



gener
EMERGENCY PLAN
CORDILLERA COMPLEX
MARCH 2006

CONTENTS

<u>INTRODUCTION</u>	3
<u>PURPOSE</u>	3
<u>GLOSSARY</u>	3
<u>APPLICATION</u>	4
<u>PROCEDURES</u>	4
➤ EMERGENCY CREW	5
➤ PERSON DETECTING THE EMERGENCY	5
➤ CONTROL ROOM OPERATOR	5
➤ EMERGENCY NUMBERS	5
<u>GENERAL GUIDELINES TO FACE AN EMERGENCY</u>	6
➤ FIRES	6
➤ EARTHQUAKES	9
➤ AVALANCHES	10
➤ FLOODING	10
➤ SERIOUS ACCIDENTS – PEOPLE - INSTALLATIONS – EQUIP,ENT	
➤ RIVER FLOODING	11
➤ EXITS IN THE ALFALFAL MACHINES CAVERN	11
➤ COMMUNICATIONS TO SHIFT PERSONNEL	12
<u>MISCELLANEOUS</u>	12
➤ HELIPORT	12
➤ WINTER PROGRAM	12
➤ PERMANENT STANDBY	12
➤ VEHICLES PARKED INSIDE CAVERN	12
➤ STRETCHERS	13
➤ FIST AID KITS	13
➤ RESCUE TEAMS	13
<u>ANNEXES</u>	14
➤ Injuries of personnel outside work hours	15
➤ River flooding	16
➤ Exits Alfalfal Cavern	20
➤ Communications to shift personnel	24
➤ Alfalfal – Maitenes Wintering Plan	27
➤ Queltehues – Volcán Wintering Plan	40

Preparation for Emergency situations.

1.INTRODUCTION

As all the personnel working in the Cordillera Complex knows, the risks present in different premises of the place are different, therefore, the emergencies which we may face are different, their dangerousness degree is also different, depending on their nature.

Therefore, an Emergency Handbook is necessary and indispensable, so that the personnel may be prepared to face any unfavorable event and know how to act in a correct and safe manner.

For this reason, it will be the **duty** of all the in-house and external personnel working in the Complex to know the contents of this Handbook.

For external personnel, each Contractor Company will receive this Handbook and will sign a document attesting their knowledge and approval of it.

2.PURPOSE

The purpose of the preparation of an Emergencies Handbook is to give the necessary information so that the workers may know how to act when facing this type of events so as to protect them and the equipment from greater damages that could happen if the guidelines and procedures to follow when facing an emergency were not known.

3.GLOSSARY

- **Cavern:** Alfalfa zone where the Machine Room is sited.
- **Emergency** Manifestation of out of control conditions, unlike those normally expected.
- **EPP:** Personal protection equipment
- **PES:** Dry Chemical Powder
- **Control Room** Place where the Cordillera Complex installations are controlled and operated.
- **Machine Room** Place where the primary generation equipment is installed.

4.APPLICATION

This Handbook is to be used to face the following emergencies:

- Fires
- Earthquakes
- Avalanches
- Flooding
- Serious accidents to persons, facilities or equipment.

5.CONSIDERATIONS

- It should **always** be kept in mind that, when facing an emergency, **one should not act alone** Therefore, when an emergency arises, help should be asked at once from the Control Room, by means of the EMERGENCY PHONE LINE 3100 and/or portable radio,
- Any worker going to the field, Intakes, roads, etc., should always carry a portable radio to warn of any abnormal condition.
- When going to the field, at any moment, the minimum EPP should be worn, that is, safety boots, helmet and goggles.

6.STANDARD PROCEDURES

Any officer of the Complex who detects an emergency should, at once, advice the Plant Control Room Operator, by dialing 3100.This number is for emergencies only, or else by means of his walkie-talkie. On the other hand, the Control Room Operator should attend the calls from that number on a priority basis.

The functionary detecting the emergency should inform the following:

- Place of the emergency
- Nature of the emergency
- Existence of persons and/or equipment involved
- Scale

The Control Room Operator shall evaluate the emergency according to the data, and independently from the nature of it, communicate with the highest hierarchy person present in the Complex, with whom they will together decide to call the formation of the emergency crew, This by means of the emergency siren, which will be activated by the Control Room Operator, starting the emergency plan.

On the other hand, the Control Room Operator should have emergency phone numbers at hand, such as: Ambulances, Firemen, Carabineros, etc. Nearest to the Central. Besides, the Emergency Chief (appointed at that moment) shall be kept informed at all times about the events, as they develop.

The different actions to be undertaken, by the person who detects the emergency and also the Control Room Operator are listed below.

The emergency crew will be formed as follows:

As the number of people working in the Cordillera Complex varies and many times there are only a minimum number of personnel, It is established that the crew will be formed by order of arrival to the main access hall of the Alfalfa control building, after hearing the emergency siren.

The first six persons who hear the siren or the radio call may go to the above mentioned place, and put on the helmets placed there, with colors to identify them, the persons who does so will have the responsibility to direct the emergency maneuvers.

The identification on the helmets will be as follows:

- Color: Red determines the position of crew boss.
- Color: Yellow >>For the whole emergency gang.

➤ **Person who detects the emergency**

1. From the nearest telephone, dial 3100 and warn the Operator, giving clear details about the matter. If carrying a walkie-talkie, talk to the Control Room Operator by means of frequency 5 (field) or 2 (internal).
2. Wait for support and/or act by himself, according to circumstances
3. Once the emergency is overcome, inform the Operator and keep him informed about what is happening.

➤ **Control Room Operator**

1. Receive an emergency warning and estimate its degree.
2. If the situation calls for it, direct the personnel boss by radio to activate the emergency plan (or replacement if the boss is not present).
3. In agreement with the crew boss, the Operator will warn the Plant personnel by means of the emergency siren, which will blast three times for 10 seconds with 5 seconds intervals.

Once the FIRE alarm sounds, the personnel coming in to fight the FIRE shall wear the EPP equipment according to the emergency, besides autonomous breathing apparatus.

There are three fire boxes with nozzles and 3 fire hose carts at warehouse 25, H building and canteen. The keys are kept at the lodge and Control Room.

Depending on the nature and extent of the fire, it shall be fought using the portable POS extinguishers (Dry Chemical Powder), CO₂ (Carbon Dioxide), or the portable POS cart.

Area N° 2 1: Premises outside the Plant (Intakes, roads, grounds):

As work rules dictate that any person in the field should carry a walkie-talkie, if a fire starts, the person shall inform at once to the Control Room Operator of the Plant.

Once the fire alarm is given, the Control Room Operator will advise the Plant personnel to form the emergency crew and it will go out to the site of the damage to help.

If the worker warning about the fire has an extinguisher at hand, he shall use it, provided it corresponds the type of fire existing at the place, otherwise the situation could worsen.

The worker shall be prudent and not put his life in danger if the emergency team has not arrived yet and begin to work to help should human lives be at risk.

The emergency crew going to deal with the damage shall wear the EPP according to the emergency, portable POS extinguishers (anti-smoldering for A, B and C fires) besides autonomous breathing equipment. The hose and fire hydrants of the firefighting circuit will be used only if the situation calls for it.

Should the fire begin to grow begin to get out of control, The nearest firemen squad will be called, in this case San José de Maipo, telephones 8611530 8611052, to help put it out.

N°2 Area: Interior premises of each Plant (Machine Cavern, Control Room, building):

Specific situations arise in the case of fires in the interior of the premises, and each shall be dealt with separately, therefore the fires in three inner zones will be treated separately.

- Machine Cavern (Alfalfal)

Any fire occurring in this area shall be dealt with great care, as all the equipment is energized and can produce toxic gases emanations, which concentrate because these are closed spaces and in some occasions, according to the nature of the gas, it can displace oxygen.

It shall also be kept in mind that the automatic fire detection system gives the order to stop the Cavern ventilation system when there is an emergency of this nature, So the crew shall go in bearing autonomous breathing equipment and once inside the Cavern, preference will be given to the rescue of persons affected by the fire (asphyxiation, burns,), before any other action. The rescuer shall not at any time remove the mask of his breathing equipment to give oxygen to the asphyxiated victim, since that could increase to two the persons affected by asphyxia, the best thing is to remove the victim to a safe place with enough fresh air.

Depending on the nature and extent of the fire, it shall be fought using the portable POS extinguishers (Dry Chemical Powder), CO₂ (Carbon Dioxide), or the portable POS cart.

Should the fire be located in the access tunnel, either in cables or vehicles, it shall be fought with portable PQS extinguishers and **always with the support of the 50 kg PQS cart which is placed at the tunnel entrance.**

If it is not possible to use the transit lanes inside the Cavern due to the fire, the emergency exits inside the Cavern and duly marked shall be used. These can be seen in detail in annex N° 3.

Not forgetting that the ventilation system of the Cavern shall be activated once the fire is out, so as to disperse the toxic combustion gases.

- Control Room and Building:

For the specific case of the Control Room, the extinguisher placed there shall be used, as it is the ideal one for the type of fire that can happen in the Machine Room.

Should the fire start in the building, the Control Room Operator will be informed, and will evaluate the situation and indicate that the fire alarm be sounded, this will be activated by the worker who gave the information, in this way, the emergency crew will go to the damage area, but if the situation does not call for the crew to show up, the worker himself shall put out the fire using the implements at hand to fight it.

Furthermore, all the personnel not belonging to the crew or foreign to the situation shall be evacuated at once to prevent more severe negative effects.

➤ **EARTHQUAKES**

When an earthquake begins, it is crucial to keep calm and try to think with serenity.

N° 1 Area Premises outside the Plant (Intakes, roads, grounds):

Should the earthquake occur when one is working in the field, the first thing the personnel shall do is try to find a zone free from risks, or the risk is at a minimum, rock falls, or ground slides, Later on and from time to time, they shall inform the Control Room Operator of the Plant about the position, using the walkie-talkie, Since that information will be vital if the personnel should become isolated as a result of the earthquake.

On the contrary, if the earthquake begins when one is driving a vehicle, the vehicle shall be stopped and as in the previous case, one should try to find a place less exposed to rock falls and ground slides, and be constantly on the alert about the conditions of the surroundings. Besides, and as in the previous case, permanent contact with the Control Room shall be kept.

N°2 Area: Interior premises of each Plant (Machine Cavern, Control Room, building):

When an earthquake begins, the personnel shall take cover in safety zones, far from the mountain slopes (danger of rock falls), Also, away from Windows, cornices, racks, high and low voltage cables, trees and light posts.

The precaution to keep calm, and not running when going to the safety zones, shall be followed, as well as wearing the safety helmet at all times, and help people who may need it.

For the specific case of the machines Cavern, the personnel shall take shelter in the safety zones, these can be: under the door frame, below the floor to floor access stairs, etc. Never stay near racks, since these can topple due to the earthquake, or the objects inside them may tumble down.

Special care shall be taken when getting out through the tunnel due to possible rocks loosening inside it, As well as on emerging from it, due to rock falls from the mountain. Transit through the lateral door of the control building should be the preferred way.

➤ **AVALANCHES**

Area N° 2 1: Premises outside the Plant (Intakes, roads, grounds):

Should there be an imminent Avalanche (snow, mud or stones) danger, all the transit of people and vehicles on the exterior of the Plant shall be restricted. Besides, the personnel shall keep away from the Windows facing the mountain.

For the Avalanches case, it is essential that the Cordillera Complex personnel should know fully the Alfalfal Wintering Program Since detailed information in this respect is found in it.

N° 2 Area: Inner premises of each Plant (Machine Cavern, Control Room, building):

The possibility of Avalanches inside the premises is disregarded, but special care shall be taken when going out of the access tunnel to the machines Cavern and the exits of the building if there is a large accumulation of snow.

➤ **FLOODING**

N° 2 Area 1 Premises outside the Plant (Intakes, roads, grounds):

Should flooding occur, all the transit of people and vehicles outside the Plant shall be restricted, and for those in the field, an immediate warning shall be sent to the Control Room so that help for the rescue operation can be sent.

N° 2 Area 2: Inner premises of each Plant (Machine Cavern, Control Room, building):

In the specific case of detecting flooding in the tunnel or Cavern, the Control Room Operator will be warned at once and he will analyze the extent of the flooding and the feasibility of its control; if it should not possible to control it, the units should be put out of service and all the electrical equipment disconnected.

If the personnel inside the Cavern see that the situation is getting out of control, they shall abandon the place at once, and wait until the emergency will be over.

Should the flooding take place inside the Control Room or building, the installations shall be disconnected and the personnel evacuated, if necessary.

➤ **SERIOUS ACCIDENTS – PEOPLE, INSTALLATIONS OR EQUIPMENT**

The procedure to be followed in case of severe accidents to people, installations or equipment is the same either inside or outside the Plant; therefore the procedure will not be divided by areas as was the case in the previous points.

Within accidents to persons, there are **car accidents**, where the procedure is as follows:

After the warning has been given to the Control Room Operator; he shall call at once the formation of the emergency crew, using the specific broadcasting frequency.

The emergency crew shall go rapidly to the accident site, taking a portable extinguisher in view of an imminent fire outbreak of the vehicle, stretchers and all necessary implements to give first aid to the accident victims.

On arrival to the place, the seriousness of the injuries to people will be assessed and the Operator will be informed So as to call the nearest care center and ask to send an ambulance; the emergencies number of the San José de Maipo Hospital is 8611004.

On arrival to the accident site, this latter shall be marked off at once, to avoid other cars to get involved, and a more serious accident to take place.

While awaiting the arrival of the ambulance, the emergency crew will give first aid to the injured persons and indicate the procedure to be followed.

When there should be injured persons outside working hours, the procedure prepared to that effect shall be followed. (See annex 1)

➤ **RIVER FLOODING**

Should an unforeseen river flood take place, actions are to be taken according to a written procedure defining the action plans for those emergencies. (See annex 2)

➤ **EMERGENCY EXITS OF THE ALFALFAL MACHINES CAVERN**

When emergencies occur in confined spaces, they usually end in tragedy due to the characteristics of that place. There is such a space in the Cordillera Complex, of vital importance for the normal production of the enterprise; we refer to the Alfalfal machines Cavern. Therefore, there is a set procedure which indicates how to act when facing an event of those characteristics. (See annex 3)

➤ **COMMUNICATIONS TO SHIFT PERSONNEL**

The personnel working at the plants is ruled by the parameters of a communications procedure, So as to detect at soon as possible the possible accidents that may occur during the shifts, so as to obtain quick and effective help. (See annex 4)

8.Miscellaneous Issues

➤ **.Heliport**

It should be quite clear that the physical space allotted for the landing of helicopters corresponds to Aguas Ricas, Outside the door to the Intakes road, this zone is duly marked.

The arrival of a helicopter should be coordinate and programmed ahead, So that the landing zone will be prepared (should be wetted in summer and snow removed in winter).

➤ **Wintering program**

The Wintering Plan is the complement to this Emergency Handbook, both for Alfalfal-Maitenes as Queltehues-Volcán. It stipulates safety norms and the manner to face emergencies, especially in the Intakes access zones.

Every functionary of the Complex should know and comply with all the norms detailed in the Plan. (See annex 5)

➤ **Permanent mobilization**

One vehicle with driver is available within the Complex, on permanent attendance 14 hours a day during the whole year, to take care of emergencies if they occur, especially outside office hours.

This vehicle is at the disposal of the Control Room Operator.

➤ **Vehicles parked inside the Cavern.**

Every vehicle entering the Cavern should be parked facing out to the tunnel exit, so if there is an emergency, evacuation can be faster and more expeditious.

➤ **Stretchers**

Ten stretchers are installed in the premises of the Complex, to move injured people.

They are placed as follows

1. Alfalfal Control building
2. Alfalfal Machine Cavern
3. Colorado Intake (Sector CR4 Weir)
4. Loading chamber Control Room (Colorado)
5. Control Room Olivares Intake
6. Main Maitenes Machine Room
7. Queltehues Machine Room
8. Volcán Machine Room
9. Maipo Intake
10. Volcán Intake.

➤ **First aid kits**

Thirteen first aid boxes are installed within the Complex premises. These are placed at:

1. EDC Alfalfal Control Room
2. Control Room Machine Cavern (Alfalfal)
3. Warehouse 25 (Alfalfal)
4. Mechanics workshop Alfalfal
5. Loading chamber Control Room Colorado
6. Control Room Olivares Intake
7. Maitenes Main Control Room
8. Maitenes Auxiliary Control Room
9. Queltehues SX Control Room
10. Queltenues Machine workshop
11. Volcán Plant
12. Maipo Intakes
13. Volcán Intakes.

These first aid kits should be checked periodically to see that the medicaments they contain are still viable.

➤ **Rescue equipment**

There is rescue equipment at Alfalfal, with complete implements for two people, including autonomous breathing equipment and fire resistant clothing.

This equipment is stored in a cabinet, inside and next the side door of the control building, leading to the Cavern.

The Emergency Brigade personnel are trained for its correct usage.

ANNEXES

1. PROCEDURES FOR PEOPLE INJURED OUTSIDE WORK HOURS.
2. RIVER FLOODING EMERGENCY PROCEDURES
3. ALFALFA MACHINES CAVERN EMERGENCY EXITS
4. SHIFT PERSONNEL SAFETY PROCEDURES (COMMUNICATIONS)
5. WINTERING PLANS
 - ALFALFA - MAITENES
 - QUELTEHUES - VOLCÁN

PROCEDURE FOR INJURIES AFFECTING SHIFT PERSONNEL OUTSIDE OFFICE HOURS.

Office hours are understood to be from 08:00 to 18:00 hours Mondays to Thursdays and 08:00 to 13:00 hours on Fridays.

Should an accident occur in the Cordillera Complex outside office hours, and a functionary is involved and suffers injuries that would not allow him to continue working, the Control Room Operator should follow the procedure below:

1. Verify the severity of the injury, when possible
2. Give the appropriate first aid.
3. Advise the Operations Manager or the Complex Manager.
4. Contact the driver of the permanent standby vehicle of the Complex by telephone or walkie-talkie, to take the injured person to the IST (Address; Calle Placer NQ 1410), and if the injury is of greater severity, ask for the IST ambulance service, telephones: Ambulance 5569266, Central 5551894 5551702, In this last case, the driver of the standby vehicle should accompany the injured party.
5. Contact by telephone the transport Contractor in Puente Alto, Mr. Pedro Contreras, telephone 8533523 or 92396566, or else Mr. Renán Valderrama, telephone: 8114336 or 93384271, asking to go fetch the functionary who will replace the injured person.

EMERGENCY PROCEDURE - RIVER FLOODS

I PURPOSES

- When facing an emergency due to sudden river flooding, the following objectives of the procedure should be taken into account:
 - Preventing injury to people.
 - Minimize equipment and materials losses.
 - Efficient response to face the emergency.

II SCOPE OF THE APPLICATION

- This plan is applicable to all the personnel working in the Alfalfal and Maitenes Plants and associated Intakes.
- The application of this procedure, if necessary, may take place from November fifteen to March fifteen of each year.

III ACTION PLAN

The following action plan has been prepared to achieve the above purposes:

3.1 SURVEILLANCE OF THE RIVERS FLOWS

- The personnel carrying out this surveillance should thoroughly know the zone and the changes that take place in the river flows during this time of the year (thaw period).
- Checks should be carried out so that the personnel who will be installed in this sector will have the necessary elements for a prolonged stay.
- At least two people should carry out this surveillance, working in shifts during 24 hours.
- The surveillance personnel should have a walkie-talkie to keep permanent and frequent communication with the Alfalfal Control Room. This radio should operate using frequency 5 and be always available.

3.2 ALARMS

- The alarm will consist on the watchman repeating over the radio Alert One or Alert Two, (depending on the case). Repeatedly at least three times and all people having radios should remain silent and alert to the communications taking place between the watchman and the Alfalfal Control Room personnel. Interfering with those communications is strictly forbidden.

- **ALARM ONE** Also considered as early alert and given by the watchman to the Alfalfal Control Room personnel and all the people downstream when: a loud noise is heard inside the canyon (product of the fall of an ice sheet or materials), the river flow decreases suddenly, there is a sharp increase in the river flow and/or avalanches fall in the sector.
- **ALARM TWO:** Given by the watchman after evaluating the risks of the previous situation and communicate with the Control Room and, depending on the results of the evaluation will proceed as follows:
 - ✓ Carry out personnel evacuation: This decision is taken by the person in charge at that moment in the Complex;
 - ✓ Keep up the alarm condition for a longer period: This decision to be informed by the watchman if he considers it necessary, but he should keep the Control Room informed at all times;
 - ✓ Close the alarm cycle: The watchman should inform that the danger situation no longer holds and the work of the Complex can continue normally.

All the personnel in transit outside the Alfalfal limits, that is to say in Aguarrica and outside the lodge, should use the walkie-talkie permanently and on frequency five (5).

3.3 PERSONNEL EVACUATION

The decision to evacuate the installation will be taken by the person in charge present at that moment in the Plant. The people that are in the building should leave it, taking into consideration the following:

- The evacuation alert will be given by means of the siren, which will sound three times for 10 seconds and five second intervals.
- The person in charge will appoint the person to lead the evacuation; verifying that the evacuation of the building will proceed in an orderly and safe manner and will also check that no one stays in the building.
- The Control Room Operator will advise the personnel of the Alfalfal Machine Cavern to leave the installations, and inform the Maitenes personnel and Carabineros de Chile. The evacuation should be directed to the Evacuation Meeting Point (P.E.E.)
- The inhabitants of the Alfalfal town will be warned by the lodge personnel.

- Once it has been verified that everyone is present in the P.E.E., they should leave towards the Window 3 road, calmly and in order. The flood may reach the Alfalfal Plant within an hour, and the distance to the access lodge is of 500 meters approximately.
- The personnel on its way to the Intakes, should take shelter in the higher sectors of the hills and remain there until advised, In every case, they should advise the Control Room by walkie-talkie where they are and inform about the behavior of the river flood.
- Once risks have been evaluated, the person in charge at that moment will determine the return to the facilities. This should be done in good order and safety.

Once back in the building, an immediate evaluation of the situation will be carried out as to persons injured, isolated persons, and structural damage; also start the equipment again, among other matters.

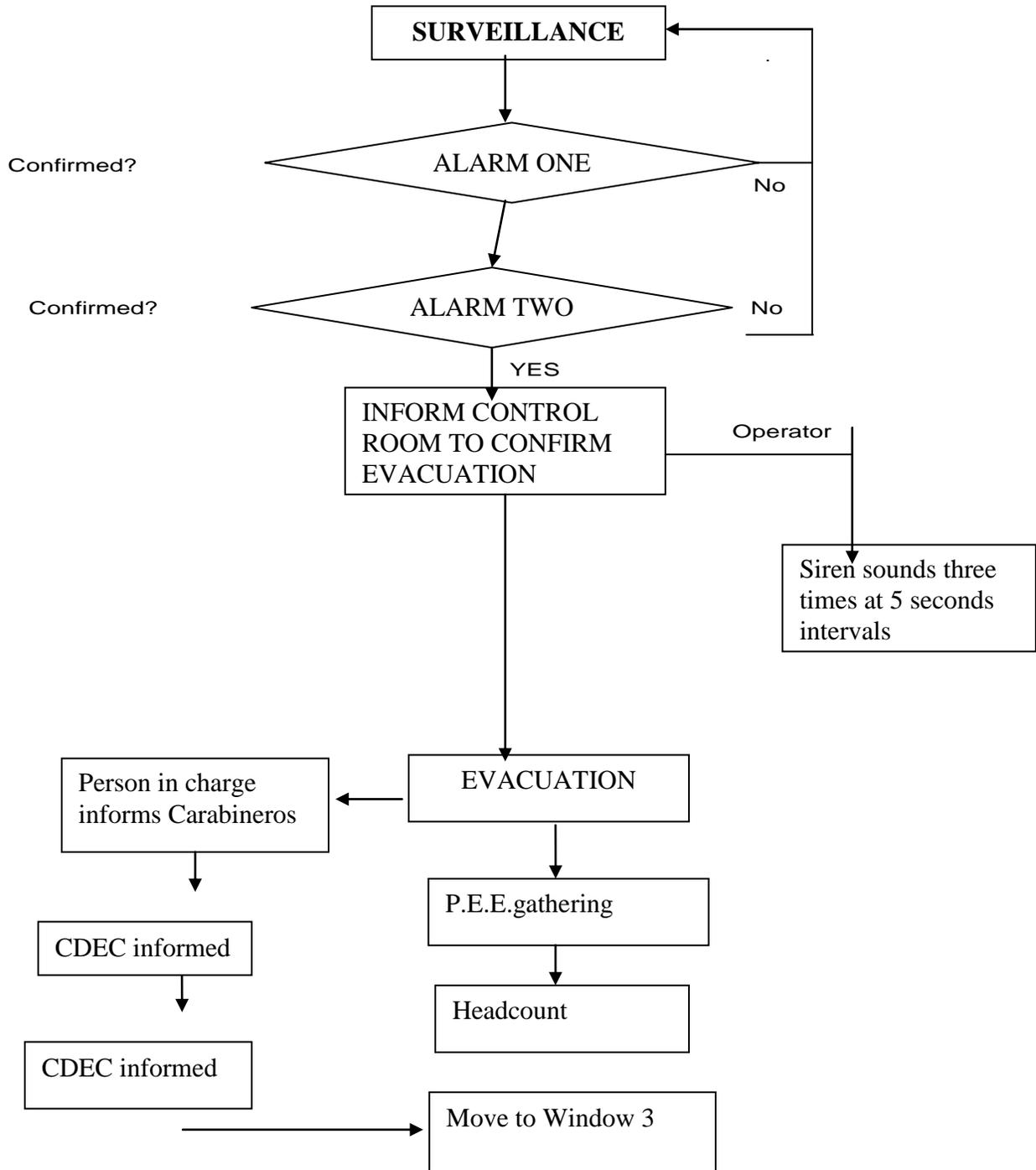
3.4 STOPPAGE OF THE EQUIPMENT

- Once the order to evacuate the building is given, the Control Room Operator will advise the Load Dispatch Center about the situation and inform that the units will be put out of service and the same will be done for Maitenes.
- Once the generating equipment is stopped, the personnel in the Cavern will leave it in the available vehicle and will go to the Window 3 access road, to put themselves at the disposal of the people charged with the evacuation.
- If there are personnel at Maitenes, they will leave the Machine Room doors open and then go to the upper sectors around the Plant, advising the lodge to stop people going into the Plant.

3.5 ISOLATED PERSONS

If persons are isolated, they should inform this immediately, using their walkie-talkie to coordinate their rescue with the Public Services.

IV FLOW CHART



EMERGENCY EXITS ALFALFAL MACHINE CAVERN

Emergency exits from the Machine Cavern

It is pointed out that all the communicating staircases within the Machine Caverns, due to their construction and design, are free from combustible materials that could hinder transit during emergencies besides being the fastest way to evacuate the Machine Cavern.

