Age) | |
| | Injuries/damage sustained | |
| | Time of incident | |
| | Best route to incident or rendezvous point | |
| | Communication contact (cell number / radio freq) | |
| | GPS Coordinates of incident scene or LZ | |
| $\sqrt{}$ | PM TO EMS – INFO REQURIED | |
| | Time of incident | |
| | Pass on patient (s) name | |
| | Pass on patient (s) location | |
| | Pass on patient(s) injuries | |
| | Pass on incident contact information | |
| | Pass on best route to incident or rendezvous point | |
| $\sqrt{}$ | 1 ST AIDER TO EMS – INFO REQUIRED | |
| | Airway (open, closed) | |
| | Breathing (strong, weak, absent) | |
| | Circulation / Pulse (strong, weak, absent) | |
| | Level of Consciousness (alert, confused, unconscious) | |
| | Respiration (check every 10 min) | |
| | Temperature (check every 10 min) | |
| | Patients complaints (record what you are told during exam) | |
| | Physical exam (record what injuries you find during exam) | |
| | EMS arrival time | |
| | Medic name | |
| | Medic comments | |
| | Condition of patient at time of departure | |
| | Departure time | |
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15 APPENDIX 2 - INCIDENT REPORTING INSTRUCTIONS

15.1 INCIDENT CLASSIFICATIONS

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| LEVEL 1 MINOR | LEVEL 2 MAJOR | LEVEL 3 SIGNIFICANT |
|--|---|--|
| CRITERIA | CRITERIA | CRITERIA |
| No threat to public health/safety | Threat to public health/safety | Threat to public beyond worksite |
| No off site environmental impact | Off site environmental impact | Environmental beyond worksite |
| No media attention | Police/Fire, Media involved | Negative Media coverage |
| EXAMPLES | EXAMPLES | EXAMPLES |
| Restricted Work Case (RWC) Med Treatment Case (MTC) First Aid Case (FAC) | Lost time Incident (LTI) Non-work-related fatality (natural causes, unrelated) | Work-related fatality Injury w/potential to cause death or permanently disable |
| Potential loss \$0K-\$1KMinor fire | Potential loss \$1K-\$25KFire, explosion | Potential loss <u>></u> US\$ 25K Major fire |
| Near Miss with potential for serious injury Any vehicle citation Any vehicle incident without injuries | Near miss involving a helicopter with potential for serious injuries Any vehicle incident w injuries | Any helicopter crash or emergency landing Any vehicle incident with life threatening injuries |

15.1.1 MONITORING - INCIDENT REPORTING SCHEDULE

| LEVEL 1 MINOR Report – Within 48 hrs. | LEVEL 2 MAJOR Report – Within 24 hrs. | LEVEL 3 SIGNIFICANT Report – Immediately |
|---|---|--|
| CREW MGR TO: | CREW MGR TO: | CREW MGR TO: |
| Compliance Supervisor | Compliance Supervisor | Operations Supervisor |
| Operations Supervisor | Operations Supervisor | Operations / Area Manager |
| Operations / Area Manager | Operations / Area Manager | Regional General Manager |
| Regional HSE Manager | Regional HSE Manager | President |
| | Regional General Manager | Client Representative |
| | Worldwide HSE Manager | Compliance Supervisor |
| | Client Representative | Regional HSE Manager |
| | | Worldwide HSE Manager |

15.1.2 MONITORING - INCIDENT INVESTIGATION

| LEVEL 1 MINOR | LEVEL 2 MAJOR | LEVEL 3 SIGNIFICANT |
|-------------------------------|-------------------------------|---------------------------|
| Party Manager/Project Manager | Operations Supervisor | Worldwide HSE Manager |
| Immediate Supervisor | Regional HSE Manager | Operations / Area Manager |
| Crew HSE Officer | Party Manager/Project Manager | Operations Supervisor |
| | Immediate Supervisor | Party Manager |
| | Crew HSE Officer | Immediate Supervisor |
| | Client Representative | Crew HSE Officer |
| | | Client Representative |



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15.2 SPILL CLASSIFICATIONS

| LEVEL 1 MINOR Report – On Monthly Spill Summary | LEVEL 2 MAJOR Report – Within 48 hrs. | LEVEL 3 SIGNIFICANT Report – Immediately |
|---|--|---|
| EXAMPLES | EXAMPLES | EXAMPLES |
| Minor Spill ≤ 10 gallons in open areas. Recovered or cleaned up immediately | Major Spill 10 – 50 gallons Any size Hydrocarbon Spill into waterways/sensitive areas | Significant Spill ≥ 50 gallons Pipeline damage resulting in uncontrolled spill |
| CREW MGR TO: | CREW MGR TO: | CREW MGR TO: |
| Crew Supervisor | Regional VP | President |
| Corporate HSE Manager | Corporate HSE Manager | Regional VP |
| - | Crew Supervisor | Corporate HSE Manager |
| | Client Representative | Crew Supervisor |
| | Land Owner | Client Representative |
| | | EPA/National Response |
| | | Land Owner |