When a fire starts, this is detected by some of the sensors of the Machine Cavern, besides being recorded and announced in the OCYEO 1 panel and marked in the OCYEO 3 mimic panel. The person or persons near the fire should inform the CDM or EDC Operator at once, who in turn will inform the Emergency Crew chief and later on, they should try to put out the fire as much as possible, using the nearest extinguisher.

Should a fire start in the Generators or Transformers rooms, the automatic release of Halon gas from the cylinders will take place at once. This will be indicated by sound and light signals and in this case the personnel should abandon the Machine Cavern at once.

The abandon of the CDM should be done in an orderly and calm way following the orders of the 2nd shift Operator, since it is his duty to know all the emergency exits and evacuation lanes, and will know the procedure to be followed in this case.

Some dangerous situations that could develop within the machines Cavern will be described below.

1. Use of Exit Door N° 1 (Injection Ventilators floor)

In the event that the injection ventilators floor should be evacuated when work should be carried out in that floor and it would not be possible to use the stairs, exit door N° 1 should be used.

When effecting work in the zone and faced with the possibility of having to evacuate it and not being able to use the stairs, this door should be used. Two fire escape stairs are found after this door, one communicates with the emergency exit of the Local Control Room and the other ends directly on the opposite side of the Machine Cavern.

The risky conditions are: if ventilators are out of service a very strong air current will open the doors with great force when they are opened and the fire escape stairs do not have any protection.

2. Emergency exit CDM Control Room

If it should not be possible to leave the Local Control Room by the usual route (stairs, main door) the N° 3 emergency door should be used as shown in the general plan (Room 2001).

The exit is directly connected by means of fire escape stairs to the main access to the Machine Cavern, the zone is lighted by emergency KOLFF lights.

There is a general alarm siren and a fire alarm push button panel.

There are no dangerous conditions when leaving the Room by the emergency door, only to take care when using the wall fire escapes.

3. Evacuation of the Excitation Room

Normal exit will always be through door N° 4 which leads directly to the main access hall. In the hypothesis that this exit would not be usable and circulation would be dangerous, the exit route would be through door N° 8. Placed in the level immediately below (lockers zone), to this end the stairs of the Unit N° 2 sector should be used, and reach the emergency door through corridor 201. This exit leads directly to the first level of the main access, always use the fire escape stairs placed immediately next the emergency door; there is another flight of stairs at the end of this corridor but it is obstructed by an overhang of the main floor, making its use very uncomfortable.

As a last resort and if any of the three exits already described cannot be used, go to the access door of the Refrigeration Water Tank and go through the traveling crane walkway to the other side of the building, using as escape route the air injectors' room door (Point N° 1).

Remember, never use any doors except those marked as emergency exits, because the others do not have communication to the outside, they are not lighted and there is the risk of falling from heights.

4. Evacuation from lower floors (Generator Governors, TSV Floor)

As described before, the building staircases will always be the emergency exits, if they should be blocked, go to the N° 8 emergency door (Lockers Room); if you cannot use it, go to the access door to the Refrigeration Water tank (as described before).

REMEMBER:

1. Keep calm, think and analyze the situation.
2. Inform the Operator (EDe) the place of the damage, its seriousness and if there are people injured.
3. Press the fire emergency button (if you cannot communicate).
4. Try to put the fire out (do not endanger yourself).
5. Should one of the Halon gas batteries be activated, you should leave the Machine Cavern at once.
6. Be careful when using the escape routes.
7. The CDM Operator is the person in charge in these cases.

SAFETY PROCEDURES

SHIFT PERSONNEL

Safety Procedures for Shift Personnel

The personnel operating the plants shall comply with the following communication procedures, so as to detect quickly possible accidents that may occur during the shifts and get quick and effective help.

✓ Alfalfal Procedures

There should normally be three Operators: one to remain in the Control Room of the Alfalfal Plant and the other two in the CDM, one in charge of field duty.

To the effects of the procedure, Operator I is to remain in the Control Room; Operator II is to remain in the Machine Cavern and Operator III will go out to carry out the work and inspection in the field.

Whenever Operator III should go into the field, he should take a walkie-talkie radio (and check that batteries are fully loaded), so as to advise Operator I about the site he will go into, the work to be done there and an estimation of the time needed to do the task. Once this is done, he should report to Operator I every 30 minutes, if no report is received, Operator I should try to reach Operator III, and if he cannot do so, it is understood that there is a pre-emergency situation.

Operator II, who is in the Machine Cavern, should report to Operator I every tour (maximum), above all to know how things are going and if all conditions are normal.

✓ Queltehues Procedure

There should always be two operators per shift. One to remain working in the Control Room, Operator I, and Operator II who will carry out inspections and work in the field, having to go to the Maipo and Volcán Intakes, Volcán Plant and inspect the Queltehues water tank among other tasks.

Every time Operator II goes into the field, he should check that the base radio incorporated to the field vehicle is in perfect working conditions, and also check the batteries of the walkie-talkie that he should carry at all times. Once this is done he will inform Operator I about the itinerary of the day and once in the field, he should report indicating his position and the estimated time to complete the work.

Procedure to follow in Pre-emergencies

First of all, to the effects of this procedure it should be clear that a **Pre-emergency** is any situation where an Operator (II or III) is in the field and after one hour has not reported to Operator I, who is in the Control Room of the corresponding Plant (Alfalfal or Queltehues).

Once a pre-emergency situation is detected a prudent waiting time (approximately 5 to 10 minutes) should elapse before trying to re-establish communication with the operator in the field and who has started the pre-emergency situation. If after this time there is still no communication it is understood that Operators II or III are facing a serious problem that prevents their communicating; therefore an alarm will be started.

The alarm will consist in informing the driver on duty about the situation and asking him to verify it in the field.

Then the driver on duty accompanied by the clearing personnel working in that shift and taking a walkie-talkie should go at once to the place where the Operator is supposed to be and inspect the place until he is found, besides reporting each half hour, about the situation and the estimation of the time to reach the place where the injured person is supposed to be. Once this objective has been completed, the driver should reach Operator I and advise him about the situation of Operator (II or III) and await instructions according to the case.

If in the opinion of Operator I the Operator should be taken care of in the same place, the driver with the help of the janitor will give first aid, otherwise if it is necessary that personnel should go to the place of the event, Operator I will send personnel of the Emergency Crew to the place.

If after 5 minutes have elapsed the efforts carried out do not allow finding the person that started the alarm, immediate information should be sent to the Operations Manager.

ALFALFAL – MAITENES PLANTS WINTERING PROGRAM

CONTENTS

1. PURPOSE
2. GENERAL RULES
3. BARRIERS
4. DRIVERS
5. VEHICLES
6. ALERT REGULATIONS
8. USE OF CHAINS
9. RESPONSIBILITIES
10. SIGNALS SYSTEM
11. REFUGES
12. AVALANCHES ZONE

1.OBJECTIVES

This program defines the procedure to be followed when faced with emergencies due to winter weather conditions and its main purpose is the safety of people, the protection of vehicles, machinery and equipment.

2.GENERAL RULES

The winter period is understood to last from **April 15 through September 15**.

The provisions of this program will be effective during the winter period as indicated and at any other time of the year if, in the Administration opinion, circumstances warrant it or special precautions were needed.

The specific norms of this program are in effect during the winter period.

This program is a set of regulations whose provisions apply to AES Gener, Contractors, Collaborators, Visits and persons who may be present the facilities and premises of the Queltehues - Volcán Plants.

All drivers and all vehicles should comply with the provisions of the Traffic Law and those established in this program and the instructions given at the barrier.

The non-compliance with the instructions given by the barrier personnel or the shift Operator have no excuse and the violator will be penalized as established by the Alfalfal-Maitenes Complex Manager, according to the AES Gener Vehicles Control Procedure.

3. BARRIER

The barrier with which this program operates is placed at the entrance of the Alfalfal Plant premises.

Persons going upstream of the barrier should comply with the following:

- AES Gener personnel, have the proper authorization known to the shift Operator.
- Third parties and other, should have due authorization as may be the case, from
 - Chilean Army
 - National Heritage
 - Colorado Mining Company
 - Owner of the La Ermita ranch.

Authorizations to third parties or others should be checked by AES Gener S.A., the document should indicate the sector to which the persons go, the reason why for access to the zone, and the names of authorized persons.

At the barrier, they should fill and sign the sheet created to that effect, besides, the identity card of the driver or of the group boss, so that he will have the obligation to go through the barrier to get it back and in this way keep control on the time spent, and give an alert in case of non-compliance,

The Control Room shift Operator will inform the barrier every day during the winter period about:

- Weather conditions
- Weather projection for the day and next 24 hours
- Alert in force
- Road conditions and need to use chains.

The barrier personnel will give information to the drivers going up the Olivares and/or Colorado roads as to the place to install and remove the chains from the wheels.

The relevant information obtained from the drivers coming down from the Olivares and/or Colorado branches should be communicated to the shift Operator of the Plant.

The shift personnel at the barrier should record the following information under any conditions:

- Name of the vehicle passengers
- Type of vehicle and license plate
- Hour and day passing the barrier
- Approximate time to reach destination
- Hour and day of return
- Sign the internal control sheet.

The above information should be transmitted to the Complex Manager or otherwise to the operations Manager. Outside normal hours, this information should be communicated to the Control Room Operator.

The maintenance personnel or contractors going to the Intakes or any intermediate point of the Olivares or Colorado and/or road of the Los Almendros line, should carry a walkie-talkie and inform the shift Operator of the Plant their leaving and arrival times, besides keeping permanent radio control with the Alfalfa Control Room (EDC).

The barrier personnel will not authorize the passing of vehicles which will not have the elements indicated in point 5.

4. DRIVERS

Every driver going to any point of the zone during the winter period should ensure that the vehicle will have the implements specified in point 5, besides taking personal equipment for severe climatic conditions.

Drivers should follow the following special driving rules:

- If you do not have experience in snowed-in roads, do not drive.
- Always drive slower than that indicated in the road signals, as they have been established for normal conditions, be extremely careful if the road has snow and especially ice.
- Avoid getting too near another vehicle keep a minimum distance of 50m between your car and the one in front, and the same distance from machines operating on the road; in that case wait until you are given way by blinking lights or manual signals to pass.
- Always give right of way to heavier vehicles or vehicles with more wheels than your own.
- Strictly respect permanent or occasional road signs.
- Should you stop during the trip, always choose a safe place, not in zones of risks by Avalanches or rock falls (these zones can be identified in the annexed plan).
- Do not make excessive use of the brakes. Shift gears and/or lower speed.
- Keep in mind that abrupt gearshifts cause skidding and braking has the same effect.
- Snow or sun: use sunglasses.

Should you be blocked by rock falls or storms, do not risk by trying to continue the journey. Use the shelters indicated in point 11.

5. VEHICLES

During the winter period, the vehicles circulating on the Olivares and Colorado branch roads should have four wheel drives.

The vehicles should have the following support elements:

- Ice breaker chains with their tensors in good condition or special snow and ice tires.

- Sling or cords
- Jack
- Wrench
- Spare wheel in good condition
- Shovel
- Flashlight
- Extinguisher
- First aid box
- Triangles
- Walkie-talkie.

The vehicle should be provided with antifreeze for refrigeration water and the tires surface should be in good condition.

During the winter period, the only vehicles authorized to go into the interior roads are those owned and those of the contractors authorized by AES Gener S.A., vehicles authorized by Minera Rio Colorado and complying with the stipulations of this program.

6.ALERTS PROCEDURE

The alerts procedure is a set of measures that are applied for the safety of the persons and assets when weather conditions are unfavorable.

Alert is a special warning that is issued when there is danger of Avalanches, storms, tempests, or rock slides. In this situation the transit in the inner roads is subject to the norms consigned in each alert.

There are three (3) alerts that are issued according to the magnitude of the risks that approaches and these are informed at the barrier.

End of alert: Operations will resume their normal pace and the transit on the inner roads will be subjected to the state they are in. All this, once the conditions existing at each point will have been evaluated by the person in charge of the plan.

The alerts, their meaning and signals are as described in points 7 and 10.

During winter or bad weather, the Plant shift Operator should obtain from the web page of the Chilean Weather Bureau the weather projection for the day and the next 24 hours, such as the position of isotherm zero. Should there be no internet access; the projection can be requested from the Onemi by telephone.

7.ALERTS REGULATIONS

Valid for all work areas with the restrictions described in each alert.

7.1 First Alert: Green Flag

Meaning: Bad weather approximation

- On foot transit **Normal in the Intakes and offices zones**
- On foot transit in inner roads **Forbidden**
- Vehicles transit in inner roads: **Normal**

7.2 Second Alert Yellow Flag

Meaning: Snowing, bad weather in the zone, no risk of avalanche or bad weather declining.

- On foot transit **Normal in the Intakes and offices zones**
- On foot transit On the roads of access to Intakes: **Forbidden**
- Vehicles transit in inner roads: **Restricted, only vehicles authorized by AES Gener S.A.**

7.3 Third Alert: Red Flag

Meaning: Heavy snowing, increasing, Danger of Avalanche

- On foot transit **Restricted (Intakes and Los Almendros line).**
- On foot transit in inner roads **Forbidden**
- Vehicles transit in inner roads: **Forbidden, roads closed.**

The clearing of the roads to the Intakes (snow removal) cannot be carried out. The roads Contractor will keep clear only the main road of access to the Plant for the arrival or evacuation of the personnel.

In the office zones, EDC, workshop and dressing rooms, clearing of snow can be done.

8. USE OF CHAINS

Chains will always be used when there is snow and/or ice on the roads.

Non-compliance of the instructions concerning tire chains and their use will be sanctioned by Gener.

9. RESPONSIBILITIES

9.1.AES Gener S.A Alfalfal Maitenes

- Comply with and enforce these regulations, and punish infractions.
- Issue and administer the alerts established in these regulations.
- Advance or delay the date for the beginning and end of the winter period.
- Keep a meteorological record and the characteristics of snow falls and on the ground.
- Control by means of the barrier that vehicles comply with the exigencies specified in these and other regulations.
- Cleaning and signaling of the roads in its area of responsibility.
- Analyze and interpret the norms of the present regulation in real situations.

9.2.CONTRACTORS

- Take the adequate prevention measure in the case of storms, Avalanches and other weather phenomena which could affect the development of the work.
- Form and maintain rescue teams.
- Keep up the lists of people present in the area during the winter period.
- Establish timetables for the vehicles, so that they arrive down to the Alfalfal barrier at 17:00 hrs. at the latest.
- Mark the roads that correspond to them, according to their area of responsibility.
- Signal all equipment that remains stopped.
- Cleaning and signaling of the roads in its area of responsibility.
- Have on hand the necessary machinery to carry out the work as above.
- Program and instruct its work force for situations of storms and risks.
- Comply with and enforce these and other regulations.
- Administer alerts in its area of responsibility.
- Execute the necessary actions to control the risks inherent to the winter period, whether they are indicated in these regulations or not.

10.SIGNALS SYSTEM

ALERT	SIGNALS	MEANING
FIRST:	GREEN	Bad weather nearing the zone
SECOND:		Snowing Bad weather in the zone, No risk of Avalanches Mandatory use of chains
THREE.	RED	Heavy snowing Bad weather in the zone, Increased danger of Avalanches Mandatory use of chains
END OF ALERT	SIGNALS REMOVED	Operations reassumed 4 hours after the end of the third alert

11.REFUGES AND SHELTERS

Use of refuges

Should personnel be blocked by bad weather or Avalanches on the roads, the Olivares and Colorado Intakes have shelters equipped to sustain an emergency situation during 15 days for 4 people.

Equipment of the refuges

The refuges have the necessary food and conveniences required to face emergencies; these will be checked and replenished during April every year.

Shelter for emergency situations.

Should the avalanche or snowstorm block the way in places where it is not possible to go back to the Intake or continue to the Plant, and taking into account that it is not possible to give help or relief at once, drivers should keep in mind that the following places can serve as shelters:

Tunnel Window 5	km 39	Olivares Branch
Tunnel Window 4	km 36.5	Olivares Branch
Tunnel Window 7	km 35.5	Olivares Branch Variant
Tunnel Window 8	km 36.5	Colorado Branch
Tunnel Cuesta Tambillo	km 40.5	Colorado Branch
Tunnel Window 9	km 46.5	Colorado Branch
Control Room Colorado Intake	km 51.5	Colorado Branch

The drivers should try to reach those places using the vehicles to endure the emergency, trying to go on foot only if visibility is good.

If bad weather continues for one or two days without it being possible to bring help, people should remain calm until the storm is over, and not leave the shelters. They should keep in mind that from the first day or onset of the storm, efforts will be made to find them by ground patrols or by helicopter. In this last case it is advised that on hearing the noise made by the helicopter, they should signal with colored garments or light a fire using wipers and/or fabric soaked in oil or grease.

If it is not be possible to reach these refuges, and you find yourself between two avalanches during a snowstorm, never leave the vehicle at all, do not park next to creeks, no matter how small; the vehicle should be parked as close as possible to a natural wall, hopefully of rocks or a large rock (taller than the vehicle).

11.1.Regulations for the use of refuges

The Colorado and Olivares Intakes shelters are buildings destined and equipped to serve as refuges to the personnel that might be isolated due to emergencies caused by bad weather.

The canned rations and other food found in them are for **EMERGENCY** use only and should not be eaten during normal situations.

On leaving the refuge, cut off the electricity and close the gas lines, Verify that no water faucets are open. On using the fireplace, verify that there is no wood left burning. Leave the furniture in good order when leaving the refuge, .

On leaving, do not leave food around and remove the garbage to avoid putrefaction smells and therefore rats coming in.

12.AVALANCHES ZONES

A cadaster of the Avalanches that happen in the canyons of the Olivares and Colorado rivers; these Avalanches affect the access roads to both Intakes and they are highly dangerous during the winter periods.

12.1.MAIN AVALANCHES

1.Between the La Gloria Bridge and Confluencia, from km 26 to 30. This sector is characterized by being extremely hemmed in by very high summits, in all its extension there is the danger of rubble, mud and stones and rocks or stone falling from great heights, especially during rainstorms and even during heavy summer rainstorms. Snow Avalanches are scarce. Drivers should remain attentive to the noise produced by these falls.

2. Between Confluencia and the Olivares Intake.

2.1. Tres Puntas avalanche, km31, falling from great height, reaches the road and bridge of the same name – snow avalanche.

2.2. Puente Los Lunes Avalanche, km32; snow avalanche.

2.3 Cuesta Los Lunes Avalanche, km 35. This avalanche reaches the El Coironal bridge and affects access to Window N°7, snow avalanche.

2.4 El Piedrero avalanche, km 35.3, does not always reach the road, snow avalanche.

2.5 Los Maitenes avalanche km 36, snow avalanche, fans out and affects the access to the Olivares crossroads.

2.6 El Piedrero avalanche, km 37, does not always reach the road, snow avalanche.

2.7 El Frío avalanche, km 40, snow and stone avalanche, fans out.

2.8 Olivares avalanche, not always reaching the road, but does affect access to T8.

3.Between Confluencia and the Colorado Intake.

3.1.Los Ranchos Avalanche, km31, snow, stones and mud.

3.2.Las Pataguas Avalanche, km 35.5, snow avalanche.

3.3.Los Caballos Avalanche, km 35.8, snow avalanche.

3.4.Salinilla Avalanche, km36, snow avalanche, fans out.

3.5.Espinoza Avalanche km 36.4 snows and stones avalanche.

3.6.El Hospital Avalanche, km37, snow avalanche, crosses the river up to the road.

3.7.Quintana Avalanche, km 37.5, snow avalanche.

3.8.Las Yeguas Avalanche, km38.5, huge snow avalanche, great load, fans out.

3.9.Tambillo Avalanche, several small snow and rubble falling from the low heights of the slope along the road.

3.10.El Encabritao Avalanche, km46, snow avalanche, large size and load.

Remember that during the frosts period (August-September) stone falls happen when the frost starts melting.

YOU SHOULD READ THIS!

WHENEVER YOU GO TO A PLACE OUTSIDE THE ALFALFAL PLANT (INTAKES, WINDOWS, ETC,) YOU SHOULD KEEP THE FOLLOWING RECOMMENDATIONS IN MIND:

1. Go with a driver who knows the zone.
2. Check the vehicle and take care that all its elements are in good shape (tires, headlights, rear lights, jack, chains, shovels, etc.).
3. Drive at a speed equal or lower than that indicated in the road signals and always on the alert.
4. Take a walkie-talkie in good conditions, verify its load and communicate periodically with the Control Room.
5. If you do not know the zone, ask someone with experience and who knows it to give instructions to you.
6. Never work or go alone to some place where there could be a risk; ask for help.
7. Never intervene the equipment unless you have adequate permission from the shift Operator or the area coordinator . Check that the equipment to be intervened is duly disconnected.
8. Any time you go into or work in some window, you should use your personal protection elements (helmet, safety boots, gloves, etc.), besides checking the environmental conditions inside the window.
9. You should take at least one flashlight in good condition (if you are going to use it during a long time, carry spare batteries).
10. If no adequate ventilation exists, gasoline vehicles may not go into confined spaces, Preference is given to petrol vehicles. If those cannot do so, some of the following measures should be adopted:
 - a) If at all possible, carry autonomous breathing system or similar.
 - b) Do not stay for a long time in the place, if you feel that the air is thick.

AS YOU CAN SEE, SAFETY IS EVERYBODY'S BUSINESS.

11. The engines of any vehicles entering a window and arriving at the work site should be stopped to avoid polluting the environment.

-ALFALFAL – MAITENES PLANTS WINTER PROGRAM

CONTENTS

1. PURPOSE
2. GENERAL RULES
3. DRIVERS
4. VEHICLES,
5. ALERTS PROCEDURE
6. ALERTS REGULATIONS
7. USE OF THE CHAINS
8. RESPONSIBILITIES
9. SIGNALS SYSTEM
10. SHELTERS
11. AVALANCHES ZONE

1.PURPOSE

This program defines the procedure to be followed when faced with emergencies due to winter weather conditions and its main purpose is the safety of people, the protection of vehicles, machinery and equipment.

2.GENERAL RULES

The winter period is understood to last from **April 15 to September 15**.

The provisions of this program will be effective during the winter period as indicated and at any other time of the year if, in the Queltehues – Volcán Plants Administration opinion, and/or circumstances warrant it or special precautions are needed.

The specific norms of this program will be in effect during the winter period.

This program is a set of regulations whose provisions applies to AES Gener, Contractors, Collaborators, Visits and persons who are present the facilities and premises of the Queltehues - Volcán Plants.

All drivers and all vehicles circulating in the area should comply with the provisions of the Traffic Law, those established in this program and the instructions given by the Cordillera Work Unit.

Non-compliance with the instructions will not be excused and will be sanctioned as determined by the administration of the Cordillera Work Unit, according the AES Gener S.A. Vehicle Control Procedure.

3.DRIVERS

Every driver going to any point of the zone during the winter period should ensure that the vehicle will have the implements specified in point 4.2 of the present regulations, besides taking personal equipment for severe climatic conditions.

Drivers should follow the following special driving rules:

1º. If you do not have experience in snowed-in roads, do not drive.

2º. Always drive slower than that indicated in the road signals, as they have been established for normal conditions, be extremely careful if the road has snow and especially ice.

3º. Avoid getting too near another vehicle keep a minimum distance of 50m between your car and the one in front, and the same distance from machines operating on the road; in that case wait until you are given way by blinking lights or manual signals to pass..

4º. Always give right of way to heavier vehicles or vehicles with more wheels than your own.

5º. Strictly respect permanent and occasional road signs.

6º. Should you have to stop during the trip, always choose an always safe place, not in zones of risks by Avalanches or rock falls

7º. Do not make *excessive use* of the brakes. Shift gears and/or lower speed. Keep in mind that abrupt gearshifts can cause skidding; braking has the same effect.

8º. With snow or sun, use UV filter sunglasses.

9º. Should you be blocked by rock falls or storms, do not take risks trying to continue the journey, seek a safe shelter.

4.VEHICLES

During the winter period the vehicles circulating in the Queltenues Volcán Plants work zones should have four wheel drives.

The vehicles should have the following support elements:

- Ice breaker chains with their tensors in good condition or special snow and ice tires.
- Sling or cord
- Jack
- Wrench
- Spare wheel in good condition
- Shovel
- Flashlight
- Extinguisher
- First aid box
- Triangles

There should be antifreeze for the refrigeration water and the surface of the tires should be in good condition.

During the winter period only the duly authorized vehicles complying with the stipulations of this program will be allowed to transit in the work zones.

5.ALERTS PROCEDURE

The alerts procedure is a set of measures that are applied for the safety of the persons and assets when weather conditions are unfavorable.

Alert is a special warning that is issued when there is danger of Avalanches, storms, tempests, or rock slides. In this situation the activities are subject to the norms consigned for each alert.

There are three (3) alerts that are issued according to the magnitude of the risks that approaches, and these are informed by the Operator of the Queltehue Plant, with prior request of information about weather conditions from the Alfalfal Plant Operator, to the functionaries of the Work Unit who in turn have the responsibility to transmit the information to the Contractor, Collaborators and Visitors present in the work zone.

End of alert: Operations will return to their normal regime once the conditions existing in the zone will have been evaluated.

The alerts, their meaning and signals are as described in points 6 and 9.

During winter or in bad weather conditions, the Plant Operator will request the weather prediction for the day and the next 24 hours from the shift operator of the Alfalfal Plant who will have the weather information for the zone every day at 06:00 and 19:00 hours.

6.ALERTS REGULATIONS

Valid for all work areas with the restrictions described in each alert.

6.1. First Alert: Green Flag

Meaning: **Bad weather approximation**

- Transit of the maintenance and operations personnel: Normal at the Intakes, Volcán Plant, workshops and offices zones.
- Transit of vehicles in the access roads to work zones: **Normal.**

6.2. First Alert: Yellow Flag

Meaning: **Snowing, bad weather in the zone, no risk of avalanche or bad weather declining.**

- Transit of the maintenance and operations personnel: Normal at the Intakes, Volcán Plant, workshops and offices zones.
- Transit of vehicles to Intakes: Restricted, only vehicles authorized by the shift Operator.

6.3. First Alert: Red Flag

Meaning: **Heavy snowing, Danger of Avalanche**

- Transit of the maintenance and operations personnel: **Restricted**
- Transit of vehicles to Intakes: **Forbidden.**

The clearing of the roads to the Intakes (snow removal) cannot be carried out.

Clearing of snow can be done around the office zones, SDM and workshop.

7.USE OF CHAINS

The Plant shift operator will determine when the snow chains should be placed or removed in the emergency light truck or the personnel transport vehicles, according to the users.

Non-compliance with the instructions about tire chains and their use will be penalized by AES Gener S.A.

8.RESPONSIBILITIES

8.1 AES Gener S.A QUELTEHUES VOLCAN.

- Comply with and enforce these regulations, and penalize infractions.
- Issue and administer the alerts established in these regulations.
- Advance or delay the dates of the beginning and end of the winter period.
- Keep a meteorological record and the characteristics of snow falls and on the ground.
- Control, by means of the functionaries of the Work Unit, that the vehicles comply with the exigencies specified in this and other regulations.
- Cleaning and signaling of the roads in its area of responsibility.
- Analyze and interpret the norms of the present regulation in real situations.

8.2 CONTRACTORS

- Take the adequate prevention measure in the case of storms, avalanches and other weather phenomena which could affect the development of the work.
- Keep up the lists of people present in the area during the winter period.
- Establish timetables for the vehicles so that they will be back at the Queltehues Plant no later than 17:00 hours and inform the hour of leaving the zone.
- Signal all works being executed and which affects the normal transit of people and/or vehicles.
- Instruct its work force about and during storm situation in cases of emergencies and risks.
- Comply with and enforce this and other regulations.
- Administer alerts in its area of responsibility.
- Carry out the necessary actions to control the risks inherent to the winter period, whether they are indicated in these regulations or not.

9 SIGNALS SYSTEM

ALERT	SIGNALS	MEANING
FIRST:	GREEN	Bad weather nearing the zone
SECOND:	yellow	<p>Snowing</p> <p>Bad weather in the zone, no risk of avalanches</p> <p>Mandatory use of chains</p>
THREE.	RED	<p>Heavy snowfall</p> <p>Bad weather in the zone.</p> <p>Increased danger of Avalanches.</p> <p>Mandatory use of chains</p>
END OF ALERT	SIGNALS REMOVED	Operations reassumed 4 hours after end of third ALERT

10* REFUGES

Use of shelters

Should personnel be blocked by bad weather or avalanches on the roads, to the Maipo and Volcán Intakes and the Queltehues Plant, there are shelters prepared to withstand an emergency situation during 15 days for 4 people.

Equipment of refuges

The shelters have the food and elements necessary to face emergencies; these will be checked and replenished during April of each year.

Emergency situations Made ready for those purposes

Should personnel be blocked by Avalanches or snowstorms at the Intakes and taking into account that it is not possible to give help at once, the MAINTENANCE and OPERATIONS personnel will be able to use the REFUGES especially if bad weather should continue for one or two days without it being possible to bring help, people should remain calm until the storm is over, and not leave the refuges.

They should keep in mind that from the first day or time of the storm, efforts will be made to find them by ground patrols or by helicopter. In this last case it is advised that on hearing the noise made by the helicopter, signaling should be made with colored garments or by lighting a fire using wipers and/or fabric soaked with oil or grease.

Should it not be possible to reach these refuges and finding themselves between two Avalanches during a snowstorm, never leave the vehicle at all. Do not park next to creeks, no matter how small, the vehicle should be parked as near as possible to a natural wall, hopefully of rocks or a large rock (taller than the vehicle).

10.1.Regulations for the use of refuges

The Maipo and Volcán Intakes and the Queltehues Plant refuges are buildings destined and equipped to serve as shelter to the personnel that might become isolated due to bad weather emergencies.

The canned rations and other food found in them are for EMERGENCY use only and should not be eaten during normal situations.

After the emergency is over and on leaving the refuge, care should be taken that the gas lines of the stoves as well as the drinking water taps should be closed. Lights should be off and electrical devices unplugged.

On leaving the refuge, the furniture should be put in order and bedclothes put aside to be taken away and washed.

Food remains should be taken away and remove the garbage generated during the stay to avoid bad decay smells and the coming in of rats.

11.AVALANCHES ZONES

A cadaster of the avalanches that usually happen in the Maipo and Volcán river canyons has been prepared; these avalanches affect the access roads to both Intakes and they are highly dangerous during the winter period.

III MAIN AVALANCHES

1. Maipo Intake branch

1.1. Santa Rita Avalanche, falls about km1. Carries stones and mud which obstruct the road paved ford.

1.2. El Loro avalanche, falls between km 3 and 4. Carries snow and stones, reaches the road.

1.3. Las Melosas Avalanche, fall at km5, at the entrance of the Las Melosas refuge. Mostly mud, occasioning cut off of the road.

1.4. Los Helados avalanche, falls at km6 approximately; mostly made up of snow and rocks, cuts off the road.

1.5. El Zorro avalanche, falls upon the paved ford placed at km9 approximately; made up of stones and mud, cuts off the road.

1.6. Los Caballos avalanche, falls at km12 approximately, between sedimentation ponds and the Maipo Intake, made up mostly of snow, occasioning cut off of the road.

2. Volcán Intake branch

2.1 El Cobre avalanche, creek before the El Volcán Town, (downstream). Carries stones and mud occasioning cut off of the road.

2.2. La Greda avalanche, creek above (upstream) from the El Volcán town, mostly snow and rocks, reaches the road and cuts it.

2.3. La Tenca avalanche, creek back of La Greda (upstream,) 1,5 km approx. Carries snow and stones and cuts off the road.

2.4. El Salto avalanche, 2 km approx. creek above La Tenca (upstream), carries snow and stones, reaches the road.

2.5. El Vesillo avalanche, 1.5 km approx., creek above La Tenca (upstream) carries snow and stones, reaches the road.

Remember that during the frosts period (August-September) stone falls happen when the frost starts melting.

YOU SHOULD READ THIS!

WHENEVER YOU GO TO A PLACE OUTSIDE THE PLANT, INTAKES, PONDS, REFUGES, ETC,) YOU SHOULD KEEP THE FOLLOWING RECOMMENDATIONS IN MIND:

1² Do so with a driver who knows the zone.

2² Check the vehicle and take care that all its elements are in good shape (tires, headlights, rear lights, jack, chains, shovels, etc.).

3² Drive at a speed equal or lower than that indicated in the signals of the place, and always on the alert.

4² Take a walkie-talkie in good conditions, verify its load and communicate periodically with the Control Room.

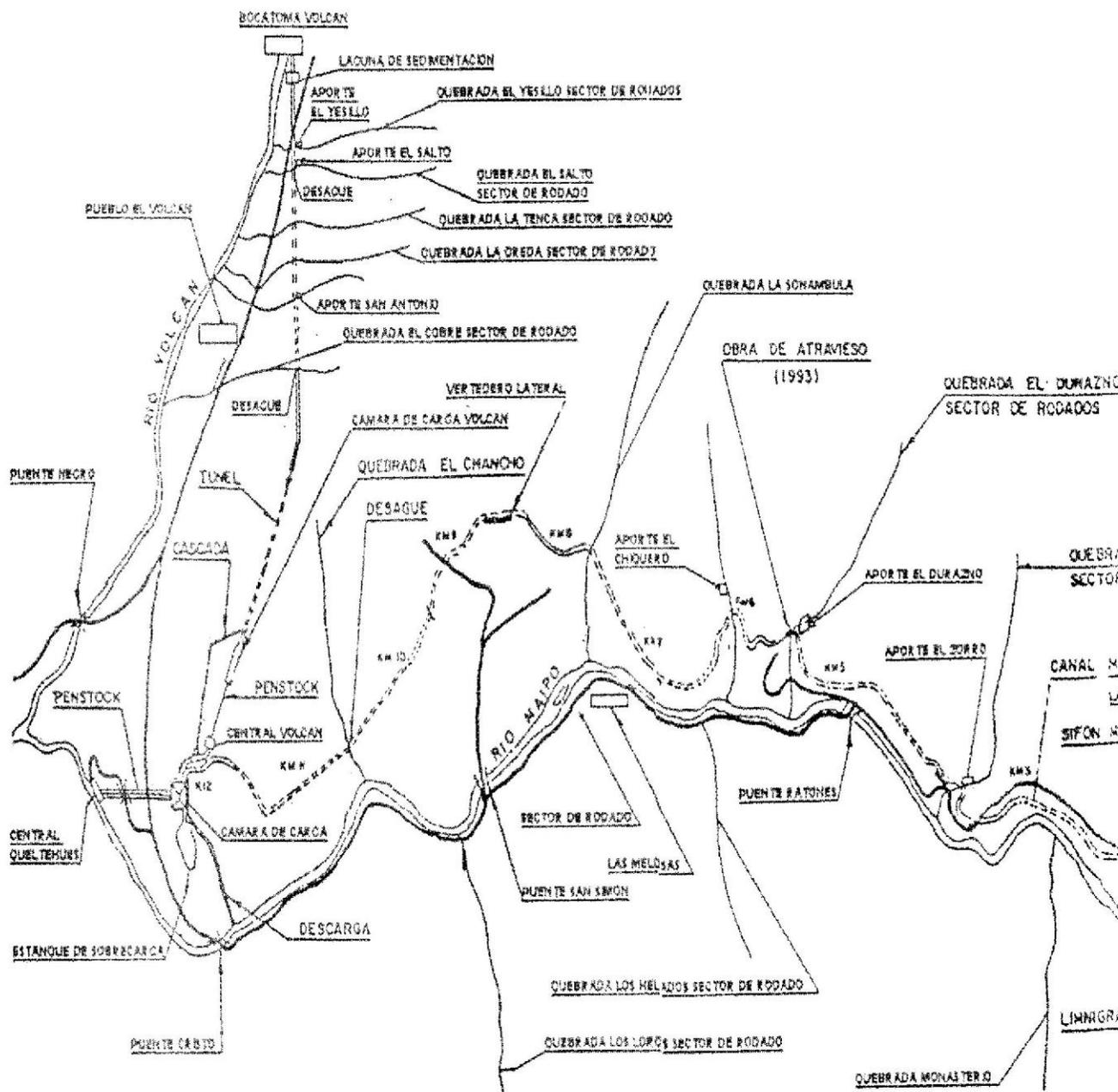
5² If you do not know the zone, ask someone with experience and who knows it to give instructions to you.

6² Never work or go alone to some place where there could be a risk; ask for help.

7² Never intervene the equipment unless you have adequate permission from the shift Operator and/or the shift dispatcher, and take care to check the equipment to be intervened should be disconnected.

8² Any time you work in some of the installations of the work unit, you should use your personal protection elements (helmet, safety boots, gloves, goggles, etc.).

9² You should take at least one flashlight in good condition (if you are going to use it for a long time, carry spare batteries).



Departamento de Prevención de Riesgos AES Gener S.A.

ANNEX 3
CONTINGENCIES AND RISK PREVENTION MANUAL

- Risk Prevention Plan for Contractor Companies. Construction Stage.
- Contingency Plan for Contractor Companies. Construction Stage.
- Emergency Plan for Cordillera Complex.
- Spillage Management Plan for Cordillera Hydro Power Complex.

RISK PREVENTION PLAN FOR CONTRACTOR COMPANIES

PHAM CONSTRUCTION STAGE

May 2008

INTRODUCTION

The purpose of this document is to provide the regulatory provisions in Risk Prevention that will rule all contracting activities for works and/or services that AES Gener S.A., hereafter Gener, undertakes with third parties under the umbrella of construction of hydro power houses Alfalfal II and Las Lajas which are part of Alto Maipo Hydro Power Project or PHAM, in order to protect the physical integrity of people rendering services during the execution as well as to prevent risks of accident that compromise Gener's human and material resources.

The application of these provisions is mandatory for all and every person involved in the construction works of the Project, either contractors or sub-contractors. In this regard, Gener holds the right to enforce the regulatory provisions stated in the Document herein.

It is important to highlight the accuracy of the scopes included in the present document shall be defined and rendered official by Gener once each contractor is awarded the works following the bidding process and taking into account the strategies in terms of risk prevention that each contracted companies has in place. Notwithstanding the above, such provisions shall not be less restrictive than those considered herein.

1. OBJECTIVE

Provide provisions and measures that shall rule and guide work contractors and the workers thereof in risk prevention.

2. SCOPE

This Plan is applicable to all working staff participating in the contractor company at any site and/or activities or services to be performed under the construction framework of PHAM.

3.- DEFINITIONS

- i. Contractor Company: Legal or Natural individual who, based on a contract, assumes the obligation to perform a work and/or render services to Gener.
- ii. Risk Prevention Department: The area within Gener in charge of planning, organizing, executing, and supervising permanent actions intended to prevent work accidents and professional injuries.
- iii. Project Lead: Refers to a Gener's worker in charge of the contracted work and/or service. iv. Risk Prevention Advisor for the Project: A Gener worker responsible for supervising the different aspects related with safety and risk prevention at the work site and the service contracted
- v. Contractor Supervisor: Worker from the contractor in charge of the work and/or service contracted, who has sufficient authority and power to resolve problems arising at the work site. The supervisor shall have demonstrable experience in similar positions. Gener holds the rights to not accept the supervisor should this not meet the minimum requirements.
- vi. Hazardous Substances: Hazardous substances shall be considered as such all those defined under the official Chilean standards NCh382.Of89 and NCh2120/1 to 9 Of89.
- vii. Mutual: An organization which, as provided under Law N° 16,744, is responsible for the administration of social security covering work accidents and labor injuries and health related issues as provided by said law.
- viii. Contractor Staff: Contractor's workers.

- ix. **Project Facilities:** Every construction, land site or area where works, activities and/or services are executed under the construction phase of PHAM such as camps, erection and installation of works, working faces, etc.
- x. **Incident:** Undesired event that might affect or effectively hinders the efficiency of the operation. The most common types of incidents include:
 - o **Accident:** An undesired event resulting in physical damage to people and property, losses in processes and/or damages to the environment.
 - o **Deteriorating Incident:** An undesired event resulting in non-accidental losses such as theft, fines and penalties, and environmental damages.
 - o **Near-Accident:** An undesired event which under slightly different conditions could have resulted in physical damage to people and property, losses in processes and/or damages to the environment.
- xi. **Danger:** Any situation or source with the potential of producing a labor accident or injury or disease
- xii. **Risk:** A combination of likelihood and consequence in the occurrence of a particular event.

2.- GENERAL PROVISIONS BETWEEN GENER AND THE CONTRACTOR COMPANY.

Below are the general provisions governing the Company-Contractor relationship with regard to risk prevention. Typically this type of relationships is regulated firstly by applicable legal requirements and provisions and secondly, by the directives ruling the company under Company's vision and policy regarding risk prevention.

2.1. Legal Provisions.

- All and every contractor shall closely follow Law N° 16,744 on Labor Related Accidents and Health Issues.
- All contractors shall have a Parity Committee on Health and Safety in place with organization functions and conditions as stated under Law N° 16,744 on Labor Related Accidents and Health Issues.

- All contractors are mandated to establish and keep up to date an Internal Regulation on Health and Safety at the workplace in agreement with Title V of Supreme Decree 40/1969; "Regulation on Prevention of Labor Related Risks".
- All contractors are mandated to have a Risk Prevention Department in place with functions and conditions in compliance with the requirements provided under Title III and IV of Supreme Decree 40/1969; "Regulation on Prevention of Labor Related Risk.
- All contractors shall safeguard the compliance with the requirements from Supreme Decree 594/98 "Basic Health Conditions at the Workplace" at all work faces, installation of working sites, camps, and in every area staged to conduct works overall.
- Actions on risk prevention activities to be developed by all sub-contractor companies will be coordinated and defined as per the Special Regulation for Contractor and Sub-contractor Companies in harmony with the provisions under Art. C7 of Law 20,123 on Sub-contracting. In this regard, all contractual relationship between Genera and the Contractor and Sub-contractor company shall be ruled by such legal body, particularly regarding those matters related to the sub-contracting and work regimes used by the company providing temporary services.

2.2. Gener General Directives

2.2.1 Enrollment to a Labor Insurance Organization (Mutual de seguridad).

- All contractors shall be enrolled to a Labor Insurance Organization, and this should be informed to the Head of the Project and to the staff upon hiring. Also, contractors shall also show that payments of benefits of the workers are up to date by submitting the corresponding documentation or certificates.

2.2.2 Risk Prevention Manual for Contractor Companies.

- All staff of the contractor company shall know and follow the provisions included in the Risk Prevention Manual for Contractor Companies. The contractor company shall provide an explanatory briefing to its workers as to explain the scope of the manual thereof.
- For the purpose of the application of this Manual sub-contractors and their staff shall be considered as dependent staff under the contractor who holds the contract with Gener.

2.2.3 Safety Meetings and Inspections

- The contractor shall hold weekly safety meetings with its staff. Should any question or query arises regarding safety, the contractor shall address such as soon as possible. The contractor shall provide details of the safety meetings (in terms of the day, attendees, issues covered, and observations and remarks) in the Template of Safety and Health Meetings. Said template is to be requested to the Head of Project. A copy of the completed template shall be submitted to the Head of the Project.
- The contractor shall also conduct inspections to the activities its operators are performing at least weekly. Should any sub-standard condition arises, the contractor supervisor shall try to resolve such conditions as soon as possible. Inspections shall be documented in the Control Chart of the Contractor.
- It should include both the control measures and corrective actions taken. The supervisor in charge of the works performed for Gener shall follow-up as to ensure that all corrective actions have been implemented.

2.2.4 Work Accidents and Incidents.

- The contractor company shall provide a safe and healthy working environment from commencement of works until their completion.
- Prevention of accidents shall be an integrated part in the execution of the works commissioned through a Schedule of the activities that ensures the maximum protection to the physical integrity and health of workers.
- Upon occurrence of an accident or incident, the contractor's supervisor shall immediately inform the Head of Project. This information can be provided over the telephone or email. The works should be suspended until authorized by the Head of Project.
- The contractor company shall issue a written report upon any incident occurring at the worksite. The report should include at least the following information:
 - i. Type of accident or incident. (section, accident, near-accident, incident, etc.)
 - ii. Name and ID number of the worker involved (if applicable), equipment, process or environment.
 - iii. Date and time of the accident or incident.
 - iv. Date of birth and Date of hiring.
 - v. Exact place of the accident.
 - vi. A summary of what happened.
 - vii. Root cause analysis clearly explaining the originating immediate and basic causes.
 - viii. Control measures adopted to prevent a new occurrence of the event, and follow-up.

This summary should be signed by the Contractor's supervisor.

- Control measures are then obligation the contractor company has to correct those items or conditions that produced or contributed to the incident or accident and if not corrected will prevent the Head of Project granting authorization to resume works. This situation shall be charged to the contractor in its entirety and shall not consider any trade off in either price or time by Gener.
- The written Accident Report shall be submitted to the Head of Project no later than 48 consecutive hours after the accident.
- Detention of works in the event of a severe or fatal accident.

2.2.5 Contractor's Supervision.

The contractor shall permanently keep at least one supervisor at the worksite for the whole duration of the work. The supervisor shall have demonstrable experience in positions similar to the position to be hold at the work and Gener has the right to accept or reject the supervisor proposed by the contractor.

2.2.6 Identification of Contractor's Staff:

- All contractors shall provide the Head of Project the following background information pertaining to all and each worker to enter the facilities or worksites of Gener with at least 2 working days prior commencement of works as to prepare the corresponding entry permits to the site:
 - i. Name and Information of the Contractor Company
 - ii. Name of the work or site where the worker will be based
 - iii. Start and End dates of the work or site.
 - iv. Full name and last name.
 - v. ID numbers of workers
 - vi. Home address.
 - vii. Telephone number
 - viii. Class D Personal Background Check Certificate.
 - ix. Initial date of work at the Contractor company
 - x. Position, classification, profession or trade.
- The Contractor shall certify prior commencement of works, that its workers are in good physical conditions to perform the work. This shall be accredited by submitting medical certificates issued by the Labor Insurance Organization to which the Contractor Company is enrolled.
- These examinations shall vary depending on the risks the worker is exposed to; however they shall include medical examinations to perform works at altitude. The Head of Project from Gener shall provide the rest of examinations to request.

- Upon conducting such examinations the Contractor shall meet the provisions provided by Opinion 287 from the Bureau of Labor on January 1996 as well as to obtain the corresponding permits to be submitted to Gener.
- Also, and prior to commencement of works and providing early notification to Gener, the safety briefing as per Supreme Decree N°40 (Right to know) which states that all workers to take part in works at the worksite shall be informed of the risks they will be exposed to as well as control measures to control such risks. This safety briefing shall be documented clearly stating the date when the briefing was made, full name, ID number, and signature of those attending, topics and risks addressed at the meeting as well as the full name, ID number, and position of the facilitator of the briefing. The briefing shall be provided by an Expert in Risk Prevention or a supervisor from the Contractor company. Gener holds the right to reject the safety briefing should it considers that the person providing the briefing is not sufficiently capable to do so or that the topics addressed are not the risks or dangers inherent to the work.
- All and every staff of the Contractor company shall be demanded usage of an ID system consisting of an individual ID card with a photograph of the worker to be provided by the Contractor. This ID card will be submitted along with the rest of the documentation requested to the Head of the Project for sign-off.
- Once all the information submitted by the Contractor has been reviewed by the Head of Project, he shall submit the listing of authorized staff to Gener's Administration for validation of entry cards.

2.2.7 Entry to PHAM Facilities:

- Individuals showing symptoms or indications of being under the influence of alcohol or drugs as observed by the staff of the Gate or security staff shall not be allowed entry to the facilities of the Project.
- Carrying firearms of any kind is strictly prohibited within the facilities of the Project.
- All major tools, heavy equipment, input, supplies, and in general everything which is used in the Project shall be entered the facilities of the Project with the corresponding manifest of shipment from the Contractor company, hence meeting the provisions and regulations from the IRS (documents stamped by the IRS, not any other document). The Head of Project shall check that all tools and machinery are in good working conditions as per GENER standard. Then the Head of Project will file the manifest of shipment for further removal from Gener facilities.
- Entry nor removal of PACKAGES, PARCELS, ITEMS, MATERIAL, AND OTHER into or out of the facilities shall be permitted, from any building of the Project if any of the above is not accompanied with a manifest listing the content with the corresponding sign-off from Gener. Security/gate staff will control the content described in the document.
- Any person entering or leaving the facilities of the Project carrying equipment, tools, working items, etc., of their own property, or belonging to the Gener or the Contractor, shall have the corresponding manifest as well as duly authorization from the Head of the Project who generated the permits for the contractor.
- Every person is responsible for the equipment, material, tools or other, either these are allocated for use by the company or are personal. Gener shall not be responsible for machinery, tools, equipment, and personal properties lost not belonging to Gener.

2.2.8 Statistics

- The Contractor company shall keep statistics of accident rate up to date as provided under Supreme Decree N°40 approving the Regulation on Prevention of Work Related Risks
- On the third working day at the latest, the Contractor company shall provide the following information to the Head of Project:

- i. Total of workers for the month, as reported to the Labor Insurance Organization.
- ii. Total of man hours effectively worked.
- iii. Total of accidents and incidents occurred during the month, stating the date of the event and the day of the medical leave.

2.2.9 Shifts and Working Hours:

- The Contractor shall establish the working hours and shifts regime for each of the facilities involved in the construction of the Project in compliance with legal provisions, particularly regarding the number of hours and working shift distribution.

2.2.10 Environmental Conditions.

- The Contractor and sub-contractor in all the area designated for construction of the Project, shall meet all legal provisions with regard to protection of the environment as well as those provisions pertaining each individual case instructed by Gener.
- For all worksites, the Contractor company shall provide Gener, prior commencement of works, with all the information relative to the use and handling of hazardous substances as well as information regarding waste and residues generated as a consequence of the work and/or service contracted.
- All hazardous substances entered by the Contracting company to the facilities of the Project shall be clearly labeled with their corresponding safety sheet. NO entry of containers (bottles, cans, bags, spray cans and/or tanks or drums) with hazardous substances shall be allowed if they are not duly labeled as per the Chilean regulation.
- Gener holds the right to inspect and check the content of those containers as well as to grant approval of the storing conditions thereof. The Head of Project shall inform the Contractor company of any breach of any applicable laws and regulations identified. -Noncompliance with national regulations or Gener internal regulations by the Contractor company shall entitle Gener to prevent entry of hazardous substances until the non-compliance is corrected.
- The Contractor shall provide notice of those hazardous substances that need to be entered to the facilities of the Project for execution of the works. Consequently, three (3) copies of Safety Datasheets shall be submitted for review by the Head of the Project in consultation with Risk Prevention and Chemicals areas.
- When it is necessary to employ use of material or elements which might generate hazardous waste, the Contractor shall inform Gener in a timely manner stating the measures to be adopted for treating and disposing of such substances as per existing regulations.
- Once the work starts the Contractor shall inform the Head of the Project, when required, of the origin, type, storage, and final disposal of the wastes generated as a consequence of the works and tasks contracted. The Head of Project could challenge and request revisiting the waste management.

- Loitering is strictly forbidden as well as to toss any item and/or element to the ground, flushes them in the toilets, to the ocean, meadows, lakes, rivers, etc.
- Cleaning Contractor machinery and/or equipment in such a way that such activities might produce soil pollution or hazardous substances at the facilities of the Project is strictly prohibited.
- Lubrication of equipment and machinery shall be done with utmost care as to not produce spillages. In the event of a spillage the Contractor shall be responsible for the cleaning process by using the appropriate items and cleaning and disposing of such. The costs for such cleaning and disposal activities will be totally on the charge of the Contractor.
- Use of washing water that might produce entrainment of solid or contaminated matter to the sewage system is prohibited. When conducting these tasks is absolutely necessary prior authorization from the Head of Project is required.
- In the event of a spillage the Contractor shall immediately contact the Head of Project to communicate the event. Additionally, the Contractor shall immediately implement control measures as to prevent greater contamination.
- Accordingly, the Contractor company shall have the appropriate elements to control, clean, and finally dispose of the substances spilled.
- The Contractor company shall inform the Head of the Project of the destination given to items, waste or sub-products that might be generated while performing such tasks.
- The Contractor company shall be responsible for all costs and expenses involved in cleaning and final disposal of hazardous substances that belong to the Contractor company.
- The Contractor company shall clean any residues of hazardous substances used. Cleaning, recycling, and final disposal of hazardous substances waste shall be informed to the Head of Project.

3.- RESPONSIBILITY IN RISK PREVENTION

- In its policies, Gener considers the Prevention of Accident Risks and Work-related Health Issues as a priority and closely related activity to the productive process, being all workers, both direct hire and Contractor's, responsible for such.
- Contractor's supervision shall be responsible for preventing the risk of accidents, either existing or potential when performing works or rendering services under its responsibility as well as for adopting all necessary measures aiming to remove the causes that might produce accidents.
- The Contractor shall have in place a minimum training program for all new hires which should include the following:

- i. Training on tasks to be executed by the worker where the corresponding line of command will provide a comprehensive work preparation prior starting and commissioning a work.
- ii. Training on the standards of Risk prevention that the worker should follow and comply with while performing the works and activities. (This subject matter should be already part of the Internal Regulation of Housekeeping, Health, and Safety.)
- iii. Present the staff with the Regulation of Risk Prevention of AES Gener S.A. for Contractor Companies.
- iv. Gener shall audit compliance with these obligations and shall demand submission of minutes detailing acknowledgement of these training to the Contractor's staff.
- v. Accredited training of psychological, senses, and technical examinations for drivers and equipment operators.

4.- SAFETY REGULATIONS

- The Contractor shall have the necessary facilities at worksites, work faces, and camp in compliance with Decree N° 594 from September 15, 1999 which provides the Basic Environmental and Healthy Conditions at workplaces
- The Contractor shall ensure that its staff wears the appropriate working clothing as well as the correct appearance and the corresponding personal protection equipment.
- The Contractor staff shall not nor could move through any other working zone or area other than the area where the staff is conducting its works or which access those. Any other neighboring area or section the Contractor wants to use should have a prior authorization from the Head of Project.
- The Head of Project shall inform the Contractor's supervisor of any breach to safety standards identified, so the supervisor enables the corresponding actions to solve the problem. While non-compliances and breaches are not resolved, the Head of Project might prevent resuming the works. This situation shall be charged to the contractor in its entirety and shall not consider any trade off by Gener.
- Cleanliness and housekeeping shall be kept at all times in the respective working areas as well as with regard to all locations used for tool and material storage.
- In the event of an incident or accident involving the Contractor staff, any fire or any other abnormal situation occurring in the working area, the Contractor shall immediately inform of such occurrence to the Head of Project or to the nearest Gener worker as per the procedures stated under the Emergency Plan for Contractor Companies.
- Also, an investigation report of the accident should be submitted no later than 48 hours clearly detailing the causes that originated the event and control measures implemented as to prevent a new accident from occurring.

- Contractor staff shall not block any access to fire extinguishers, hose cabinets for firefighting or any other element used for that purpose as well as emergency stations to rinse eyes and showers, emergency equipment for spillage and any other safety related equipment.
- The Contractor staff shall not block walkways, roads for fire truck and equipment lanes or fire hydrants.
- When fuel is being loaded at the Project facilities, procedures need to be followed and a prior authorization of the Head of Project should be obtained.
- In the event of an accident or beginning of a fire, the Contractor staff should act in agreement with emergency responsiveness procedures included in the Emergency Plan for Contractor Companies.
- The Contractor shall inform the Head of Project of any situation or event that might produce damages, while immediately stopping all those works affected.
- Contractor staff is strictly prohibited from operating Gener equipment or machinery without the authorization or training from the Head of Project or the person designated by the HoP.
- Working places should have natural lighting or appropriate artificial light. (The latter with sufficient power as per Decree N° 594.)
- Workers are prohibited from travel as passengers on board of heavy machinery or in parts of vehicles exclusively intended for loading purposes. The load transported by trucks should be properly rigged and balanced as per the capacity of the vehicle. No overloading or overhauling of trucks that endanger the safety people will be allowed on the site.
- Contractor companies, depending on the activities performed, shall develop procedures to control risks for the following operations:
 - *Operation of light vehicles
 - *Operation of surface mobile equipment
 - *Operation of underground mobile equipment
 - *Hazardous substances management
 - *Performing Works on Altitude
 - *Lifting operations (hoisting)

5.- OF PERSONAL PROTECTION EQUIPMENT

- The Contractor has the obligation to provide to all of its staff all personal protection

equipment as well as those items, accessories, and equipment for additional and special personal protection as per the specific risk conditions that might occur while performing the work or rendering the service.

- The Contractor shall provide -and make mandatory, the use of personal protection equipment to all of its workers when these are working at Project facilities AT ALL TIME, from the first day of work. Noncompliance with this provision shall be grounds to instruct removal from the worksite of those workers who are not wearing/or have complete personal protection equipment.
- All devices, equipment, and personal protection equipment aimed for labor-related accident risks and health issues to be used, manufactured either nationally or abroad, shall be certified by institutions, laboratories or Chilean agencies duly authorized as per Supreme Decree N°18 from March 23, 1982.
- All contractors shall provide its workers with the following equipment, as a minimum:
Personal protection:
 - o Safety hat (other than white nor metal), with the name and/or logo of the Contractor, MSA type, V-Gard hard hat.
 - o Sweat pants or suit (pants and jacket) with the name and/or logo of the Contractor stamped, with 2 cm wide reflecting stripes (min) on the arms (around the forearm), back (around the shoulder), and legs (beneath the knee.)
 - o UVEX type, Patriol anti-fogging goggles. Any goggle equivalent to the recommended should be authorized by Gener Risk Prevention.
 - o Dielectric safety shoes with steel cap covering the ankles. Wearing tennis shoes or dressing shoes are not allowed at any time.
 - o Reflective vest to be used in tunnels.
 - o Leather gloves in the event that any type of work or task requires using such.
 - o In those areas with toxic, irritating gases or dust, breathing masks with the appropriate filters should be used. Prior using such items the HoP should sign off their use.
 - o In working areas where the level of noise exceeds 80 dB or when required by the HoP, a protection element as anti-noise ear protection of the type that is placed over the hard hat, Bilsom without metal parts should be used. Any ear protection other than the protection recommended shall be authorized by Gener Risk Prevention.

- o The corresponding full body harness should be used when working at an altitude exceeding 1.8 m above ground level or when working at a lower height when the risk of a fall is present.
 - o Any other specific item of personal protection equipment required depending on the work to be performed.
- If loads need to be handled while rendering the service or performing the work, the Contractor should provide its staff with the mechanical means for load handling as to prevent manual handling of the load. If it is essential to conduct the handling of the load, the Contractor should provide the appropriate conditions of health and safety as well as the necessary items that prevent or minimize the consequences of an accident or work related health issues. In any event, in those tasks where load handling is unavoidable and it is not possible to use mechanical means to facilitate such handling, Contractor staff qualified to perform such activity shall not carry loads exceeding 50 kg.

6.- OF PREVENTION AND PROHIBITION SIGNALING

- The Contractor shall be responsible for placing all tapes, signs, barriers, and necessary signaling to safeguard all individuals, both operators of the Contractor company as well as Gener employees during the execution of works, previously informing the Head of Project in a timely manner of the characteristics of each of those items.
- Warning tapes or fences shall be placed warning about the types of risk, around ditches and excavations, holes or opening in the ground, roofing, elevated platforms as well as in areas where there is a possibility of objects falling from a height.
- The Contractor staff has the obligation of respecting the different prevention and prohibition signaling. Not respecting danger signs located in different areas of the Project facilities might cause voidance of the corresponding contract.
- As long a work is completed on equipment or facility that has danger signs, the person in charge of the team or the Head of Project will be immediately notify as to obtain approval to remove the danger warning tapes.

6.- RISK DETECTION METHODOLOGY

Gener has in place a methodology to detect and evaluate risks applicable to each of its facilities following the general guidelines of its policy of risk prevention (herein attached in Appendix A).

It is not possible to preliminary establish a specific methodology to assess risks for construction activities in PHAM as it will largely rely on the strategies the Contractor company follows in terms of safety. Accordingly prior to commence construction activities, both Gener and the contractors shall agree upon and define a new methodology for risk detection that allows detection, evaluation, documentation, and management of all those risks related with occupational health and safety for all workers involved in the Project in compliance with the provisions stated above and which will be applicable to all areas, equipment, and activities to be developed.

Notwithstanding of the above, Section 7 in this document lists the main procedures for risk prevention identified to date during the period of construction for the Project.

7.- RISK IDENTIFICATION AND SPECIFIC PREVENTION MEASURES

All risks identified for the construction project of PHAM are described below in an index card format. The same format also describes as per the type of risk identified all measures to be implemented sequentially by the contractor company as to prevent the identified risk.

In summary, the main risks deriving from the analysis conducted for each of the activities to be performed on the site are:

- Risk of explosion;
- Risk of avalanche;
- Risk of earthquake;
- Risk of spillage of hazardous substance during transportation;
- Risk of spillage of hazardous substance during handling at the site;
- Risk of material spillage;
- Risk of traffic accident;
- Risk of fall from a different level;
- Risk of fire;

Regardless of the above, once all contracts for works are granted every Contracting company shall re-assess its respective work and potential risks associated as per the indications under Section 6 in the present Plan. Additionally, contingency and risk prevention procedures shall be supplemented with environmental documents from the environmental assessment process.

AES GENER S.A.
RISK PREVENTION PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE RISK</p> <p style="text-align: center;">EXPLOSION</p>		<p>Refers to accidents produced by explosives which might cause injuries to people and damages to equipment and facilities.</p>
<p style="text-align: center;">PLACES OF RISK</p>	<ul style="list-style-type: none"> - Transport, loading and unloading of explosives - Storage locations for explosives: Magazines. - In work faces where construction works for tunnels are being conducted. 	
<p style="text-align: center;">SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - The Contracting company in charge of the explosives to be used on the site should have in place a General Guideline for Storing, Transportation, and Handling of Explosives. - All staff working in transportation, storing, usage, handing, controls, and destruction of explosives should know and follow the directives and legal provisions under Law N° 17,798 and the Supplementary Regulation for Control of Weapons and Explosives as well as to be subject to enforcement by the General Bureau of National Mobilization from the Chilean Army (Dirección General de Movilización Nacional del Ejército.) - The Contractor should certify that staff working in transportation, storing, handling, and operation activities with explosives is duly trained and educated and that is also physically and psychologically fit to undertake such activities, and that the staff holds a valid license issued by the corresponding agency. - While work is being performed with explosives, smoking is strictly forbidden as well as to carry cigarettes, matches, lighters, neither wear clothing with a high content of synthetic fibers nor carrying any item likely to produce sparks or static shock. - All transport of explosives should be done using authorized containers certified by the Test Bank of Chile (Banco de Pruebas de Chile.) - The Contractor in charge of explosive magazines should keep statistics and control of reception, issuance, and stock of explosives. - It is strictly forbidden to have open flames in areas where loading and unloading of explosive is done. - Vehicles allocated to explosive transport should be duly authorized. - Prior doing blasting using explosives the supervision in charge should adopt all necessary measures to prevent injuries to people and damages to equipment and facilities - The Contractor is responsible for handling and destruction of explosives in poor conditions as per the existing legislation. - Explosive magazines shall be located in separated and distant locations, distant from any other building and be properly fenced and safeguarded with a surrounding firewall. 	

AES GENER S.A.

RISK PREVENTION PROCEDURES

<p align="center">RISK IDENTIFICATION</p> <p align="center">AVALANCHE</p>		<p>This risk refers to a massive movement that rapidly runs down the hills of a mountain, dragging a large amount of rocks, snow and ice.</p>
<p>PLACES OF RISK</p>	<p>Facilities of sites, work faces, and camps located in the vicinity of Volcán and Yeso rivers.</p>	
<p>ESPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - Location of camps has been designed to be in areas free of risks of Avalanche and Lahars. Especially in the upper area of Volcán river, engineering design and construction of water intakes is done following the standards for high mountain construction. - Camps, worksite facilities, and work faces will have the appropriate high mountain safety equipment available for staff. - The staff shall be trained and instructed in emergency and rescue efforts according with the respective Parity Committees. - Facilities and camps shall be built using material specially fabricated to endure the temperature and rainfall typical of the place. - The Contractor shall prepare an Emergency Evacuation Plan. - Camps and facilities for sites and safety areas shall be defined. Also, boundaries and signaling for ways of evacuation which will be clear of any obstruction at all times will be produced - All and every camp, site facility, and work face will have special radio equipment. In this regard the Communication Plan shall be kept active at all times. - Any activity conducted on surface that generates intense vibration shall be performed only with prior authorization of the Contractor's Expert in Risk Prevention. 	

GENER RISK PREVENTION PROCEDURES	
RISK IDENTIFICATION EARTHQUAKE	 <p>Refers to sudden land movements generally due to tectonic or volcanic movement.</p>
PLACES OF RISK	<p>All areas of location of the Project</p>
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - Engineering design and construction of PHAM facilities follow national and international standards and directives of seismic resistance. - Special briefings will be conducted addressing responsiveness procedures upon a seismic event. - Connecting areas or storing areas of fuels or any other inflammable substances that upon a seismic event might become a risk will be identified and fenced. - The Contractor shall perform evacuation drills and shall inform its staff of evacuation routes and responsiveness procedures. - The Contractor shall prepare an Emergency Evacuation Plan. - Camps and facilities for sites and safety areas shall be defined. Also, boundaries and signaling for ways of evacuation which will be clear of any obstruction at all times will be produced - All and every camp, site facility, and work face will have special radio equipment. In this regard the Communication Plan shall be kept active at all times.

AES GENER S.A.

RISK PREVENTION PROCEDURES

<p align="center">RISK IDENTIFICATION</p> <p align="center">SPILLAGE OF HAZARDOUS SUBSTANCES DURING TRANSPORT</p>		<p>This refers to accidental spillage of hazardous substances or fuel (as detailed under the listing from S.D. 382/2004 of natural resources as water and land or constructions in general.)</p>
<p>PLACES OF RISK</p>	<ul style="list-style-type: none"> - Roads and routes where hazardous substances transport takes place. 	
<p>SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - The Contractor company responsible for the transportation of hazardous substances shall follow the provisions of the current and valid legislation. - The driver shall have the appropriate driver license as well as the necessary training to respond in the event of an accident involving spillage of the substances transported. - The vehicle used for transportation shall have in a visible area the respective safety data sheets of the substance to be carried. - The vehicle operator shall have all personal protection equipment as specified under the safety data sheet of the substance to be carried. - The transportation company should instruct the driver regarding handling of the substances carried as well as training in first aid and spillage control procedures (including training in procedures related to handling of hazardous substances.) - The transportation vehicle shall have all tags identifying the substance carried as provided under the Nch 2190. - The transport contractor should have in place a Communication Plan active at all times. Also, all and every driver should have radio-communication equipment. - The transportation vehicle shall have all its items and equipment in optimum working conditions (lamps, trailers, fire extinguishers when fuels or inflammable substances are carried, tachometer, etc). - The transportation company shall have in place inspection procedures to be applied prior starting all the routes. Upon suspicion of or detection of a failure, the service shall be suspended. Once all necessary corrections are made, the service shall be resumed. 	

AES GENER S.A. RISK PREVENTION PROCEDURES		
RISK IDENTIFICATION SPILLAGE OF HAZARDOUS SUBSTANCES WHILE HANDLING		<p>This refers to accidental spillage of hazardous substances or fuel (as per listing under S.D. 382/2004) on natural resources such as water and land, or affecting constructions in general. (oil, lubricants, and painting)</p>
PLACES OF RISK	<p>Worksite facilities, work faces, and camps</p>	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - Every facility where any kind of chemicals is stored or handled shall have the respective safety datasheets attached in a clearly visible place wherein the datasheets will detail, but not limited to, the characteristics of the substance, risks of the substance and emergency procedures to be triggered in the event of an accident. - All staff involved in handling and storing of this type of substances shall be trained. Therefore the Contractor company shall have in place a Training Program. - Chemicals shall be identified and labeled as per their classification and type of risk as provided under the NCh 2.190 of.93. - Every working face shall have the necessary elements and items to contain and remove the substance in the event of a spillage, be those elements and items shovels, machinery, pumps, temporary storing tanks as required. - A special location with the corresponding signaling for storing purposes of this material will be provided within site facilities; this location shall be set up as instructed by the relevant authorities. - Oil and fuel drums will be place on wooden pallets or any other devices as to facilitate their transportation and prevent damages caused by humidity and rust through a direct contact between drums and the ground. - Change oil and other oily residues shall be stored in closed drums in appropriate locations for further commercialization, disposal in authorized locations or return to vendors. - Diesel oil and gasoline shall be supplied by distribution companies duly authorized and using safety items as provided under the current legislation. - As per Supreme Decree N° 379/86 from the Ministry of Economy, which regulates storage of liquid fuels derived from oil for use in private consumption, Contractors will be demanded to register fuel tanks in the Registries of the Superintendencia of Electricity and Fuels (Superintendencia de Electricidad y Combustibles, SEC) in those cases where the volume of such tanks exceed 1,100 lt. 	

AES GENER S.A.
RISK PREVENTION PROCEDURES

<p style="text-align: center;">RISK IDENTIFICATION</p> <p style="text-align: center;">LANDSLIDE</p>		<p>Refers to descending movement of a certain volume of material consisting of rock, dirt or both. The types of movement include: rock fall), toppling, landslide, spread and flow.</p>
<p style="text-align: center;">PLACES OF RISK</p>	<p>Areas where land and rock cutting works are conducted for road preparation or working platform preparation purposes, excavation and digging for construction works for ditches, troughs, bridges, siphons, sinks, inlets, etc.</p>	
<p style="text-align: center;">SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - Prior starting the works, staff involved in the works should be trained in safe working procedures, use of required personal protection equipment, prevention and emergency measures to implement in the event of a landslide. Particularly this type of training (excavation) should be provided to workers participating in cut and fill and excavation activities. - Prior commencement of the works all rocks, boulders, waste, and loose material that might become a hazard to the workers participating in cut and fill and excavation works. - The area where cut and excavation works will take place should be duly signed and marked. - After a seismic event or rainfall all slope cutoff or excavation works need to be inspected. In the event that faults are detected, containment measures should be implemented as to ensure the stability of the works. - Areas where the land shows poor stability the Expert in Risk Prevention from the Contractor company shall study and provide the solutions or precautions to adopt as to ensure stability of cutoff works. - In the particular case of cutoff activities in rock or land these solutions can be containment gabions, reforesting activities and/or leveling of slopes. - In the case of excavations, containment and control measures include timbering, reinforcement, wedges, etc. - The Expert in Risk Prevention from the Contractor company shall constantly perform inspections of excavation edges for occurrence of cracks or faults. - No material should be piled near the edge of excavations nor any machinery or any other item that might pose dangers to the stability of the material. - Each of cutoff works shall be done taking into account the most convenient grade based on the stability characteristics of the land. - Removal of vegetation in cutoff areas in hills shall be minimized as to prevent causing erosion (creep). - Construction of temporary access roads presenting unstable and steep landfills shall be prevented. 	

GENER SAFETY PROCEDURES		
RISK IDENTIFICATION TRAFFIC ACCIDENT		<p>A traffic accident is an accident involving at least one automobile or any other type of transportation vehicle.</p>
PLACE OF THE RISK	<p>In both private and public roads where trucks or light vehicles involved in the Project run.</p>	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - The Contractor shall implement a formal procedure to control traffic accidents as to address the emergency in a timely manner. - Staff to be hired for operation of trucks, buses or machinery shall be qualified with a valid driver's license. The driver's license shall be requested as provided under Traffic Law (N° 18,290). - Vehicles hauling machinery and material to the working site shall have the corresponding labeling and tagging as provided by the current legislation and shall be no older than 5 years. - The vehicles shall meet the applicable traffic legislation (technical revision, insurance, transit permits, permits for transportation of passengers, etc.). - The weight of trucks loaded with material or equipment shall not exceed the maximum allowable weight for roads and bridges used. Otherwise permits from the Transit Authority shall be obtained for each case. - Transportation of fuel and other material shall be done as per the current legislation. - When is necessary to transport over dimensioned load on roads, town and city streets, such action shall be coordinated along with Carabineros de Chile, and the corresponding utilities and public authorities. - A communication system shall be in place (radios, mobile phones) as to ensure quick communication with the different work faces. - Existing pedestrian crossing shall be kept duly enabled during execution of works. - Special signaling shall be implemented in access locations to work faces. Signs, barriers, blinking electric lights, and traffic cones shall be used for this. - Machinery and vehicles in operation at the different working faces shall be in optimum working conditions. 	

**GENER
SAFETY PROCEDURES**

<p>RISK IDENTIFICATION</p> <p>FALL DOWN FROM A DIFFERENT LEVEL</p>		<p>Eliminate or remove risks of fatal accidents, disabling injuries and incidents in works conducted in height or in different levels of altitude</p>
--	---	---

<p>PLACES OF RISK</p>	<p>Worksite facilities and work faces.</p>
------------------------------	--

<p>SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - Produce a General Procedure where all different types of manual and machine-made excavations, works performed in high structures, scaffolding, portable platforms, ladders, etc., are addressed. - Appropriate signaling indicating areas where the risk of falls from a different level and/or slide within a vehicle. - Hard barriers and protection shall be placed around deep excavations done using machinery or backhoes. - In those areas where there is a fall potential of 1.80m the staff shall be insured and shall wear protection equipment such as safety harness and a lifeline, as minimum. - - All safety equipment for works performed on height shall meet and be used in agreement with the standards for design and should also have the corresponding certification. - All roads and ways shall be clear of any obstruction and free from any material in those areas or sections where excavations are being made as to act promptly in the event of emergency or accident. - Elevated platforms, both portable and mobile, suspended lifts and other equipment to work on height shall have the approved design standards. - People working on height shall secure their safety hats with the corresponding belt or bobstay. - There should be a Responsiveness Plan in place for a prompt responsiveness in the event of a fall - All equipment shall meet the intended purpose and shall be controlled and inspected by qualified staff prior its usage.
--	---

**GENER
SAFETY PROCEDURES**

**RISK
IDENTIFICATION**

FIRE



It is the occurrence of an uncontrolled fire that can be extremely dangerous for people, private property, and natural resources. Exposure to a fire might lead to death by asphyxia or fainting by inhaling the smoke from the fire and severe burns

**PLACES OF
RISK**

Storage areas for inflammable substances, at site and camp facilities. .

**SPECIFIC
PREVENTION
MEASURES**

- Inflammable substances or substances easily combusting shall be stored in locations specially prepared for such purpose as stated under O.G.U.C and the guideline for storing chemicals from the Health and Sanitation Agency. Within these locations inflammable material will be kept orderly and classified as per their chemical compatibility.
- In the particular case of hazardous waste, these are to be handled and managed as provided under SD N° 148/03 from the Ministry of Health (see Annex 8 attached to the body of the EIS, “Waste Management”.)
- Inflammable substances shall be identified and labeled as per their classification and type of risk as provided under the NCh 2.190 of.93.
- The Expert in Risk Prevention on the site shall define an area surrounding the storage location for inflammable substances where burning bonfires, smoking, and/or toss items that might produce sparks is expressly prohibited
- The Expert in Risk Prevention shall conduct permanent inspections as to detecting possible failures in the way inflammable substances is handled.
- The work contractor shall keep fire-fighting and control equipment in place at all times, wherein such equipment will consist of dry chemical and CO2 fire-extinguishers for the different types of fires that might occur due to the different flammable materials or fuels existing in the location or that are handled. The total number of fire extinguishers will depend on the surface area cover as provided under Article 46 of SD N° 594/99 from the Ministry of Health (MINSAL) “Regulations for Basic Sanitary and Environmental Conditions at the Workplace.”
- The Contractor shall build a trained brigade that will be operative during the construction of the project.
- Fuel handling shall be conducted based on the procedures mandated by SEC (see Procedures for handling of hazardous substances)
- Procedures to reduce the occurrence of the risk through continuous oversight of those locations to store inflammable substances as well as with safety training to all staff.
- Evacuation routes that should be cleared and duly signaled at all times shall be established within the facilities.
- All staff shall be trained in the risk of fire
- The Work contractor shall implement internal and external communication systems as well as an alarm system capable to render emergency instructions or request help.

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	1 of 17
Title: RISK EVALUATION		Revision: 0	Update: 10/30/2007

CONTENTS		
Chapter	Description	Page
1	Objective	2
2	Scope	2
3	Definitions	2
4	Responsibilities	4
5	Activity Description	5
6	Record Control	
7	Reference Documents	
8	Annexes	
9	Control of Modifications	

HISTORY					
Revision	Descriptio	Done by	Revised by	Approved by	Valid

Executed	DPR AES Gener	Reviewe	José Paredes F.	Approved	Enio Belmonte C.
Position		Position	Safety Sub-manager	Position	Production Manager
Signature		Signatur e		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	2 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

1.
OBJECTIVE

To establish the methodology to apply in AES Gener S.A. as to identify, assess, document, and manage risks related with Occupational Health and Safety.

2. **SCOPE**

This procedure is applicable to all areas, teams, and activities to be developed in the facilities of AES Gener S.A. both by direct hire as by contractors.

3.- **DEFINITIONS**

ACCIDENT: Undesired event resulting in death, sickness, injury, damages or any other loss. Law 16744. Art. 5.-As per this law a work related accident refers to any injury affecting an individual as a direct cause or resulting from performing a work and that leads to disability or death.

Work accidents are also those accidents that occur on the way to work, coming to and leaving the worksite, or from the dormitory to the working station.

RISK EVALUATION: Is a process aimed to obtaining the necessary information to estimate the magnitude of risks existing in a productive process as well as to determine whether such risks are tolerable as to use them as benchmark at organization level in the decision making process and adoption of measures (correctives/preventive.)

IDENTIFICATION OF RISK: Process that allows acknowledging that there is an existing danger, allowing definition of the characteristics thereof.

CRITICAL PARTS: Components of machinery, equipment, material, structures or areas with higher likelihood of producing an issue or loss of magnitude when undergoing wearing or are damaged, overused or used in a poor manner.

CRITICAL INVENTORY: Document listing all hazards and risks identified.

Executed by	DPR AES Gener	Reviewed	José Paredes F.	Approved by	Enio Belmonte C.
Position		Position	Safety Sub-manager	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	3 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

INCIDENT: Undesired event giving origin to an accident or that had the potential to cause an accident. For this General Procedure the following incidents are defined as part of this definition:

- f* Accidents affecting people resulting in labor disability or minor injuries
- f* Near-accident.
- f* Material Damages.
- f* Environmental Damages.
- f* Operational Failure

DANGER: A source or situation from which it can be expected with a high degree of certainty that it might cause damages as injuries, damage to properties, the environment or a combination of all of these.

RISK: Is the likelihood of occurrence of an undesired event that has a significant impact on the system and which might develop in an actual danger.

LIKELIHOOD: A measure to estimate the possibility of occurrence of an event.

SEVERITY: The most likely result from an accident. The concept includes all kind of impacts or adverse effects on people, property, processes, products, population or a combination of all of those.

SAFETY: Risk-free condition resulting from controlling hazards and aspects that might affect the wellbeing of any worker, the administration, other involved parties or the environment.

OCCUPATIONAL HEALTH AND SAFETY (SSO): Conditions and factors affecting the wellbeing of employees, temporary workers, contractor staff, and visitors to the working area.

Executed by	DPR AES Gener	Reviewed	José Paredes F.	Approved by	Enio Belmonte C.
Position		Position	Safety Sub-manager	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code: PG-8.1-001	Page: 4 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

4. RESPONSIBILITIES

The following table illustrates the acronyms to identify activities and responsibilities in the supplementary exhibit as per Risk identification and evaluation.

1: Ensure the right application of this procedure	9: Approve risk inventories for all its areas
2: Define a Risk evaluation methodology	10: Disseminate/Train in Risk inventory
3: Review the Risk evaluation methodology	11: Keep Risk inventory up to date
4: Approve a Risk evaluation methodology	12: Manage risks by prioritizing those risks classified as Medium and High
5: Identify dangers and risks in the area	13: Request identification and evaluation of new
6: Conduct an initial Risk evaluation	I: Right to know (information)
7: Conduct a residual Risk evaluation	E: Perform the activity
8: Conduct the final Risk evaluation	C: Collaborate with the activity

The following table illustrates in a supplementary manner, AES Gener S.A. responsibilities in terms of the activities for Risk identification and evaluation.

Activity	Plant Manager	Area Leads	Direct Supervisor and Head of Shift	AES Gener Safety Sub-manager	Plant Safety Coordinator	All Staff
1	E	E	C	E	E	
2	I	I		E	C	
3	E	E		I	C	
4	I			E		
5		C	E		C	E
6	I	I	E	I	C	E
7	I	E	E	I	E	C
8	E	E	E	C	E	
9	E	E	C	I	C	I
10		I	E	I	E	C
11	I	I	E	I	E	C
12	I	E	E	I	C	C
13		E	E	I	E	E

Executed by	DPR AES Gener	Reviewed	José Paredes F.	Approved by	Enio Belmonte C.
Position		Position	Safety Sub-manager	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	5 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

5. ACTIVITY DESCRIPTION

5.1. Methodology for Hazard Identification and Risk Evaluation

The Safety Sub-manager is responsible for defining the methodology to be used to identify hazards and ensuring that such methodology meets the minimum requirements to conduct a Risk evaluation for Occupational safety and health associated to activities, products and/or services from the company.

Once the methodology is approved, Area Leads, Supervisors, and Heads of Shifts are responsible for creating an inventory of hazards and evaluating their business risks. Then, management of those risks needs to be established by prioritizing those risks classified with an estimate of Medium and High. However, keeping the risk inventory up to date is essential to achieve good risk management.

5.2. Identification of Occupational Health and Safety Hazards

Preparing or reviewing a risk inventory shall be done in each of the following cases:

1. During a SGSSO implementation.
2. Execution of new projects (modifications, pushes, changes or entry of new reagents into the industrial process.)
3. Audits, general SGSSO revisions.
4. When the Risk Prevention Department deems it convenient.
5. After an incident or accident
6. Communication of stakeholders
7. Changes in legislation
8. As minimum the Risk inventory revision should be conducted annually.

Risk identification is done for those upon which the company has influence

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safetv Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	6 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

(Including contractor companies in the facilities), both for routinary and non-routinary activities.)

5.3. Evaluation of Significant Occupational Health and Safety Risks (RSSOS)

Once risks are identified the Evaluation is conducted as to classify them in order of magnitude and determine which of those risks are classified as Medium and High as well as to produce Action Plans aimed to reduce risks as low as possible.

5.4. Application of Acceptance criteria

The following criteria have been established to declare a risk as a significant risk:

1. The facilities shall have the RSSOS matrix ready and updated.
2. Risks from each position shall be evaluated as per activity and function.
3. Application of the Methodology developed in the next chapter.

5.5. DEVELOPMENT OF THE METHODOLOGY

5.5.1. Background

Risk identification and evaluation shall be based in the probabilistic method allowing determination of the relative severity and degree of hazard each risk entails by using a matrix to evaluate the concepts of Severity and Likelihood. To achieve this, three templates will be used to sequentially develop RSSOS evaluation.

A preliminary step to Risk evaluation is the preparation of a list of work activities to evaluate by department, briefly describing each activity and identifying its risks. 25 risks are listed (see Annex 1), which are not final, that is, other risks can be determined and added upon to this listing.

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	7 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

The first template (see Annex 2) evaluates activities risks without taking into account the control measures that have been already implemented by the department or departments. The least favorable condition is set which then results in the valuation of the Initial Risk (also referred to as pure risk). If the result is Medium and High risks, these are then pass to the next stage, that is, they are to be anchored in the second template.

Once the information of Medium and High risks from the first template is transferred to the second template all control measures implemented for the activity under evaluation need to be considered and anchored in the template. Then, taking into account the control measures, the Residual Risk needs to be valued (see Annex 3). If during the evaluation these risks obtain Medium and High results, then they shall be entered in the third template.

Once the information about Medium and High risks is transferred into the second template is necessary to consider the controls that can be adopted as to minimize the risk which at that time is high or critical. These controls can be: Elimination or replacement; engineering controls; training, procedures and means to reach awareness; personal protection equipment; etc. (see 5.5.2 in this document.) Finally, the Final Risk is evaluated considering these control measures (see Annex 4.) In this stage of the evaluation all risks should be completely controlled. If regardless of the above the results obtained from this third template are still Medium and High risks, then the activity needs to be verified and stopped.

To finalize this third and last template, an Action Plan is determined based on the controls considered for the evaluated risk, setting an order of priorities as per the estimation of the risk and determining responsible(s), date of implementation, and action to take for each control measure.

Typically, Risk evaluation shall always be a continuous process. Therefore the relevance of the control measures shall be subject to a continuous review and modified when necessary. Similarly when working conditions change, and hazards and risks vary, the Risk evaluation shall also be reviewed.

The following tables describe the different criteria determining the severity of the consequences and the likelihood of occurrence of the risk as well as the corresponding estimation in order to produce a statement on the level of tolerance of the risk. Once this is completed the actions to take are defined.

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safetv Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	8 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

Table N° 1: Table of Severity

Severity	
Catastrophic	Death, injury or permanent disabling disease (or inability to return to work)
Severe	Injury or disease (inability to return to work for a period of time LTA) requiring more than first aid (inability to return to the same type of work, light tasks or with working restriction) with non-permanent disability.
Moderate	Injury or disease (the individual can return to work at a given point in time) that might require first aid (the individual can return to the same type of work, lights tasks or working
Minor	No injury or a slight injury that only requires first aid (no time lost in work)

Table N° 2: Table of Likelihood

Likelihood	
Very likely	It is expected to occur in most of the times
Likely	It will probably occur in most of the times and/or occurred in any given time
Unlikely	Could have occurred in any given time
Remote	It can only occur under exceptional circumstances

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

Table N° 3: Significant Occupational Health and Safety Risks (RSSOS) Matrix

		Severity			
		Catastrophic	Severe	Moderate	Minor
Likelihood	Very likely	High	High	High	Medium
	Likely	High	High	Medium	Low
	Unlikely	Medium	Medium	Low	Imperceptible
	Remote	Low	Low	Imperceptible	Imperceptible

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	10 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

Table N° 4: Table of Residual Risk Valuation as per RSSOS Matrix

Events that are registered and estimated shall be evaluated as per four levels established as shown in the table below along with the control actions to be set up for each level of risk. The table also shows individual efforts to control the risks and the urgency with which control measures need to be adopted in proportion with the risk.

Residual Risk	
High	Verify and STOP the activity. Requires immediate correction.
Medium	It should reduce the risk to the lowest level possible, develop strategies, goals, and objectives at department level immediately. When the risk refers to a work which is being conducted, the problem should be remediated within a time shorter than the time for low risks.
Low	More profitable solutions should be considered or improvements not entailing a significant economic burden. Requires periodic confirmation to ensure that control measures continue to be effective.
Imperceptible	Any specific action is required.

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safetv Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	11 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

5.5.2. Risk Control Measures.

As a tool to control risks a "Hierarchy" of Risk control should be considered which include:

Eliminate	Complete Elimination of the hazard
Replace	Replace the process or material with one less hazardous.
Redesign	Redesign work processes or equipment
Separate	Isolate the hazard using protection
Manage or Control	Provide controls such as training, procedures, etc.
Personal Protection Equipment (PPE)	Appropriate use of PPE when other controls are not practical

This is achieved by:

- Objectives, Goals and an Occupational Health and Safety Management Plan
- Work Instructions or Procedures
- Training
- Monitoring and Measurement

The action plan needs to be reviewed before implementation considering the following:

- a) If the new control systems for the risks will lead to acceptable levels of risks.
- b) If the new control systems have resulted in new hazards.
- c) The opinion of those workers affected on the need and operability of the new control measures.

Executed by	DPR AES Gener	Reviewed by	José Paredes F.	Approved by	Enio Belmonte C.
Position		Position	Safety Sub-manager	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code: PG-8.1-001	Page: 12 of 17
		Title: RISK EVALUATION	Revision: 0

Record Control

Below are the documents associated to this procedure:

- Risk Inventory
- Initial Risk Level Evaluation Template
- Residual Risk Level Evaluation Template
- Final Risk Level Evaluation Template

REFERENCE DOCUMENTS

- Procedure PG-9.5-001 Document Control
- Procedure PG-9.4-OP-01 Task Planned Observation
- Procedure PG-9.4-IP-01 Planned Inspections

8. ANNEXES

- Annex 1: Risk Inventory
- Annex 2: Initial Risk Level Evaluation Template
- Annex 3: Residual Risk Level Evaluation Template
- Annex 4: Final Risk Level Evaluation Template

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	13 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

9. CONTROL OF MODIFICATIONS

Modifications made to this Procedure need to be registered in the following table:

Revision	Date	Description of Modifications

Rev.	Prepared by	Revised by	Approved by	Date Approval	Modification
0	DPR	JPF	EBC	09/2007	
1					
2					

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

	OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM	Code:	Page:
		PG-8.1-001	14 of 17
Title:	RISK EVALUATION	Revision: 0	Update: 10/30/2007

ANNEX 1: RISK INVENTORY
(25 at present)

N°	RISKS
1	Toxic Chemicals
2	Inflammable Chemicals
3	Corrosive Chemicals
4	Explosion (chemical reaction)
5	Explosion (related to pressurization)
6	Electric (shock, short-circuit)
7	Electric (fire)
8	Electric (static, ESD)
9	Electric (loss of power)
10	Fire/heat
11	Ergonomics (related to effort)
12	Ergonomics (human error)
13	Excavation (collapse)
14	Fall (sliding/skidding)
15	Fall (from a different level-height)
16	Mechanic/Vibration (friction, fatigue)
17	Mechanic failure
18	Entrapment (within)
19	Hit by
20	Hit against
21	Noise
22	Radiation (ionizing/non-ionizing)
23	Thermal (hot/cold)
24	Visibility
25	Weather phenomenon (snow/ice/rain with wind)

Execute	DPR AES Gener	Review	José Paredes F.	Approve	Enio Belmonte C.
Position		Positio	Safety Sub-manager	Position	Production Manager
Signatur		Signatu		Signatur	
Date	September 2007	Date		Date	

CONTINGENCY PLAN
FOR CONTRACTOR COMPANIES

PHAM CONSTRUCTION STAGE

May 2008

INTRODUCTION

The purpose of this document is to provide the general guidelines to control emergencies. These general guidelines rule all contracts for works and/or services that AES Gener S.A, hereafter Gener, undertakes with third parties under the framework of the construction of Alfalfal II and Las Lajas Hydroelectric power stations and which are part of Alto Maipo Hydroelectric Project, hereafter the Project or PHAM.

It is important to highlight the accuracy of the scopes included in the present document shall be defined and rendered official by Gener once each contractor is awarded the works following the bidding process and taking into account the strategies in terms of risk prevention that each contracted companies has in place. Notwithstanding the above, such provisions shall not be less restrictive than those considered herein.

1.- OBJECTIVE

Establish the flow of information in the event of emergencies and define the instructions guiding the actions of staff upon a situation considered an emergency in order to protect workers, property, environment, and restore the work's business as usual in the shortest time possible.

2. SCOPE

This procedure is applicable to all staff of the work, including Contractors, vendor and suppliers, service rendering companies, and visitors, involved in the construction of PHAM who need to be conveniently instructed as to become acquainted with their functions and responsibilities in the event of an emergency and ensuring correct actions are taken while controlling the situation.

3.- DEFINITIONS

Undesired Event: Any unexpected situation that alters business as usual operations.

Incident: An undesired event resulting in death, injury, disease, damages to people's health, adverse effects on the environment or community or any other loss

Danger: Any situation or source with the potential of producing a labor accident or injury or disease

Risk: A combination of the likelihood and the consequence of the occurrence of a specific event (impact on people, environment, property and/or the community)

Emergency.- Defines an undesired event that endangers the physical integrity of people, material resources or the environment; existing internal controls are not enough to control such event.

Alert.- Notification through the flow of communication imposed by the situation of attention in the organization

Alarm.- Notification through the flow of communication imposed by a situation of emergency in the organization and which determines the following:

Flow of communication.- Diagram illustrating the path information should follow through the different levels of the organization operating in a given work face, camp or site facilities.

Emergency control lead.- Supervisor in charge of planning, organization, and control of all necessary actions to control the emergency. The lead can be the head of the area affected and/or along with the resident Administrator.

Evacuation: An action or effect of removing people from a specific place; typically occurs in the event of emergencies caused by different types of disasters, either natural or accidents.

Evacuation Routes: Locations duly signaled for evacuation and movement of people in a safe, fast, and effective manner while protecting people.

Safety Zone: A predefined sector that is safe, large, with signaling, and which do not present any kind of risk to people once gathered in that area after the evacuation has been conducted.

Rescue Crew: Qualified staff with competencies to be the first line of action upon an emergency.

4.- PREVIOUS ACTIVITIES NECESSARY TO APPLY THE EMERGENCY CONTROL PROCEDURE.

In order to achieve an integral development of emergency control procedures it is essential that AES Gener and the Contractor company jointly define the following activities:

- Emergency drills and activation of the Communication Plan: Drills are to be jointly conducted by the Contractor company and AES Gener for each of the facilities associated to the Project, i.e. camps, and work faces and site facilities. A drill will also be coordinated with the corresponding emergency responsiveness agencies (enforcement agencies, fire department, ONEMI, etc.) the frequency and duration of drills shall be determined by both companies based on the location and type of work to do.
- Once the drill is conducted, the Contractor company shall assess the effectiveness of the flow of communication, crisis management, and efficiency of human and material resources available. Should any failure is detected when applying the emergency procedure and the Communication Plan, the Contractor, jointly with AES Gener, shall take the corresponding actions to make the necessary improvement and optimization.
- The Contractor company shall provide all necessary resources and means for the correct implementation of emergency control procedures and the Communication Plan.

- The Contractor shall train all of his staff in the content of the emergency control procedures and the Communication Plan. The role every member of the staff plays during the execution of the procedures and Plan will be instructed as well.

Lastly, it is important to highlight the accuracy of the scopes included in the present document shall be defined and rendered official by AES Gener once each contractor is awarded the works following the bidding process and taking into account the strategies in terms of risk prevention that each contracted companies has in place. Notwithstanding the above, such provisions shall not be less restrictive than those considered herein.

5.- PROCEDURES FOR ACTING UPON AN EMERGENCY

In the event of an emergency the following five (5) steps sequence is defined to guide actions from the staff.

This sequence should be aligned with the flow of communications detailed in the next section.

A.- Dimension of the Emergency

When facing an undesired event it is a top priority to correctly dimension the situation as to provide a right response. In order to make the right decision it is necessary to have clarity whether what is being faced is a direct emergency or an undesired event that could go through a controlled situation to an emergency.

B.- Magnitude of the Event.

The following steps should be taken to determine the magnitude of the event:

- Clearly define the type of event, whether is a fire, accident, landslide, flood, etc., as to determine the appropriate resources to respond.
- Identify products and substances involved with their risks previously established in the critical inventories of the work.
- Identify the potential risks of the event.
- Classify the magnitude of the event which allows determining the scope of the communication flow. Consider the following:

Minor.- The event only produces material damages and there are no damages to third parties easily controlled using internal resources.

Serious.- People are injured and there are material damages, minor external damages and environmental effects in limited areas. Controlling the event needs using external

resources. The communication flow should reach the Risk Prevention department in AES Gener, the corresponding authorities.

Severe.- The event produces serious injuries, death and/or material damages, severe external damages, and severe alteration in the environment in extensive areas. Control is complex and all necessary internal and external resources have to be available. Communication flow needs to reach the top management of the organization.

C.- Response to an Undesired Event

Once the magnitude of the undesired event is defined an immediate response needs to be provided using resources available on the site where the event occurs. The following actions should be considered based on the classification of the event:

Minor: In the event of undesired events classified as Minor actions should be taken as soon as possible proceeding to:

- Completely controlling the situation with resources available on the site.
- Inform the state of the alert as provided under the flow of communication.
- Ensure total control as to avoid declaring a state of emergency.

Serious: Upon undesired events classified as Serious and if the situation is controllable it is necessary to:

- Completely controlling the situation with resources available on the site.
- Inform of the status of the alert.
- Ensure total control as to avoid declaring a state of emergency.
- Use external resources when necessary (ambulance, non-available equipment, etc.)

If the situation becomes more complex and exceeds local control it is necessary to:

- Give an immediate alarm by declaring a state of emergency.
- Evacuate to a safe place.
- Immediately isolate the area of impact by using external resources, if necessary.

Severe: Upon undesired events classified as Serious it is necessary to:

- Give immediate alarm and declare a state of emergency.
- Evacuate to a safe place.
- Immediately isolate the area of impact by using external resources, if necessary.

D.- Emergency Response.

D.1 Activation of the state of the emergency

The individual facing an undesired event shall properly assess the situation. Once that individual is certain that the situation is directly an emergency or that the response given to the event was not sufficient and the control in place is being rapidly exceeded, he/she shall give the alarm by activating the state of emergency. The person should:

- Identify him/her.
- Indicate the exact place of the emergency.
- Define the type of emergency (fire, landslide, flood...)
- Classify the emergency (minor, serious, severe.)
- Indicate whether there are injured people, damages to property, damages to the environment, if there is risk of explosion, as well as the actions taken to control the situation.

D.2 Immediate Action.

Once the state of emergency is activated an immediate response needs to be provided taking into account the staff in the area. This should consider the following:

- Build rescue crews and control the situation using resources available (trained staff) in the place of the event.
- Find and act in the place or location where the problem is.
- Protect the crew members by using personal protection equipment.

D.3 Emergency Control Procedure

To address and have a definitive control it is necessary to properly analyze the scenario and then the most appropriate procedure needs to be jointly defined as to tackle the emergency. The following needs to be take into account:

- To assess in the most accurate way the situation and conduct an estimation of the consequences.
- Once sufficient information is available actions allowing providing a step by step, methodical and sound response to the situation are defined.
- Produce alternatives to control deviations or worsening of the situation.
- Define necessary material and human resources as well as external support to conveniently face the situation.
- Decide which protocol allows the best management of information.

D.4 Organize a good team work

Having in place a good organization of the team that will address the emergency is essential for control. It should include people with experience, knowledge and sufficient mastery as to prevent unsafe actions that might worsen the situation. Therefore it is necessary to have the following:

- Train and educate the working team who will act in the final control of the emergency, both in-house as external staff.
- Designate responsibilities and reinforce leadership, avoiding falling in contradictions and ambiguities that hinder the control.
- Properly implement the response group with internal and external resources as per type and magnitude of the emergency.

D.5 Entry and Area Control of the Area of the Accident

Entry into the area of the accident should be strictly controlled as to prevent unnecessary exposure to existing risks. It's necessary to:

- Use, at all times, the appropriate personal protection equipment.
- Only allow entry to the area to the staff in charge of controlling the emergency.
- Monitor if necessary.
- In the event of a fire, a possible explosion or exhaust of toxic gas prohibit entry to the area.
- Keep constant communication.
- Not allowing that any person foreign to the working team enters the area of the accident.
- Have deep knowledge of the evacuation route in case of danger.
- Provide the necessary, sufficient information in a timely manner to the relevant authorities

E.- End of the emergency.

Conditions to declare the end of the situation originating the emergency need to be defined and once these conditions are met, it is necessary to inform the relevant parties. Finally a complete investigation of the undesired event needs to be conducted by collecting all evidence possible as to make the corrections and prevent a new occurrence.

8.- EMERGENCY CONTROL PROCEDURES

Below is a detailed description of all potential emergencies identified for the construction stage of PHAM as well as the sequence of measures to be executed by the Contractor company for their

control and mitigation thereof.

Regardless of the above, once all contracts for works are granted every Contracting company shall re-assess its respective work and potential emergencies associated as well as defining the controlling measures. This reassessment by no means entails the application of less restrictive actions than those indicated herein.

AES GENER S.A.
EMERGENCY PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE EMERGENCY FIRE</p>		<p>It is the occurrence of an uncontrolled fire that can be extremely dangerous for people, private property, and natural resources. Exposure to a fire might lead to death by asphyxia or fainting by inhaling the smoke from the fire and severe burns</p>
<p>PLACES OF RISK</p>	<p>Storage areas for inflammable substances, at site and camp facilities.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The fire alarm will activate - The Communication Plan will activate. - The firefighting procedure including the attendance of the Emergency Brigade with the respective PPE will activate. - The area will be evacuated and access from any staff member will be prohibited. - The area will be inspected for people injured. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The event will be classified (minor, serious, severe) - The Emergency Brigade will undertake actions to control the emergency by using fire-extinguishers or any other appropriated element (only if the fire is controllable). - If it is not possible to control the situation using own resources, notification will immediately be given to the Fire Department and workers will be evacuated to safety areas. - Activities will only be resumed once the fire is controlled. <p>A complete investigation of the undesired event will be conducted by collecting all evidence possible as to make the corrections and prevent any new occurrence.</p>	

AES GENER S.A.
EMERGENCY PROCEDURES

<p>IDENTIFICATION OF THE EMERGENCY AVALANCHE</p>		<p>The risk of avalanche refers to a massive movement down the hills of a mountain which drags a large material or rock, ice, and snow.</p>
<p>PLACE OF THE RISK</p>	<p>Facilities of sites, work faces, and camps located in the vicinity of Volcán and Yeso rivers.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The avalanche alarm will activate - The Communication Plan will activate and the Emergency brigade will arrive to the place. - The evacuation procedure will activate and all staff will be prohibited access to the area. - Qualified staff will inspect the area for injured people. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The event will be classified (minor, serious, severe) - Construction works will only be resumed once ONEMI (National Emergency Bureau) or the police forces informed the Head of Project that the area is free from danger. - A complete investigation of the undesired event will be conducted collecting all possible evidence as to make the necessary corrections and prevent a new occurrence. <ul style="list-style-type: none"> - A specialist in risk prevention will inspect the area delimiting the areas of risk. This professional will determine whether is necessary to relocate the facilities. Should that be the case, the corresponding authorities shall be informed 	

AES GENER S.A.
EMERGENCY PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE EMERGENCY LANDSLIDE</p>		<p>Refers to a descending movement of a volume of material comprising rock, dirt or both.</p> <p>The types of movement include rock fall, toppling, slide, spread, and flow.</p>
<p style="text-align: center;">PLACE OF THE RISK</p>	<p>This is present during land and rock cutting activities, to enable roads and working platforms as well as during excavation activities to build ditches, troughs, bridges, siphons, inlets, etc.</p>	
<p style="text-align: center;">EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The Communication Plan will activate. - The evacuation procedure will activate and all staff will be prohibited access to the area. - Qualified staff will inspect the area for injured people. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The event will be classified (minor, serious, severe) - Depending on the magnitude of the landslide all works shall be immediately stopped and, if necessary, all staff will be evacuated to safe areas. Construction works will be resumed once the expert in Risk prevention from the work has informed the Head of Project, after consulting with the experts (engineers, geologists) that the area is free from danger. - A complete investigation of the undesired event will be conducted collecting all possible evidence as to make the necessary corrections and prevent a new occurrence. - The specialist in risk prevention will inspect the area and will limit the areas of risk, recommending modification of the boundaries of the work or its relocation as necessary. 	

AES GENER S.A.
EMERGENCY PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE EMERGENCY EARTHQUAKE</p>		<p>Earthquake or tremor produced by internal forces.</p>
<p style="text-align: center;">PLACE OF THE RISK</p>	<p>All the facilities of the Project.</p>	
<p style="text-align: center;">EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The Communication Plan will activate. - The Evacuation procedure will activate. - The staff should go to the safety area and wait for instructions from the qualified staff. - Once the event is passed, qualified staff will inspect the the area for injured people. Should that be the case, injured staff will be immediately taken to a health center. - The dimension of the emergency will be determined - The event will be classified (minor, serious, severe) - Depending on the damage all works shall be immediately stopped and, if necessary, all staff will be evacuated outside the working areas. - Construction works will only be resumed when the expert in risk prevention at the site has confirmed that the facilities are free from danger and have not suffered any damage after consultation with the corresponding specialists. - In the event of an earthquake Gener shall assess the damages suffered in the physical structure in works to collect, transport, and store water as well as roads and other buildings and shall set the corresponding repair works. - A complete description of the response to the emergency will be provided by collecting all possible evidence as to make the appropriate corrections and improve the procedures. 	

AES GENER S.A.
EMERGENCY PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE EMERGENCY SPILLAGE OF CHEMICALS</p>		<p>Refers to the accidental spillage of hazardous substances or fuel (as per the listing in S.D. 382/2004) on natural resources such as water and land, or affecting constructions. (Oil, lubricants, and painting)</p>
<p style="text-align: center;">PLACE OF THE RISK</p>	<p>Worksite facilities, camp, and work faces.</p>	
<p style="text-align: center;">EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The Communication Plan will activate. - The Evacuation procedure will activate. - Qualified staff will inspect the area for injured people and environmental damages. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The spillage will be classified (minor, serious, severe) - The area affected will be immediately cleaned and the ground removed. - All facilities shall have the necessary elements and items to remove the spilled substance, e.g. shovels, machinery, pumps, temporary storing tanks as required. Also, the procedures listed in the Safety datasheet need to be followed. <p>While is expected that any accidental spillage will be low or minor in magnitude, and considering the type and amount of hazardous materials existing at the site, responsiveness items shall be available to address these events as to have the least impact possible.</p>	

AES GENER S.A.
EMERGENCY PROCEDURES

<p style="text-align: center;">IDENTIFICATION OF THE EMERGENCY TRAFFIC ACCIDENT</p>		<p>A traffic accident is an accident involving at least one automobile or any other kind of transportation vehicle.</p>
<p style="text-align: center;">PLACE OF THE RISK</p>	<p>Public routes and services roads built by the Project.</p>	
<p style="text-align: center;">EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - The Communication Plan will activate. - Qualified staff will inspect the area for injured people. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The traffic accident will be classified (minor, serious, severe) - The affected area will be delimited and access to the area of the accident will be prohibited. - Once the situation is controlled traffic will resume. <p>A complete description of the response to the emergency will be provided by collecting all possible evidence as to improve the procedures.</p>	

AES GENER S.A.
EMERGENCY PROCEDURES

<p>IDENTIFICATION OF THE EMERGENCY</p> <p>EXPLOSION</p>		<p>A sudden release of an enormous amount of energy trapped within a relative small volume producing a sudden and violent increase in pressure, generating heat, light, and gases..</p>
<p>PLACE OF THE RISK</p>	<ul style="list-style-type: none"> - Transportation of explosives - Storage locations for explosives: Magazines. - In work faces where construction works for tunnels are being conducted. 	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - In the event of an accidental activation of explosives due to handling or storage, Gener shall evacuate all staff from the areas under risk and all works will be halted in the area affected until the expert in risk prevention at the site determines after being informed by the company specialized in explosives that there is no more risk. - The Communication Plan detailing the magnitude of the accident and whom to report will activate. - Specialized sub-contractor staff will inspect the area and determine whether there is a potential risk and will implement the necessary safety measures as to prevent future accidental explosions <ul style="list-style-type: none"> - It will conduct inspections to determine if people were affected by the explosion. <p>The appropriate elements to safeguard first lives and health of injured people when required. Every work face will have the necessary first aid elements for this purpose..</p>	

AES GENER S.A. EMERGENCY PROCEDURES		
IDENTIFICATION OF THE EMERGENCY		Accident occurred by working in different altitude level or in heights. Depending on its magnitude this type of accident might produce injuries, disabilities or even death.
PLACE OF THE RISK	Worksite facilities and work faces.	
EMERGENCY CONTROL MEASURES	<ul style="list-style-type: none"> - The Communication Plan will activate. - Qualified staff will inspect the area for injured people. If injured people were found they will be immediately taken to a health center. - The dimension of the emergency will be determined - The event will be classified (minor, serious, severe) - Works will be stopped if the magnitude of the event determines so. - The affected area will be delimited and access to the area of the accident will be prohibited. - Once the situation is controlled works will resume. <p style="margin-top: 10px;">A complete description of the response to the emergency will be provided by collecting all possible evidence as to make corrections and improve the procedures.</p>	

6.- COMMUNICATION PLAN

The Communication Plan refers to actions and measures aiming to provide all and each of the workers with the information procedures to be implemented in the event of an emergency.

6.1- COMMUNICATION DIAGRAM

A flow of communication is established based on the classification of the emergency as to achieve an effective and efficient exchange of information according to each situation. Below is an illustration of the flow of communications:

INSERT GRAPH 1

The following function and roles are associated to the flow of communication:

- A.** Person who gives the alarm Informs the work Supervisor upon an emergency.
- B.** Supervisor of the work
 - Once the alarm is received communicates immediately to the Site Lead as well to the power plant operator of the Contractor company, reporting of the type and magnitude of the emergency.
 - Attends to the location of the emergency.
 - Assumes leadership until the Site Lead arrives.
 - Jointly with the Site Lead defines the most convenient procedure according to the type of emergency.
 - Applies the procedure to overcome the emergency.
 - Keeps updated information of the situation.
- C.** Lead Site
 - Once the alarm is received immediately contacts the Contractor Supervisor, the Risk prevention expert, and the power plant operator of the Contractor company
 - Attends to the location of the emergency.
 - Determines de magnitude of the situation and provides complete information:
 - i) Emergency type and classification
 - ii) Type of injuries and/or possibility of new injured
 - . iii) Identity of injured.
 - iv) Type of material damage and possibility of new damages.
 - v) Environmental damages and possibility of damages.
 - vi) Degree of control of the emergency.

- Assumes leadership and defines the creation of the work team that tackles the emergency.
- Takes over the situation, takes the first measures, and conducts the first coordination activities to control the emergency.
- Jointly with the Work Supervisor defines the most convenient procedure according to the type of emergency.
- Considering the severity of the situation, requests the external necessary support to control the emergency (Police dept., Fire dept. Mutual, etc.)
- Keeps updated information of the situation.
- Jointly with the Expert in Risk prevention and the Contractor Supervisor defines the conditions as to consider the emergency over.

D. Power plant

- Once the first alarm is received immediately contacts the Expert in risk Prevention of the company, thus activating the flow of communication.
- Depending on the type and classification of the emergency communicates with the Work Admin office, which on its turn contacts the Police department in the area, the Fire department in the area, and the family/relatives of the injured person.
- Based on the information received communicates the following:
 - i) Emergency type and classification
 - ii) Type of injuries and/or possibility of new injured.
 - iii) Identity of injured.
 - iv) Type of material damage and possibility of new damages.
 - v) Environmental damages and possibility of damages.
 - vi) Decree of control of the emergency.

E. Contractor Supervisor

- Attends to the location of the emergency.
- Depending on the type and classification of the emergency communicates with the Risk Prevention of the Company.
- Depending on the type and classification of the emergency, contacts the Head of Project of AES Gener, whom then informs the AES Gener Department of Risk Prevention and the General Management.
- Together with the Work Supervisor and the Site Lead defines and designates the most convenient procedure according to the type of emergency.
- Jointly with the Site Lead defines the material and human resources necessary.
- In coordination with the Expert in Risk Prevention defines the external information protocol complying the projects established by the Owner.
- Provides the official information, when required, to the media after consultation with the General Management.
- Informs to whom it may concern about compliance with the conditions that indicate the emergency has been controlled

- Conducts the investigation and prepares the final report for the emergency with the Expert in Risk Prevention at the site.

F. Expert in Risk Prevention at the Site

- Once the alarm is received immediately contacts AES Gener Head of Project.
- Attends to the location of the emergency.
- Considering the classification of the emergency informs the Admin Agency (Chilean Safety Association, Labor Insurance Organization or any other similar agency) and the admin office of the Contractor company. Also informs AES Gener Risk Prevention Department.
- Make all necessary coordination, closely following the Owner's procedures with:
 - Environmental authorities.
 - Health Services authorities.
 - Community authorities.
 - Fire department.
 - Police department (Carabineros).
 - Other emergency control relevant services and agencies.
- In coordination with the Contractor Supervisor defines the protocol for external information following the Owner's procedures.
- Participates in the definition of the conditions to be met as to consider the emergency is controlled.
- Coordinates the measures to overcome the situation with the lead in charge.
- Conducts the investigation and prepares the final report for the emergency with the Contract Supervisor.

6.2 EMERGENCY TELEPHONE NUMBERS

Below is a listing of contact numbers in the event of an emergency. This listing is to be supplemented and updated prior commencement of the construction stage of the Project.

Unit	Address	Telephone
Asociación Chilena de Seguridad (ACHS)	Ramón Carnicer 201 Providencia (Emergency) Teniente Bello N° 135,	685 3000 850 00 23 1404(AMBULANCE)
Mutual de Seguridad	Avda. Lib. Bdo. O'Higgins N° 4848, Santiago	7764795-6775322
Instituto de Salud del Trabajador (IST)	IST Santiago, Placer 1410	5569266-8107821
Hospital San José de Maipo	Comercio N° 838	861 22 56-8611104
BOMBEROS	2ª Compañía San José de Maipo 14ª Compañía Los Leones 1875	8611530 - 8611052
CARABINEROS	Subcomisaría Camino El Volcán N°19333 Retén San Gabriel Camino el Volcán S/N	8611088 – 8612290 8611946
Aerorescate	Km. 11, Ruta 68, Pudahuel	800-8011131-6409313
ONEMI	Beaucheff 1637/ 1671, Santiago	252 4200



CORDILLERA COMPLEX EMERGENCY PLAN

MARCH 2006

INDEX

INTRODUCTION	3
OBJECTIVE	3
GLOSSARY	3
FIELD OF APPLICATION	4
GENERAL PROCEDURES	4
EMERGENCY BRIGADE.	5
PERSON DETECTING THE EMERGENCY.	5
CONTROL ROOM OPERATOR.	5
EMERGENCY CONTACT NUMBERS.	5
GENERAL GUIDELINES IN THE EVENT OF AN EMERGENCY	6
FIRE.	6
EARTHQUAKES.	9
LANDSLIDE.	10
FLOOD.	10
SEVERE ACCIDENTS AFFECTING PEOPLE, FACILITIES / EQUIPMENT	11
HIGH WATER (RIVER)	11
ESCAPE ROUTES IN ALFALFAL POWERHOUSE CAVERN.	11
COMMUNICATION OF STAFF ON DUTY.	12
MISCELLANEOUS	12
HELIPORT.	12
WINTER PROGRAM	12
PERMANENT MOBILIZATION.	12
VEHICLES PARKED WITHIN THE POWERHOUSE CAVERN.	12
STRETCHERS.	13
FIRST AID KITS.	13
RESCUE TEAMS	13
ANNEXES	14
Staff injured in non-administrative hours	15
High water (rivers)	16
Escape routes in Alfalfal powerhouse cavern	20
Communication from staff on duty	24
Alfalfal-Maitenes Winter Plan	27
Queltehues-Volcán Winter Plan	40

Emergency Preparedness

1. INTRODUCTION

as it is known by all staff working at Cordillera Complex, there is a variety in the risks present in the different facilities thereof, hence the variety in the emergencies that we might face, with different levels of danger according to their nature.

Therefore there is the essential need of having an Emergency Manual available as a way to have the staff prepared to act in a safe and right manner upon any unfavorable event.

Due to this reason it is the **obligation** of all staff members working at the complex, both in-house as external, to be aware of this manual.

In the case of external staff, each Contractor company shall receive this manual, signed-off, which indicates agreement and approval by such companies.

2. OBJECTIVE

The objective in creating a Manual to use in the event of emergencies is to provide the necessary information to workers as to prepare them on how to act when facing this type of events, thus protecting them and the equipment from major damages that might be suffered by not knowing the emergency guidelines and procedures.

3. GLOSSARY

- Cavern: Area in Alfalfal where the engine room is located.
- Emergency: Manifestation of conditions which are out of control and not the way they are desired to be.
- PPE: Personal Protection Equipment
- POS: Dry chemical powder (as per Spanish acronyms)
- Control Room: Area where Cordillera Complex facilities are controlled and operated.
- Engine Room: Area where primary generation equipment is installed.

FIELD OF APPLICATION.

This manual can be used to address the following emergencies:

- Fire
- Earthquake
- Landslide
- Floods
- Severe accidents affecting people, facilities or equipment.

5. CONSIDERATIONS

It should always be consider that when facing an emergency you should not act by yourself. Therefore once facing an emergency, assistance should be requested to the Control Room using the EMERGENCY HOTLINE 3100 and/or the radio.

Any worker going to the worksite -inlet, roads, etc., should always carry a radio as to inform of any abnormal situation.

Minimum PPE should be wore at all times when going to the worksite that is, steel toe shoes, hard hat, and goggles.

6. GENERAL PROCEDURES

Any officer of the Complex who detects an emergency should immediately contact the Control Room operator of the Power plant by calling 3100 (an emergency only number) or by radio. On the other hand the Control room operator should prioritize the calls from this number.

The officer detecting the emergency should inform the following:

- Location of the emergency
- Nature of the emergency
- Presence of people and/or equipment involved
- Magnitude

With all this information the Control Room operator should assess the emergency and regardless of its nature should communicate with the most senior person present at the Complex and jointly, will both make the decision to call the emergency brigade by using the emergency siren to be triggered by the operator and which marks the beginning of the Emergency Plan

On the other hand, the Control room operator should have the following emergency contact numbers -closer to the Power plant office, available: Ambulance, Fire dept., Police department. Also, the following people need to be informed of the situation at all times:

Emergency Lead (designated at that time) for the events occurring at that moment. Then, the following actions to take, either by the person detecting the emergency or by the Control room operator.

The Emergency brigade will include the following:

As the number of people working at the complex varies and in many occasions manning will be minimum, the brigade will be assembled based on the order of arrival of staff to the Lobby in the Control Building of Alfalfal once the emergency siren is triggered.

The first six (6) people listening to the siren or the radio call shall go to the meeting place already mentioned and wear the special colored safety hats that identify the brigade. These persons will have the responsibility to lead the emergency actions.

The following colors identify the roles of each brigade member:

- Red: Brigade lead
- Yellow: The rest of the emergency crew.

Person detecting the emergency

- 1) Using the closest telephone, he/she should dial the emergency number 3100 and provide detailed information about the event to the operator. If the person carries a radio he/she will be able to communicate with the Control room operator using Frequency # 5 (on field) or Frequency #2 (internal.)
- 2) Wait for backup and/or act by him / herself depending on the circumstances.
- 3) Once the emergency is controlled, inform and the operator updated about what is happening.

Control Room operator

- 1) Receives the emergency notification and assess the magnitude of the notification.
- 2) Depending on the situation, contact staff over the radio to activate the Emergency Plan (or the second person in charge if the Lead is not present.)
- 3) In agreement with the Brigade Lead the operator will inform the staff at the Power plant by activating the emergency siren, three (3) times for 10 seconds with a 5 second interval in between.
- 4) If necessary the operator should request external assistance.
- 5) Shut-down, power off or give instructions to isolate -power, hydraulic, equipment compromised under an emergency if the situation thus requires.

6) Keep the Head of the Complex informed of the situation.

7) Try to have all telephone lines available during the emergency.

Emergency contact numbers to request external assistance

- Fire Department (Bomberos San Jose de Maipo):
- Central 8611530
- 2nd Crew 8610052
- Police Department 8611008 / 8612290
- Hospital, Emergency Room 8611004

7. GENERAL GUIDELINES IN THE EVENT OF AN EMERGENCY

The procedure to follow in the event of an emergency at Alfalfal-Maitenes Power plant is divided in two areas for optimization purposes as such procedures largely depend on the area where the event occurs.

The areas are: Area W1 Premises outside the Power plant. Premises
Area W2 inside the Power plant.

Below is a list with all the emergencies already mentioned sorted under the two areas above defined.

Jr **FIRE**

In the event of a fire there are things to bear in mind that will never change:

- When operating a fire alarm in the Control room panel of any premise in the Control building, the operator should request that the information is verified immediately. If the information is verified, staff located at the power plant will be notified as to immediately activate the brigade.

Once the fire alarm is triggered, all persons attending to assist fighting the fire should wear the PPE as per the emergency as well as carrying self-breathing masks.

There are 3 Fire Box with nozzle and 3 hose carts located in the warehouse 25, building H and cafeteria. The keys are both at the gate and the Control room.

Depending on the nature and magnitude of the fire it should be controlled using portable POS, CO2 extinguishers or the POS portable cart.

Area N2 1: Premises external to the Power plant (water intakes, roads, land): As this is a working procedure, every person on the field should carry a radio and in the event of a fire should immediately inform the Control room operator at his/her Power plant.

Once the fire alarm is triggered the Control room operator should notify the power plant staff as to build the Emergency brigade which will mobilize to the area where the fire is occurring.

If the worker who gave notice of the fire has a fire extinguisher at hand, he/she should use it provided it can be used to fight the type of fire in the area as otherwise it might worsen the situation.

The worker should be cautious as not to expose his/her life should the emergency equipment be not available yet and he/she starts rescuing if human lives are at stake.

The Emergency Brigade attending the area should wear the appropriate PPE and the appropriate POS extinguishers (anti-flame for Class A, B, and C types of fire) as well as self-breathing masks. Anti-fire loop hoses and hydrants shall only be used if the situation demands it.

In the event that the flames increase and control is lost, the closest Fire department will be contacted, in this case San José de Maipo, phone number 8611530- 8611052, to provide assistance with the situation.

Area N2 2: Premises within each power plant (powerhouse cavern, Control room, building):

In the case of fire in indoor premises there are specific situations that need to be addressed pointedly. Below are the details about addressing fires in 3 indoor areas.

Powerhouse Cavern (Alfalfal):

Any fire in this area should be treated with utmost caution as each piece of equipment is powered and could release toxic concentrated gases as the cavern is a confined area. In certain occasions depending on the gas nature, the gas may displace oxygen.

Also, it should be noted that the automatic fire system powers-off the HVAC system of the cavern when this type of emergencies take place. Therefore the brigade needs to carry self-breathing masks. Once inside the cavern preference will be given to rescuing people affected by the fire (asphyxia, burns, etc.) before any other action. Under any circumstance should the members of the brigade remove their self-breathing masks to apply it to a victim rescued as this might lead to have two individuals rather than one affected with asphyxia. It would be preferable to transfer the person to a safe area with sufficient air. Depending on the nature and magnitude of the fire, it should be controlled using portable extinguishers PQS, CO2 or the portable PQS cart.

If the fire is located in the access tunnel (cable or vehicles), it should be controlled using portable POS fire extinguishers and **always using** the 50 kg PQS cart located upon entry to the tunnel.

Should the circulation/walking areas were not enabled for use within the cavern due to the fire, emergency escape routes that are duly signaled inside the cavern should be used. Annex N° 3 shows this in more detail.

It should be noted that once the fire is extinguished the HVAC system within the cavern need to be restored as to allow toxic gases produced during the fire to disperse.

Control Room and Building:

In the specific case of the Control room the extinguisher located there should be used as it is the most convenient for the kind of fire that could occur at the engine room.

On the other hand, any worker who is not part of the brigade or who is not participating, should be immediately evacuated as to prevent major negative effects.

EARTHQUAKE

When experiencing seismic movement it is very important to remain calm and to try to think in a serene manner.

Area N2 1: Premises external to the Power plant (water intakes, roads, land):

Should the earthquake takes place when working on the field, the first thing the staff should do is to go/stand in an area where the risk of rocks falling or landslide is minimum. Then and periodically the staff should use the radio to provide information of their exact location to the Power plant Control Room as such information will be essential should the staff be trapped or isolated due to the earthquake.

If on the other hand the earthquake occurs while a vehicle is being operated, it should be halted and as in the similar case, it is necessary that the person moves to the area with less exposure to rocks falling or landslides as well as to be constantly attentive to the conditions in the surroundings. Also, as in the previous case, it is necessary to have a permanent contact with the Control room.

Area N2 2: Premises within each power plant (powerhouse cavern, Control room, building):

When experiencing any seismic movement, the staff should look for shelter in safety areas which are far from the hillsides (hazard of rock falling) and also away from windows, sills, shelves, high and low voltage cables and wires, trees, and lighting posts.

It is necessary to remain calm, not to run to the safeguarded or shelter areas, to wear hard hat at all times, and help those who are in need.

In the case of the powerhouse cavern the staff should go to safety areas, which can include under a door threshold, under access escalators or staircase between floors, etc. The staff should never remain in areas close to shelves as they might fall or collapse due to the movement or the objects thereof might also fall.

Special caution should be have when exiting the tunnel as rock might have fallen both inside or outside of the tunnel. It is recommended to walk out of the building using the side door of the building.

LANDSLIDES (Avalanche):

Area N9 1: Premises external to the Power plant (water intakes, roads, land). When facing an imminent danger of landslide, be it snow, mud or rocks, all movement and traffic of vehicle and people should be restricted on the external area of the power house. Also, the staff should be kept clear from the windows facing the hill.

It is essential that the staff of the Cordillera Complex is totally aware of the Winter Program for Alfalfal which includes more detailed information regarding landslides.

Area N2 2: Premises within each power plant (powerhouse cavern, Control room, building):

Landslides will not affect the premises indoor. However special care should be had when exiting the access tunnel to the powerhouse cavern as well as when exiting the buildings if the snow built up is considerable.

FLOODS

Area N2 1: Premises external to the Power plant (water intakes, roads, land):

In the event of a flood, all movement and traffic of people and vehicles through the external section of the power plant. Should staff be on the field, notification should be immediately given to the control room as to organize the activities for their rescue.

Area N2 2: Premises within each power plant (powerhouse cavern, Control room, building):

In the event a flood is detected in the tunnel or cavern, notification shall be immediately given to the Control room operator who will analyze the magnitude and the feasibility of controlling it. Otherwise, if the situation cannot be controlled, units need to be powered-off as well as all equipment.

If the staff within the cavern notices that they are losing control of the situation, they should immediately leave the place until the emergency is controlled.

If the flood affects the control room or the building inside, facilities need to be powered-off and the staff should be evacuated.

SEVERE ACCIDENTS AFFECTING PEOPLE, FACILITIES OR EQUIPMENT:

The procedure to follow in the event of severe accidents involving people, facilities or equipment is the same regardless the location, inside or outside the power plant. Therefore this point will not be addressed in terms of area division as with other points.

Accidents involving people include vehicle accidents wherein the following procedure should be followed:

After the Control room operator is notified of the event, the operator shall immediately call for the Emergency brigade using the appropriate radio channel.

The Emergency brigade should promptly gather to the place of the accident carrying portable fire-extinguishers should the vehicle is on fire; stretcher, and all necessary elements to provide first aid to the victims.

When the brigade arrives to the place it will evaluate the magnitude of the injuries and will inform the operator as to proceed with the notification to the closest medical center and arrange the ambulance. The emergency contact number from Hospital in San José de Maipo is 861 1004.

When reaching the area of the accident, the area need to be closed to prevent other vehicles to be involuntarily affected and that an even major accident occurs.

While the ambulance arrives, the Emergency brigade will provide first aid to the people injured and will instruct about the steps to take.

If there are people injured by the accident and the accident occurs off working hours, the procedure addressing that type of situation must be followed. (See annex 1)

HIGH WATER (RIVER)

When facing an unexpected rise the existing written procedure defining the action plans to implement should be followed. (See Annex

ESCAPE ROUTES IN ALFALFAL POWERHOUSE CAVERN

When emergencies occur within confined premises they usually end up in tragedy given the characteristics of those places. There is one of these premises at Cordillera Complex which is extremely important for business as usual: Alfalfal powerhouse cavern. Accordingly there is a procedure in place which instruct on which actions to take when facing this type of event. (See Annex 3)

COMMUNICATION OF STAFF ON DUTY.

The staff operating the power plants follows certain parameters of a communication procedure in order to quickly detect possible accidents that might occur during the different work shifts as to provide effective and prompt assistance. (See Annex 4)

8. Miscellaneous

Heliport

It should be clear that the physical space designated to land helicopters is at Aguas Ricas at the exit of the gate toward water intakes. The area has the corresponding signaling.

Arrival of helicopters need to be coordinated and scheduled beforehand as to prepare the area (needs to be watered in the summer months and snow needs to be cleared out in winter time.)

Winter Program

The Winter Program supplements this Emergency Manual for both Alfalfal-Maitenes and Queltehues-Volcán and it includes certain safety standards when facing emergencies, particularly in the access areas to water intakes.

It is mandatory that all and each worker and officer of the Complex knows and complies with the standards detailed therein. (See Annex 5)

Permanent Mobilization

The Complex has a vehicle (with a driver) available 24 hr. all year round to be used in the event of emergencies, especially during office hours.

This vehicle is available to the Control room operator.

Vehicles Parked within the Powerhouse Cavern

All vehicles entering the cavern should be parked facing the tunnel exit as to have a faster and easy evacuation in the event of an emergency.



Stretchers

There are 10 stretchers to transport injured within the facilities of the Complex

Below are the locations of these:

1. Alfalfal Control Building Powerhouse Cavern (Alfalfal)
3. Colorado water intake (Sector Gate CR4)
4. Control room Forebay (Colorado)
5. Water intake Control room Olivares
6. Engine Room Maitenes Power plant main
7. Engine Room Queltehues Engine Room Volcán
9. Maipo Water intake
10. Volcán Water intake

First Aid Kits.

There are 13 first aid kits with items installed within the Complex facilities. These are located at:

1. EDC Control room Alfalfal
2. Powerhouse cavern Control room (Alfalfal)
3. Warehouse 25 (Alfalfal)
4. Mechanical Workshop Alfalfal
5. Control room Forebay (Colorado)
6. Control room Olivares water intake
7. Control Room Maitenes main
8. Engine Room Maitenes secondary
9. Control Room Queltehues
10. Mechanical Workshop Queltehues
11. Volcán Plant
12. Maipo Water intakes
13. Volcán Water intakes

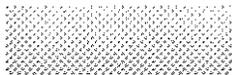
These first aid kits shall be periodically checked for expiration date of medication

Rescue Gear

Alfalfal has a rescue gear in place that has the complete rescue items for two people with anti-fire suit and self-breathing masks.

This gear is stored in a locker next to the inner side of the lateral entry door to the Control building toward the cavern.

The Emergency brigade staff is trained to correctly use this gear.



ANNEXES

1. PROCEDURE FOR INJURED OFF WORKING HOURS.
2. EMERGENCY PROCEDURE IN THE EVENT OF HIGH WATER.
3. ESCAPE ROUTES FROM ALFALFAL POWERHOUS CAVERN.
4. SAFETY PROCEDURES FOR STAFF ON DUTY (COMMUNICATION).

WINTER PLANS:

- >ALFALFAL-MAITENES
- > QUELTEHUES-VOLCÁN

PROCEDURE FOR STAFF INJURED OFF WORKING HOURS

Working hours are from 08:00 AM-06:00 PM, Monday to Thursday, and from 08:00 AM-01:00 PM on Fridays.

Should an accident occurs at Cordillera Complex outside of these hours wherein an employee is affected with injuries preventing him/her from work, the Control room operator shall follow the procedure below:

1. As possible verify the severity of the injury.
2. Provide first aid as necessary.
3. Communicate with the Head of Operation or the Head of the Complex.
4. Contact by telephone or radio the driver designated to the emergency vehicle as to transport the injured to 1ST (address: Calle Placer N° 1410), and if injury is more severe, call an ambulance from 1ST, Phone numbers: Ambulance 5569266, Exchange 5551894 - 5551702; in this case the driver of the emergency vehicle of the complex needs to go with the injured.
5. The Mobilization contractor in Puente Alto Mr. Pedro Contreras, telephone number: 8533523 or 9-2396566, and if not available, M. Renán Valderrama, telephone number: 8114336 or 9-3384271 should be contacted to indicate that the worker who will replace the injured needs to be picked up.

EMERGENCY PROCEDURE IN THE EVENT OF HIGH WATER

OBJECTIVE

- > Under an emergency of a sudden rise in the flow of the rivers the following objectives shall be considered for this procedure:
 - Prevention of injuries to people.
 - Reduce losses in equipment and material.
 - Effective emergency responsiveness.

11- FIELD OF APPLICATION

This plan is applicable to all staff conducting works at the facilities of Alfalfa and Maitenes and the associated water intakes.

If necessary application of this procedure will be conducted from the 15th of November and 15th of March every year.

111- ACTION PLAN

Meeting the previous objectives requires the following Action Plan:

3.1 BEHAVIOUR MONITORING OF THE RIVERS:

- The staff in charge of monitoring the rivers needs to know the area very well as well as changes in flow rates during this time of year (thawing period.)
- It is necessary to verify that the staff to be posted in this area should have the necessary gear for long stay monitoring.
- Two people must be at least available for monitoring, taking turns as to monitor the water for 24 hr.
- The monitoring staff should carry a radio as to keep constant and frequent communication with Alfalfal Control room. The radio will transmit in channel five (5) and should always be on.

3.2 ALARMS

Giving an alarm consists of saying "Alarm one" or "Alarm two" (depending on the case) over the radio at least three times while every worker carrying a radio shall keep silence and be attentive to the communication between the monitor and the staff at Alfalfal Control room. Tap into the communication is strictly forbidden.

ALARM ONE: Also considered as Early alarm, is given by the monitoring staff to Alfalfal control room staff and to all individuals located downstream when: A loud noise is heard within the canyon (resulting from material or ice falling), the flow rate suddenly decreases, and there is a sudden increase in the flow rate and/or with avalanches in the area.

ALARM TWO: Is given by the monitoring staff when the previous situations are assessed and the Control room is contacted; depending on the evaluation, the following actions should be taken:

- ./ Evacuating staff: Decision made by the most senior person present at that time at the Complex.
- ./ Keeping the state of the alarm longer: Decision should be made by the monitoring person if necessary; however the control room needs to be informed permanently.
- ./ Closing the alarm cycle: The monitoring staff shall inform that the situation of danger has been removed and that works at the Complex might resume as business as usual.

All staff walking or moving outside the boundaries of Alfalfal, that is Aguarrica and outside of the main gate to the site, shall always carry a radio tuned in channel five (5).

3.3 EVACUATION OF STAFF

The decision to evacuate the facilities shall be made by the most senior person present at the power plant at that time. People located in the building should leave the premises considering:

The evacuation signal will be given using the siren which will sound three times, 10 seconds each with 5 second between each siren.

The most senior person at that time will designate the person in charge of the evacuation who will verify the building is evacuated in a safe and orderly way. This person will also verify that no one remains inside the building.

The Control room operator is mandated to inform: Alfalfal powerhouse cavern staff as to make them leave the facilities; staff at Maitenes; and Carabineros de Chile. The evacuation will be lead to the Evacuation Meeting Point (PEE.) People living in the town of Alfalfal will be informed through the gate staff.

Once is verified that all members of the staff are at the PEE they should take the road to Ventana 3 in a quiet and orderly manner. There is approximately one hour available before the high water reaches Alfalfal Power plant while the distance is approximately 500m from the entry gate to the Power plant.

In transit staff to the water intakes will need to go to the highest elevations in the hills and remain there until being informed; information about the exact location should be given to the control room while informing of the behavior of the river flow rate.

- : Once risks are evaluated the most senior person will determine when to return to the facilities. Returning to the facilities should be done in a safe and ordered manner.

When back in the building an immediate evaluation will be conducted for injured people, isolated and trapped people, structural damages, start-up of equipment, etc.

3.4 SHUTTING DOWN OF EQUIPMENT

Once the order to evacuate the building is known, the Control room operator shall inform the Load Dispatch center of the situation and will inform whether the units will be placed out of service; the same will be done at Maitenes.

Once all generation equipment are stopped the powerhouse cavern staff will evacuate using the available vehicles and will go to the access road to Ventana 3 to be at the service of those in charge of the evacuation.

If there are people at Maitenes they are to leave open the doors to the engine room and will then leave the high areas informing the staff at the gate as to prevent people from entering the Power plant.

3.5 PEOPLE ISOLATED/TRAPPED

If staff is trapped or isolated it should immediately give notice using the radio as to coordinate the operations of rescue with the Public agencies.

IV FLOWCHART

Escape Routes from the Powerhouse Cavern

All ladders and escalators at the CDM, due to their construction and design, are clear from fuel material that might obstruct movement and traffic in the event of an emergency besides being the fastest way to evacuate the powerhouse cavern.

In the event of a fire, the sensors will detect it. Also the OCYEO 1 panel will register and announce the fire and it will be signaled through the panel OCYEO 3. People who are near the focus of the fire shall first give notice to the CDM operator or to EDC who will then inform the Head of the Emergency brigade which will try to combat the fire as possible by using the closest extinguishers available.

In the event that a fire is produced within the Transformers or Generators room, halon gas tanks will be automatically released. This situation shall be announced by light and sound instructions. In this case, the powerhouse cavern shall be immediately evacuated.

Evacuation of the CDM shall be done in a safe and orderly manner following the instructions of Operator 2° on duty as this operator is responsible for knowing all escape routes and evacuation exists as well as the procedure to follow in this case.

Below is a list of some situations of danger that might occur within the Powerhouse cavern:

1. Use of Escape Door N° 1 (floor of injection fans)

If the need to evacuate arises when works are being conducted on the injection fans floor and it is not possible to use the escalators, escape door N° 1 should be used.

When works are being done in the area and it is necessary to evacuate while the escalator is unusable, this door shall be used. There are two wall ladders at the exit: One leads to an emergency exit of the local control room while the other directly leads to the opposite side to the powerhouse cavern.

Risk conditions are when the fans are out of service and a current of air is produced which suddenly activates the doors when opened; wall ladders have no protection.

2. CDM Control Room Emergency Exit

As it is not possible to leave the local Control room using the normal ways (stairs - main door), emergency door should be used (designated as N° 3 in the general plan (room 201.))

The exist goes directly to the main access of the powerhouse cavern through a wall ladder; the area's illumination is done through a KOLFF emergency lighting system.

There is a general alarm speaker inside and panel to activate the fire alarm.

No conditions of danger exist when evacuating the room using this emergency door however caution is necessary when using the ladder.

3. Evacuation from the Excitation Floor.

Normal exit will always be using doors N° 4 or 5 leading to the main access lobby. Should this door was unusable and using its presents risk, door N° 8 located in the level immediately down (lockers area) should be used; therefore the escalator located in the area of unit N° 2 and running through aisle 201 should be used. This will lead to the emergency door and then directly to the lobby in the first floor; always use the wall ladder located next to the emergency door. There is another door located at the end of the hall but is partially blocked which hinders its usage.

As a last resource, if any of these 3 ways can be used, use the access door to the tank for cooling water and go through the bridge crane ways to the other side of the building where is possible to use the air injection nozzle room as an escape door (point N° 1).

Remember, never use other doors other than those indicated as emergency exits as they do not lead out, have poor lighting, and there is a risk of falling from a height.

4. Evacuation from Lower Levels (Generators-Controller-TSV floor)

As it has been mentioned before, exits in the case of emergency will always be staircases in the building; should these be blocked go to emergency door N° 8 (Locker room); if it is not possible to use these, to the access door of the tank of cooling water (location described in the previous point)

REMEMBER:

1. Keep calm, think and analyze the situation.
2. Inform the operator (EDC) of the location of the fire, the level of severity and whether there are injured.
3. Activate the fire alarm (if you can't communicate.)
4. Try to extinguish the fire (provided you are not under any risk).
5. If any of halon gas batteries is activated you should leave the powerhouse cavern.
6. Be careful when using any escape way.
7. In these cases the CDM operator will be the person with more authority.

SAFETY PROCEDURES FOR STAFF ON DUTY

The staff operating the power plants should follow this communication procedure in order to quickly detect possible accidents that might occur during the different work shifts as to provide effective and prompt assistance.

./ Procedures for Alfalfal

Usually there should be three (3) operators on duty. One should be posted at the control room in Alfalfal power plant while the remaining two at the CDM, while one would be in on the field.

For this procedure Operator 1 is the one staying in the control room, Operator 11 is who stays at the powerhouse cavern, and Operator 111 is who goes to inspect works on the field.

Every time Operator 111 goes on field should carry a radio (after verifying is fully charged) as to immediately give notice to Operator 1 of the place he is heading to, the task to develop in that place, and the estimated time to do that task. Once this is completed, he/she should report every 30 minutes to Operator 1. If this report is not received Operator 1 should try to contact Operator 111. If no communication is possible, it will be assumed that Operator 111 is undergoing a situation of pre-emergency.

O the contrary, Operator 11, who is at the Powerhouse cavern should report to Operator 1 every hour (max) as to provide information about the status and whether everything is normal.

./ Procedures for Queltehue

There will always be two (2) operators per shift. One who will be based in the Control room, Operator 1, while the other, Operator 11, will be conducting field inspections and works, going to the different water intakes (Maipo and Volcán, Volcán Power plant) and conducting inspections in Queltehues water tank among others.

Every time Operator 11 is on the field should verify that base radio in the pickup truck is in place as well as the batteries of the radio he/she should carry at all times. Once all these operations are completed, Operator 11 should inform Operator 1 of the day's itinerary and once at the place of destination, he/should report indicating the area currently visited as well as the estimated time to do the job.

He /she should also report every 30 minutes with Operator 1. If this report is not received, Operator 1 will try to contact Operator 11. If that is not possible either, it will be assumed that the latter is undergoing a situation of pre-emergency.

./ Procedure to follow in the case of a Pre-emergency.

First of all and for the purpose of this procedure, Pre-emergency is defined as any situation where an Operator (11 or 111) is on the field and after one hour is passed no report is given to Operator 1, who is posted at the Control room of the respective power plant (Alfalfal or Queltehues).

Once a pre-emergency situation is detected, it is recommended to wait for a reasonable time, 10 min. approx., as to try to reestablish communication with the operator on the field who is the person who triggers the pre-emergency situation. If after this time no communication is achieved, it will be assumed that Operator 11 or 111 is undergoing a severe problem preventing him/her to communicate, thus the alarm will be activated.

The alarm notification consists of giving notice to the driver of the Complex of the situation and requesting verification on the field.

At that moment, the driver on duty will leave immediately along with the housekeeping staff on duty at that time, and carrying a radio, to the area where the Operator is supposed to be present and should explore the area until finding the Operator. Also, the driver will report every half hour indicating his location and estimated time of journey to the quadrant where the injured person is. Once this is done, the driver will contact Operator 1 and should report the condition the Operator is (11 or 111), as well as to await the corresponding instructions.

If it is the opinion of Operator 1 that the other operator needs to be assisted at that very moment, the driver along with the housekeeping staff will provide first aid. On the other hand if it is necessary that other staff attend the injured, Operator 1 will send staff from the Emergency brigade to the place.

If all efforts conducted are not successful in finding the person who triggered the alarm within 45 minutes, the Head of Operations will be given notice.

WINTER PROGRAM

ALFALFAL-MAITENES POWER PLANTS

TABLE OF CONTENTS:

1. OBJECTIVE
- 2.- GENERAL RULES
- 3.- BARRIERS
- 4.- DRIVERS
- 5.- VEHICLES
- 6.- PROCEDURE FOR ALERTS
- 7.- REGULATION FOR ALERTS
- 8.- USE OF CHAINS
- 9.- RESPONSIBILITIES
- 10.- SIGNALING SYSTEM
- 11.- SHELTERS
- 12.- ZONES OF BOULDERS

1. OBJECTIVE

This program defines the procedure to implement in the event of any emergency resulting from weather conditions in Winter and is mainly aimed at safeguarding people's safety and protection of vehicles, machinery, and equipment.

2. GENERAL RULES

Winter time is considered the period of time from April 15 to September 15.

The points under this program will be valid all Winter in the period of time indicated or during any other time in the year should the Administration of the power plant so decides, or depending on the circumstances or if special cautions required so.

The rules provided under this program will be in force during this period of time. This program is a regulation with provisions applicable to AES Gener S.A. staff, Contractors, Associates, Visitors, and people attending the facilities of the Alfalfal-Maitenes Complex.

All drivers and all vehicles shall meet the provisions of the Traffic Law used as a building block to set up this program as well as the instructions of the barrier.

Noncompliance with the instructions given by the staff at the barrier or any operator on duty will not be considered justification and the person not complying will be sanctioned as decided by the Head of Alfalfal-Maitenes Complex in accordance with the Procedure for "Vehicle Control" of AES Gener S.A.

3. BARRIER

The barrier used by this program is located at the entry of the premises of Alfalfal Power plant.

People moving upstream the barrier shall meet the following:

- > AES Gener S.A. staff should have the appropriate authorization and the operator on duty should be aware of the situation.
- > Third parties or any other, should have the respective authorization as necessary, from:
 - o Ejercito de Chile.
 - o Bienes Nacionales.
 - o Minera Río Colorado.
 - o Dueño Fundo "La Ermita".

Authorizations to third parties or any other should be signed off by AES Gener S.A. The document should indicate the area to be visited, the reason for the visit, and the list of people authorized in the visit.

At the barrier gate they should complete and sign the corresponding document created for the visit. Also, the ID card of the driver or person responsible for the group will be held at the barrier to be claim when returning as to control the time of the visit and issuing an alert if the time is exceeded.

The Control room operator on duty will inform the barrier of the following on a daily basis during the winter period:

- ;. Weather conditions
- ;. Current day and next 24 hr. weather forecasts.
- ;. Alert in force
- ;. Condition of the roads and the need of using chain.

Staff at the barrier will provide all the information about the place where to put and remove the chains on the tires to the drivers going to Olivares and/or Colorado.

Important information collected by the staff at the barrier from drivers coming down from Olivares and/or Colorado should be transferred to the Operator on duty at the power plant.

The staff on duty at the barrier will record the following information under any condition:

- ;. Name of passengers in the vehicle.
- ;. Vehicle type and license plate number.
- ;. Time and day of crossing of the barrier.
- ;. Approximate time of arrival to destination.
- ;. Time and day of return.
- ;. Internal control sheet signature.

The information stated in the previous point needs to be transmitted to the Head of the Complex, and if that is not possible, to the Head of Operations. Outside of normal working hours, this information should be communicated to the Control room operator.

Maintenance staff or contractors going to the water intakes or any intermediate location in Olivares or Colorado and/or in the road to Los Almendros should carry a radio and should inform the Power plant operator on duty of the entry and exit as well as keeping a constant contact with the control room of Alfalfal (EDC) by radio.

Staff at the barrier gate will not authorize passage to vehicles not carrying the items listed under point 5.

4. DRIVERS

- All drivers going to any location in the area during the winter months shall ensure that the vehicle is equipped with the items listed under point 5 as well as the personal equipment for harsh conditions.
- Drivers shall follow these special rules when driving:
- If you are not experienced driving on snow, do not drive.
- Keep your speed below the limit stated in the signs as this speed has been determined for roads under normal conditions; be utmost cautious if there's snow on the road, specially ice.
- Avoid tailgate other vehicles and keep a minimum clearance of 50 m between your vehicle and the vehicle in front of you and the same distance for machinery in operation on the road. In this former case, wait for the driver of that equipment to yield, blinking the lamps/beam or any other manual signal.
- Always yield to heavier vehicles or vehicles with more wheels.
- Respect strictly the road traffic signs as they can be permanent or temporary.
- If it is necessary to stop on the road, choose a safe place and not areas exposed to the risk of avalanche or rocks falling (the drawing attached identify those areas.)
- Do not apply the brakes excessively. Rather, use the gears and/or decrease your speed. Bear in mind that sudden change of gears lead to skid, the same effect that sudden breaks have.
- Always wear sunglasses when snowing or with sunshine.
- Should the road be blocked with boulders or storms, do not risk by continuing the journey. Use areas dedicated for rest listed under point 11.

5. VEHICLES

During the months of winter all vehicles on the roads of Olivares and Colorado should be all wheel drive.

The vehicles should be equipped with the following support:

Break-ice chains with tensors in good conditions or special tires for ice and snow, wire rope or sling, Jack, Wrench, Spare tire in good conditions, Shovel, Flash light, Extinguisher, First Aid kit, Triangle road signs, Portable radio.

The vehicle should have anti-freezing liquid for the cooling water and that contact surface of tires has to be in good conditions.

During winter only secondary roads will be authorized for use, company vehicles and contractor's vehicles authorized by AES Gener S.A., vehicles authorized by Minera Río Colorado and those meeting the conditions of this program.

6.- PROCEDURE FOR ALERTS

The procedure for alerts is a set of measures applied to people's safety and ensure protection of properties when weather conditions are not favorable.

Alert is a special notification issued if there is a risk of avalanche, storms, rainstorms or rock falling. In this situation traffic using secondary roads is subject to the regulations from each alert.

There are three (3) alerts that can be issued depending on the magnitude of the upcoming risk and which are transmitted to the barrier gate.

End of alert: Operations return to normal and use of secondary roads will depend on their conditions. This is done after the person in charge of this plan evaluates the conditions at each point.

Alerts, their meaning, and signaling are described under points 7 and 10.

In winter time or bad weather, the Operator on duty at the Power plant will obtain information about the weather from the web page of the national weather agency (Dirección Meteorológica de Chile) regarding forecasts for the current day and the next 24 hours with a "zero" isotherm position. If there is no Internet access this information will be directly requested to the agency or to Onemi.

7.- REGULATION FOR ALERTS

Applicable to all areas of work with the descriptions described under each of the alerts.

7.1 First Alert: Green Flag.

Meaning: Upcoming bad weather conditions

Pedestrian crossing: Normal in the areas of water intakes and offices

Pedestrian crossing using secondary roads: Prohibited

Vehicle traffic through secondary roads: Normal

7.2 Second Alert: Yellow Flag.

Meaning: Snow, bad weather in the area, no risk of avalanche or receding bad weather.

Pedestrian crossing: Normal in the areas of water intakes and offices.

Pedestrian crossing using access roads to water intakes: Prohibited.
Traffic through secondary roads: Restricted, only vehicles authorized by AES Gener S.A.

Third Alert: Red Flag.

Meaning: Heavy snow, increasing, "Avalanche warning."

Pedestrian crossing: Restricted (water intakes and Los Almendros line).
Pedestrian crossing using secondary roads: Prohibited.
Traffic through secondary roads: Prohibited, roads closed.

No cleaning works will be done (removal of snow) on the roads to the water intakes. The road contractor will only keep clear the main access road to the power plant to facilitate staff arrival or evacuation.

Cleaning works can be done in the areas of offices, EDC, machine shops, and lockers (removal of snow.)

8.- USE OF CHAINS

Chains will be always used when using roads with snow and/or ice.

Noncompliance with the instructions about the use of tire chains will be sanctioned by AES GENER.

9.-RESPONSIBILITIES

9.1.- AES Gener S.A., Alfalfal – Maitenes

Comply with and ensure the compliance with this regulation as well as to sanction breach and non-compliances that are confirmed.

Issue and manage the alerts provided under this regulation.

Move winter period start or end dates forward or backward.

Keeps a meteorological log including the characteristics of the snow falling and on the ground.

Use the barrier gate to control that vehicles meet the instructions provided under this and other regulations.

Roads cleaning and signaling in their area of responsibility.

Analyze and interpret every individual directive under this regulation case by case.

9.2.- CONTRACTORS

- Take into account the appropriate prevention measures to be taken in the event of storms, avalanche, and other weather phenomena that might impact the development of works.
- Build and keep rescue crews.
- Keep a log of staff present in the area during the winter period.
- Setup time schedules for vehicles as to make possible their arrival to Alfalfal barrier gate no later than 05:00 PM.
- Road signaling in their areas of responsibility.
- Signaling for all stopped equipment.
- Cleaning of access and roads in their areas of responsibility.
- Have the necessary machinery to meet the previous point.
- Schedule and train its staff in situations of risk and bad weather conditions.
- Meet and ensure that the directives of this and other regulations are comply with.
- Manage alerts in their areas of responsibility.
- Perform all necessary actions to control risks inherent to the winter period, regardless being included in this regulation.

10.- SIGNALING SYSTEM

ALERT	SIGNALING	MEANING
FIRST	GREEN	Bad weather approaching the area
SECOND		Snowing Bad weather in the area. No risk of avalanche. Mandatory use of chains.
THIRD	RED	Heavy snow. Bad weather in the area. Increasing risk avalanche Mandatory use of Chains
END OF ALERT ■	SIGNALING IS REMOVED	Operations resume 4 hr. after the third alert

11.- SHELTERS AND SAFEGUARDS

Use of Shelters

In the event that the staff is trapped due to bad weather conditions or boulders on the road, both water intakes at Olivares and Colorado have shelters equipped to hold 4 people during 15 days.

Shelter Gear and Equipment

Shelters have the necessary food and amenities to face situations of emergency which are reviewed and replaced April each year.

Safeguard in Emergency Situations

In the event that drivers are trapped by boulders on the road or snow storms in areas where is not possible to return to the water intake or continue to the Power plant, and considering that it is not possible to receive assistance or be rescued immediately, the following places can be used as shelters:

Tunnel Ventana 5	Km39	Branch Olivares
Tunnel Ventana 4	Km36.5	Branch Olivares
Tunnel Ventana 7	Km35.5	Variant Branch Olivares
Tunnel Ventana 8	Km36.5	Branch Colorado
Tunnel Cuesta Tambillo	Km40.5	Branch Colorado
Tunnel Ventana 9	Km 46.5	Branch Colorado
Control Room Btma Colorado	Km 51.5	Branch Colorado

Drivers should try to reach those places in their vehicles as to be protected only walking when visibility allows for.

Should bad weather conditions continue for one or more days and it is still not possible to assist them, people at the shelter should remain calm until conditions change, they should not leave the shelter; they should always be aware that all efforts will be made early on the situation to try to locate them using land patrol or helicopter; in the latter case it is recommended that when listening to the helicopter they should go out and wave using colorful clothing or make a fire using a piece of fabric or cloth using oil and/or grease.

If drivers can not to reach these shelters for being trapped between two areas in a snow storm, they should not leave the vehicle under any circumstance or park near ravines regardless how small they are; the vehicle should be parked as closer as possible to a natural rock wall or large rock, taller than the vehicle as to be protected from rocks falling or snow avalanche.

11.1.- Regulation for the use of Shelters

Shelters at Colorado and Olivares water intakes are buildings designed and equipped as shelters for the staff that can be trapped due to weather emergencies.

Canned servings and other food kept in the case of "EMERGENCY" should not be used under any other normal situation.

When leaving the shelter, main switches for power and gas should be closed, and water faucets should be closed. If the chimney has been used, double check that there is no wood burning. When leaving the shelter all the furniture should be organized.

When leaving the shelter do not leave food and take out all garbage produced while using the shelter as to prevent bad odors and appearance of pests.

12. ZONES OF BOULDERS

A record of all boulders existing in the canyons of rivers Olivares and Colorado that affect the access roads to both water intakes and that present high risk in the winter period.

12.1. MAIN BOULDERS

1.- Between the bridge La Gloria and Confluencia, from Km 26 to Km 30, this area is characterized for being a very narrow road with high summits which has all along the road the risk of toppling of rocks and landslides from a great height, especially during rainstorms and during summer showers. Snow boulders are not frequent. Drivers should be attentive to the noise produced by this type of landslide.

2. Between Confluencia and Olivares water intake.

2.1.- Boulder Tres Puntas, at Km 31 falling from a great height, reaching the road and the bridge with the same name; snow boulder.

2.2.- Boulder Los Lunes bridge, at Km 32, snow boulder.

2.3 Boulder Cuesta Los Lunes, at Km 35; this boulder reaches bridge El Coironal, also affecting access to ventana N°7; snow boulder.

2.4.- Boulder El Piedrero, at Km 35,300; not always reaches the road; snow boulder.

2.5.- Boulder Los Maitenes, at Km 36; snow boulder opening in a fan type structure also affecting access to Olivares crossing.

2.6.- Boulder Estero los Maitenes, at Km 37; not always reaches the road; snow and rock boulder.

2.7.- Boulder El Frío, Km 40; snow and rock boulder opening in a fan type structure.

2.8.- Boulder Olivares, Km 43; not always reaches the road but does affect access to T-8.

3. Between Confluencia and Colorado water intake.

3.1. Boulder Los Ranchos, Km 31; snow, rock, and mud boulder.

3.2. Boulder Las Pataguas, Km 35,500; snow boulder.

3.3. Boulder Los Caballos, Km 35,800; snow boulder.

- 3.4. Boulder Salinilla, Km 36; this boulder opens in a fan type structure; snow boulder.
- 3.5. Boulder Espinoza, Km. 36,400; rock and snow boulder.
- 3.6. Boulder El Hospital, Km 37M snow boulder crossing the river to the road.
- 3.7. Boulder Quintana Km 37,500; snow boulder.
- 3.8. Boulder Las Yeguas, Km 38,500; big magnitude and load snow boulder opening in a fan type structure.
- 3.9. Boulders Tambillo Km 41; small structures of snow falling from low height to the hill near the road.
- 3.10. Boulder El Encabritao, Km. 46M large magnitude and load snow boulder.

Remember that during the months of very low temperatures (August-September), landslides occur when the snow starts melting.

"DO READ THE FOLLOWING"

EVERYTIME YOU GO TO A PLACE OUTSIDE ALFALFAL POWER PLANT (WATER INTAKES-VENTANAS, ETC.), REMEMBER THE FOLLOWING RECOMMENDATIONS:

1. Go with a driver who knows the area.
2. Review the vehicle and confirm that all the elements and parts are in good working condition (tires, front lamps, rear lamps, jack, chains, shovels, etc.).
3. Drive at a speed equal or lower than the speed limit in the signs; always drive defensively.
4. Carry a radio in good condition; verify the batteries are charged; communicate regularly with the control room.
5. If you do not know the area, ask instructions to someone with experience and who knows the area.
6. Never work or visit a place by yourself; when there might be a risk, ask for help.
7. Never intervene equipment if you do not have the corresponding authorization from the operator on duty or the area coordinator. Be certain that the equipment to service is totally powered off.
8. Every time you work or enter any window you should wear your PPE (hats, steel cap shoes, gloves, etc.), as well as verify the environmental conditions within the window.
9. Remember to carry at least a flash light in good working conditions (if you are going to use it for an extensive period, carry spare batteries.)
10. When inside confined areas no gas powered vehicles if ventilation conditions are not appropriate. Preferably use diesel vehicles. If it is not possible to use diesel vehicles, adopt some of the following measures:
 - a) When possible carry a self-breathing mask or similar.
 - b) Do not stay long at the place when observing that the air is dense.
11. All vehicles entering a window and reaching the destination should turn off the engine as to prevent polluting the environment.

AS YOU WILL SEE, SAFETY IS EVERYBODY'S JOB.

AES Gener S.A. Risk Prevention Department,

WINTER PROGRAM

QUELTEHUES - VOLCAN POWER PLANTS

TABLE OF CONTENTS:

1. OBJECTIVE
- 2.- GENERAL RULES
- 3.-DRIVERS
- 4.-VEHICLES
- 5.- PROCEDURE FOR ALERTS
- 6.- REGULATION FOR ALERTS
- 7.- USE OF CHAINS
- 8.- RESPONSIBILITIES
- 9.- SIGNALING SYSTEM
- 10.-SHELTERS
- 11.- ZONES OF BOULDERS

AES Gener S.A. Risk Prevention Department

1. OBJECTIVE

This program includes the procedure to implement in the event of any emergency resulting from weather conditions in Winter and is mainly aimed at safeguarding people's safety and protection of vehicles, machinery, and equipment.

2.- GENERAL RULES

Winter time is considered the period of time from April 15 to September 15.

The points under this program will be valid all Winter in the period of time indicated or during any other time in the year should the Administration of Queltehues-Volcan power plants so decides, or depending on the circumstances or if special cautions required so.

The rules provided under this program will be in force during this period of time. This program is a regulation with provisions applicable to AES Gener S.A. staff, Contractors, Associates, Visitors, and people visiting the facilities and premises of Queltehues - Volcán power plants.

All drivers and all vehicles shall meet the provisions of the Traffic Law used as a building block to set up this program as well as the instructions from Cordillera work unit.

Noncompliance with the instructions will not be considered a justification and the person not complying will be sanctioned as decided by the Administration of Cordillera Work unit in accordance with the Procedure for "Vehicle Control" of AES Gener S.A.

3.- DRIVERS

All drivers going to any location in the area during the winter months shall ensure that the vehicle is equipped with the items listed under point 4.2 of this regulation as well as the personal equipment for harsh conditions.

Drivers shall follow these special rules when driving:

- 1°. If you are not experienced driving on snow, do not drive.
- 2°. Always keep your speed below the limit stated in the signs as this speed has been determined for roads under normal conditions; be utmost cautious if there's snow on the road, particularly ice.
- 3°. Avoid tailgating and keep a 50 m distance between your vehicle and the vehicle in front of you and the same distance for machinery in operation on the road. In this former case, wait for the driver of that equipment to yield, blinking the lamps/beam or any other manual signal.
- 4°. Always yield to heavier vehicles or vehicles with more wheels.

- 5°. Respect strictly the road traffic signs as they can be permanent or temporary
- 6°. If it is necessary to stop on the road, choose a safe place and free of avalanche or boulders
- 7°. Do not apply the brakes excessively. Rather, use the gears and/or decrease your speed. Bear in mind that sudden change of gears lead to skid, the same effect that sudden breaks have.
- 8°. Always wear UV polarized sunglasses when snowing or with sunshine.
- 9°. Should the road be blocked with boulders or storms, do not risk by continuing the journey; find a safe protection area.

4.-VEHICLES

During the months of winter all vehicles on the roads of Olivares and Colorado should be all wheel drive. The vehicles should be equipped with the following support:

- Break-ice chains with tensors in good conditions or special tires for ice and snow.
- Wire rope or sling
- Jack
- Wrench
- Spare tire in good conditions
- Shovel
- Flash light Fire-extinguisher
- First-aid kit
- Triangle road sign

The vehicle should have anti-freezing liquid for the cooling water and that contact surface of tires has to be in good conditions.

During winter only vehicles authorized meeting the conditions of this program will use the working areas.

5.- PROCEDURE FOR ALERTS

The procedure for alerts is a set of measures applied to people's safety and ensure protection of properties when weather conditions are not favorable.

Alert: A special notification issued if there is a risk of avalanche, storms, rainstorms or rock falling. Under this situation people activities are subject to the regulation of each alert.

Once information about the weather conditions at Alfalfal power plant, three (3) alerts are issued depending on the risk to the workers at the Work unit. The workers then are responsible for transmitting the information to Contractors, associates, and visitors at the working area.

End of alert: Operations are back to normal once conditions in the area are evaluated.

Alerts, their meaning, and signaling are described under points 6 and 10.

In winter time or during bad weather conditions the power plant operator will request the forecast for the day and the next 24 hours to the operator on duty at Alfalfal power plant that will have the information for the area every day at 06:00 AM and 07:00 PM.

6.- REGULATION FOR ALERTS

Applicable to all areas of work with the descriptions described under each of the alerts.

6.1.First Alert: Green Flag.

Meaning: Upcoming bad weather conditions

- Maintenance and Operation Staff traffic:
- Pedestrian crossing: Normal in the areas of water intakes, Volcan power plant, workshops, and offices.
- Traffic in access roads to work areas: Normal.

6.2.First Alert: Yellow Flag.

Meaning: Snow, bad weather in the area, no risk of avalanche or receding bad weather.

Maintenance and Operation Staff traffic:

Pedestrian crossing: Normal in the areas of water intakes, Volcan power plant, workshops, and offices.

-Traffic to water intakes:

Restricted: only vehicles authorized by the operator on duty.

6.3. First Alert: Red Flag.

Meaning: Heavy snow, increasing, "Avalanche warning."

Maintenance and Operation Staff traffic:

Restricted.

Vehicle traffic to water intakes:

Prohibited.

No cleaning works will be done (removal of snow) on the roads to the water intakes or access roads.

Cleaning works can be done in the areas of SDM offices, and machine shops (removal of snow.)

7.- USE OF CHAINS

The operator on duty at the power plant will determine when to place or remove the chains to the emergency pickup truck. In the case of staff transportation, the users will make that decision.

Noncompliance with the instructions about the use of tire chains will be sanctioned by AES Gener S.A.

8.- RESPONSIBILITIES

8.1 AES Gener S.A., QUELTEHUES- VOLCAN.

- Comply with and ensure the compliance with this regulation and sanction breach and non-compliances that are confirmed.
- Issue and manage the alerts provided under this regulation.
- Move winter period start or end dates forward or backward.
- Keeps a meteorological log including the characteristics of the snow falling and on the ground.
- Control -through workers from the Work unit, those vehicles meet the instructions provided under this and other regulations.
- Roads cleaning and signaling in their area of responsibility.
- Analyze and interpret every individual directive under this regulation case by case.

8.2.- CONTRACTORS

Take into account the appropriate prevention measures to be taken in the event of storms, avalanche, and other weather phenomena that might impact the development of works.

Keep a log of staff in the area during the winter period.

Setup time schedules for vehicles as to make possible their return to Queltehues power plant no later than 05:00 PM and inform their departure time from the area.

Signaling for all work in progress that affects normal crossing of people and/or traffic.

'Schedule and train its staff in situations of risk, emergencies, and bad weather conditions.

'Comply with and ensure compliance with this and other relevant regulations.

Manage alerts in their areas of responsibility.

Perform all necessary actions to control risks inherent to the winter period, regardless being included in this regulation.

9. SIGNALING SYSTEM

ALERT	SIGNALING	MEANING
FIRST	GREEN	Bad weather conditions in the area approaching.
SECOND		Snowing Bad weather in the area. No risk of avalanche. Mandatory use of chains.
THIRD	RED	Heavy snow Bad weather in the area Increasing risk of avalanche Mandatory use of chains
END OF ALERT	ALERT SIGNALING REMOVAL	Operations resume 4 hours after third alert

10. SHELTERS

Use of shelters.

In the event that the staff is trapped due to bad weather conditions or boulders on the road, water intakes at Maipo, Volcan and Queltehues power plant have shelters equipped to hold 4 people during 15 days.

Shelter Gear and Equipment

Shelters have the necessary food, supplies, and amenities to face situations of emergency which are reviewed and replaced April each year.

Emergency Situations.

In the event of being trapped by boulders on the road or snow storms in the water intake areas and when is not possible to receive assistance or be rescued immediately, maintenance and operation staff can use the equipped shelters.

Should bad weather conditions continue for one or more days and it is still not possible to assist them people at the shelter should remain calm until conditions change, and should not abandon the shelters.

They should always be aware that all efforts will be made early on the situation to try to locate them using land patrol or helicopter; in the latter case it is recommended that when listening to the helicopter they should go out and wave using colorful clothing or make a fire using a piece of fabric or cloth using oil and/or grease

If drivers can not to reach these shelters for being trapped between two areas in a snow storm, they should not leave the vehicle under any circumstance or park near ravines regardless how small they are; the vehicle should be parked as closer as possible to a natural rock wall or large rock, taller than the vehicle.

10.1. Regulation for the use of Shelters

Shelters at Maipo and Volcan water intakes as well as the shelter at Queltehues power plant are buildings designed and equipped as shelters for the staff that can be trapped due to weather emergencies.

Canned servings and other food kept in the case of "EMERGENCY" should not be used under any other normal situation.

When leaving the shelter after the emergency, it should be checked that all gas piping and appliances are turned off and closed as well as all drinking water system. Lights should be turned off and electric appliances should be unplugged.

When leaving the shelter all the furniture should be organized, and used bed sheets should be set apart to be removed and washed.

When leaving the shelter do not leave food and take out all garbage produced while using the shelter as to prevent bad odors and appearance of pests.

11.- ZONES OF BOULDERS

There is a record of all boulders present in the canyons of rivers Maipo and Volcan affecting access roads to both water intakes and that present high risk in the winter period.

11.1 MAIN BOULDERS

1.- Branch Maipo Water intake:

- 1.1. Boulder "Santa Rita", falling approx. at Km. 1. Dragging mud and rocks; obstructs road shoulder.
- 1.2. Boulder "El Loro", falls between Kms. 3 and 4. Drags rock and snow and reaches the road.
- 1.3. Boulder "Las Melosas", falls in Km. 5 at the entry of Las Melosas shelter; mostly mud; occasionally blocks the road.
- 1.4. Boulder "Los Helados", falling approx. at Km. 6; mostly rock and snow; blocks the road.
- 1.5. Boulder "El Zorro"; falls on the shoulder located around Km. 9; rocks and mud; blocks the road.
- 1.6. Boulder "Los Caballos", falling approx. at Km. 12 between the settling ponds and Maipo water intake; mostly snow; blocks the road.

2.- Branch Volcán Water intake:

- 2.1 Boulder "El Cobre"; ravine before the town of El Volcán (downstream). Drags mud and rocks; blocks the road.
- 2.2. Boulder "La Greda"; upstream ravine to the town of El Volcán; mostly snow and rocks; reaches and blocks the road.
- 2.3. Boulder "La Tenca"; upstream ravine to La Greda, 1.5 Km. approx.; drags snow and rocks; blocks the road.
- 2.4. Boulder "El Salto"; upstream ravine to La Tenca, 2 Km. approx.; drags rock and snow and reaches the road.
- 2.5. Boulder "El Yesillo," upstream ravine to La Tenca, 1.5 Km. approx.; drags rock and snow and reaches the road.

Remember that during the months of very low temperatures (August-September), landslides occur when the snow starts melting.

¡DO READ THE FOLLOWING!

EVERYTIME YOU GO TO A PLACE OUTSIDE FROM THE POWER PLANT, WATER INTAKES, PONDS, SHELTERS, ETC.), REMEMBER THE FOLLOWING RECOMMENDATIONS:

Go with a driver who knows the area.

Review the vehicle and confirm that all the elements and parts are in good working condition (tires, front lamps, rear lamps, jack, chains, etc.).

Drive at a speed equal or lower than the speed limit in the signs; always drive defensively.

Carry a radio in good condition; verify the batteries are charged; communicate regularly with the control room.

If you do not know the area, ask instructions and/or advise to someone with experience and who knows the area.

Never work or visit a place by yourself; when there might be a risk, ask for help.

Never service equipment if you do not have the corresponding authorization from the operator on duty and/or the area coordinator, and check the equipment before servicing.

Every time you work in any of the facilities of the work unit: You should wear your PPE (hats, steel cap shoes, gloves, etc.).

Remember to carry at least a flash light in good working conditions (if you are going to use it for an extensive period, carry spare batteries.)

PROCEDURE ANNEX EMERGENCY PLAN
Rev.1
CORDILLERA HYDROELECTRIC COMPLEX

1. OBJECTIVE
2. SCOPE
- 3.- RESPONSIBILITIES
- 4.- DEFINITIONS
- 5.- PROCEDURE
- 6.- MODIFICATIONS TO THE DOCUMENT
- 7- RECORDS
8. ANNEXES

1 Objective

Establish mitigation measures for potential significant environmental impacts deriving from emergency situations identified at Cordillera Hydroelectric Complex.

2 Scope

The scope of this procedure is to mitigate environmental impacts resulting from the emergency situations identified at Cordillera Hydroelectric Complex.

3 Responsibilities

- 3.1 Those defined under the Emergency Plan for Cordillera Complex, Rev. 1
- 3.2 Those defined under the Spillage Management Plan

4 Definitions

Not applicable.

5 Procedure

Situations of emergency identified under the Emergency Plan for Cordillera Complex, Rev. 1 includes

- Fire Earth
wakes
- Landslides
- Floods
- Severe accidents affecting people, facilities or equipment.

Out of the emergency situations already identified that might lead to potential environmental impacts are Fire and Earthquakes.

5.1 Fire

- 5.1.1 Both the description of the emergency caused by fire and the modus operandi are included in the Emergency Plan for Cordillera Complex, Rev. 1

5.1.2 Mitigation of Environmental Impacts due to Fire:

5.1.2.1 Once the emergency is controlled solid and liquid waste produced on the place of the fire will be collected. The following steps should be considered when disposing wastes and recovering the area affected:

- Request coordination with the Expert in Risk prevention and EMS Coordinator.
- Isolate the area affected by the emergency by using signaling elements (cones, tapes, people, etc.)
- All people participating in mitigation works and waste management should wear the appropriate PPE depending on the type of waste to be treated, cleaned, and disposed of.
- Sort and classify waste by area (metal structures, scrap, wood, liquid solutions, contaminated soil, etc.).
- Once waste is separated, disposal should be done in accordance with the Waste Management Plan in place.
- Clean the area affected or cover the area using clean dirt, soil or gravel if the emergency had directly affected the soil. Otherwise, if the area is covered (concrete slab, asphalt, etc.) clean the area and dispose of the waste as defined under the Waste Management Plan.

5.2 Earthquakes

5.2.1 Both the description of the emergency caused by earthquakes and the modus operandi are included in the Emergency Plan for Cordillera Complex, Rev. 1

5.2.2 Mitigation of Environmental Impacts due to Earthquakes:

5.2.2.1 Once the emergency is controlled solid and liquid waste produced on the place of the fire will be collected.

The following steps should be considered when disposing wastes and recovering the area affected:

- Request coordination with the Expert in Risk prevention and EMS Coordinator.
- Isolate the area affected by the emergency using signaling elements (cones, tapes, people, etc.)
- All people participating in mitigation works and waste management should wear the appropriate PPE depending on the type of waste to be treated, cleaned, and disposed of.
- Sort and classify waste by area (metal structures, scrap, wood, liquid solutions, contaminated soil, etc.).
- Once waste is sorted, disposal as provided under the Waste Management Plan.

5.3 Emergencies resulting from Chemicals

5.3.1 Emergencies resulting from chemicals are described under the procedure Chemicals Management Plan.

5.3.2 Actions and mitigations measures for spillage of chemicals or materials regulated by AES are described under the Spillage Management Plan.

6.- Modifications to the Document

Version	Description of Change

7- Records

7.1 Incident Reports.

SPILLAGE MANAGEMENT PLAN CORDILLERA
HYDROELECTRIC COMPLEX

1. OBJECTIVE
2. SCOPE
- 3.- RESPONSIBILITIES
- 4.- DEFINITIONS
- 5.- PROCEDURE
- 6.- MODIFICATIONS TO THE DOCUMENT
- 7.-RECORDS
- 8.-ANNEXES

1 Objective

Establish responsive actions to spillages by controlling in the least time possible spillage of any AES-regulated material; minimizing damages to the environment, injuries to people, and normal business operation.

2 Scope

This procedure is applicable to all Cordillera Complex facilities, processes, and staff.

3 Responsibilities

3.1 Head of the Complex

3.1.1 Allocate necessary resources for the correct implementation of the Spillage Management Plan at Cordillera Complex.

3.2 EMS Coordinator

- 3.2.1 Identify the necessary elements to contain spillage, the amount of these items, and the areas to place them.
- 3.2.2 Define how the ground / floor will be remediated when the need to replace it arises.
- 3.2.3 Report online all major spillages to AES
- 3.2.4 Report and keep constant communication with the authorities in the event of spillages resulting in significant environmental damages.
- 3.2.5 Train staff in Spillage Management
- 3.2.6 Produce and implement corrective measures in the event of a spillage, if necessary

3.3 Risk Prevention Expert

- 3.3.1 Should prepare the safety data sheet for AES-regulated material, hazardous and/or special waste stored, handled and/or produced at Cordillera Complex.
- 3.3.2 Produce and implement corrective measures in the event of a spillage, if necessary

3.4 Head of Operations / Head of Management

- 3.4.1 If EMS Coordinator is not available, report AES of any major spillage.

- 3.4.2 Generate the actions and/or measures for rainfall management at the facilities equipped with secondary collection.
 - 3.4.3 Generate and implement corrective and/or preventive measures in the event of a spillage, if necessary.
 - 3.4.4 In the event of a spillage inform the EMS Coordinator and the Head of the Complex
- 3.5 Head of Section / Head of Shift
- 3.5.1 Inform the EMS Coordinator of the needs of absorbing material for spillage in their areas.
 - 3.5.2 Coordinate planning in the event of a spillage with EMS Coordinator.
 - 3.5.3 Designate the staff that will manage the spillage.
 - 3.5.4 Generate and implement corrective and/or preventive measures in the event of a spillage, if necessary.
 - 3.4.4 In the event of a spillage inform the EMS Coordinator and the Head of the Complex.
 - 3.5.6 Verify the correct waste disposal in the event of a spillage
- 3.6 Control Room Operator
- 3.6.1 Inform the Head of Shift of the spillage.
 - 3.6.2 Coordinate planning activities with the Head of Shift and the EMS Coordinator in the event of a spillage.
 - 3.6.3 Help the Head of Shift prepare the report of the spillage
- 37 Electricians, Mechanics, Instrument staff, Safety staff
- 3.7.1 Know the Spillage Management Plan
 - 3.7.2 Communicate any spillage detected
 - 3.7.3 Actively participate in spillage management
 - 3.7.4 Actively participate decontaminating the area of the spillage
 - 3.7.5 Use spillage absorbing material rationally placed in the working areas.
 - 3.7.6 Dispose of wastes resulting from spillage in accordance with the Waste Management Plan
- 3.8 Cordillera Complex Admin Staff
- 3.8.1 Know the Spillage Management Plan
 - 3.8.2 Communicate any spillage detected

3.9 Contractors and/or Service Providers

- 3.9.1 Know the Spillage Management Plan when conducting works at the facilities of Cordillera Complex.
- 3.9.2 Communicate any spillage detected at Cordillera Complex.
- 3.9.3 Implement corrective and/or preventive measures.

4 Definitions

- 4.1 Spillage: Release of any AES-regulated material, hazardous or special waste or liquid special waste outside a storage bulk tank resting on the ground, equipment reservoir, container or process of an AES business.
- 4.2 AES-Regulated Material: A chemical or raw material which when released into the air, surface or underground water and/or soil might endangered workers and/or general public or cause damages to the surrounding environment. Example: Products from Oil. Hazardous substances and extremely hazardous substances (not considering, drinking water, water for fire-fighting purposes, some process water, and waste material)
- 4.3 Spillages to be reported by AES: Any liquid spillage of AES-regulated material, hazardous waste special waste or PCB to be reported to the authorities and/or is spilled at an AES site to the environment in a volume greater than 210 lt. Spillages causing significant environmental damage or that draw attention from the public should be immediately reported to AES Corporative Department of Environmental Affairs.
- 4.4 Above Ground Bulk Storage Tank (ABST): Bulk storage tank that has less than 10% of its volume, including secondary piping below ground level, with capacity to hold 2500 lit or more and that holds hazardous material and/or special liquid waste.
- 4.5 Underground Storage Tank (UST): Tank system, including secondary piping, with 10% of its volume below ground level; capacity for 2500 lit or more and holds AES-regulated material, hazardous waste and/or special liquid waste.
- 4.6 Container: Drum, can, cylinder, bin or storage tank with capacity to hold liquid or solid in volume greater than 210 lt. Piping and piping system are not considered containers.

- 4.7 PCB: Polychlorinated bi-phenyl in concentration greater than 500 ppm. This includes liquid, equipment, and waste resulting from cleaning PCB.
- 4.8 Hazardous Substance: Substances which due to their nature produce or might produce temporary or permanent damages to human, natural or vegetal health, as well as to facilities, machinery, buildings, etc. (NCh 382. Of 98).
- 4.9 Safety Datasheet: Provides information regarding different aspects related with safety, health, and protection to the environment; essentially provides basic knowledge of the product and about measures for protection and treatment in the event of an emergency (NCh 2245.0f93).
- 4.10 Transportation Datasheet (HDST, as per Spanish): Summary information sheet with all major characteristics and how to act when facing an incident involving hazardous substances. HDST needs to be carried by the driver of the vehicle used to transport hazardous substances (NCh 2353.0f96).
- 4.11 Hazardous Waste: Waste that has particular characteristics such as explosives, flammable material, oxidant, poisonous, infectious, corrosive, toxic and/or eco-toxic, which if not handled and disposed appropriately will result in significant damages for the general public and/or the environment.
- 4.12 Special Waste: Include used oil, light bulbs/switches containing mercury and batteries.
- 4.13 High Risk for Water Bodies: A potential source of spillage from AES located less than 30m from a drainage or open way directly leading to water bodies outside from the site (e.g. pond, lake, creek or river)
- 4.14 PPE: Personal protection equipment

5 Procedure

5.1 General

- 5.1.1 Spillage management will be conducted at Cordillera Complex as provided under the current legislation. Compliance with the regulation should be in the record.
- 5.1.2 Spillage management will be conducted at Cordillera Complex as provided under the Environmental regulation of AES "Spillage Prevention and Containment."
- 5.1.3 Every container, storage tank, and/or equipment shall be regularly inspected to prevent physical deterioration and, therefore, spillage and/or leaks.
- 5.1.4 All staff involved in transportation, handling, storage and/or transference of AES-regulated material, hazardous and liquid special waste should be trained in spillage management.
- 5.1.5 All facilities where AES-regulated material, hazardous and/or liquid special waste is stored and/or handled should have available the safety datasheet and when those materials are transported, there should also be available a transportation datasheet (HDST).
- 5.1.6 All areas where AES-regulated material, hazardous and/or liquid special waste is stored and/or handled should have all necessary items to contain and/or absorb potential spillages as defined under the respective safety datasheets.
- 5.1.7 All staff involved in spillage control shall use at least the following PPE: Safety gloves, steel cap shoes, safety goggles, and other necessary items as stated in the safety datasheet of the product, when necessary.
- 5.1.8 In the event of a spillage, the area should be closed and isolated as to prevent contact with the material spilled.
- 5.1.9 In the event of a spillage, all possible sources of ignition should be unplugged or powered-off.

5.2 Classification of Spillage

At Cordillera Complex spillages are defined in two types:

5.2.1 Small Spillages: Spillage under 210 lt. of AES-regulated material, hazardous and/or special liquid waste.

5.2.2 Large Spillages: Spillages greater than 210 lt. of AES-regulated material, hazardous and/or special liquid waste.

5.3 Identification and Communication of a Spillage

5.3.1 The person detecting a spillage must:

- Identify the material spilled
- Identify whether the spillage is small or large.
- Immediately inform his/her superior or to the Head of Shift of the Complex; or the Control Room Operator of the respective Power plant.

5.3.2 Then, the person receiving the information or the person designated by the Head should immediately plan the activities to control the spillage verifying on site the measures to be taken as provided under the safety datasheet and will also determine the staff to be involved in the emergency.

5.3.3 The superior or the person receiving the information should inform the EMS Coordinator, the Head of Operations, Head of Maintenance, and the Head of Cordillera Complex of the incident.

5.4 Control of small spillages (planning):

5.4.1 Small spillages on a surface (slab, asphalt, tiles, etc.)

- When possible material spilled should be recovered and added to its container.
- The spillage is to be controlled using the absorbing material defined under the safety datasheet of the product available in the area.
- When absorbing the spillage the surface needs to be decontaminated using water or any other substance defined under the safety datasheet within 72 hr of the spillage.
- Resulting waste should be handled (sorted and temporary disposed of) as defined under the Waste Management Plan.
- Report the spillage.

5.4.2 Small spillages on the ground, soil, gravel, sand, etc.

- In the event of a spillage the area needs to be decontaminated by removing the soil within 72 hr of the spillage.
Remediation should be applied to the soil, ground, gravel, etc., removed.
Resulting waste should be handled (sorted and temporary disposed of) as defined under the Waste Management Plan.
- Report the spillage.

5.4.3 Small spillages on stagnated water

- Review the safety datasheet of the material spilled as to identify if the product is water soluble. If it is so, reporting the spillage is sufficient.
In the case that the material spilled is hydrocarbon, contaminated water needs to be re-circulated using the water/hydrocarbon separator.
If the material spilled is not water soluble and is not a hydrocarbon, it should be absorbed using the material available in the area.
Resulting waste should be handled (sorted and temporary disposed of) as defined under the Waste Management Plan.
- Report the spillage.

5.4.4 Small spillages over surface water (rivers, ditches, gutters, intakes, etc.)

- In the event of a spillage on surface water, the source of the spillage should be eliminated (broken seals, hoses, etc.) and an immediate corrective action should be generated on site,
- Report the spillage.

5.4 Control of large spillages (planning):

5.4.1 Large spillages on a surface (slab, asphalt, tiles, etc.)

- Spilled material should be recovered using manual pumps, vacuums or any other, and should be placed in containers.
- Once most of the material is recovered it should be controlled using the absorbing material defined under the safety datasheet of the product spilled available in the area.

- When absorbing the spillage the surface needs to be decontaminated using water or any other substance defined under the safety datasheet within 72 hr of the spillage.
- Resulting waste should be handled (sorted and temporary disposed of) as defined under the Waste Management Plan.
- Report the spillage.

4.2 Large spillages on the ground, soil, gravel, sand, etc.

- In the event of a spillage the area needs to be decontaminated by removing the soil, ground, gravel, etc. within 72 hr of the spillage. Remediation should be applied to the soil, ground, gravel, etc., removed. Resulting waste should be handled (sorted and temporary disposed of) as defined under the Waste Management Plan.
- Report the spillage.

5.5.4.3 Small spillages on stagnated water

- Review the safety datasheet of the material spilled as to identify if the product is water soluble. If it is so, reporting the spillage is sufficient. In the case that the material spilled is hydrocarbon, contaminated water needs to be re-circulated using the water/hydrocarbon separator. If the material spilled is not water soluble and is not a hydrocarbon, it should be absorbed using the material available in the area.
- Resulting waste should be managed as defined under the Spillage Management Plan.
- Report the spillage.

5.5.4 Large Spillages on surface water (rivers, gutters, water intakes etc.)

- In the event of a spillage on surface water, the source of the spillage should be eliminated (broken seals, hoses, etc.) and an immediate corrective action should be generated on site,
- Report the spillage.

5.6 Reporting/Communicating Spillages

- All spillages should be reported using the near-accident format as provided the Internal Communication procedure.
- Large spillages should be immediately reported on line to AES by the Environmental coordinator or the Head of Operations as defined under the Communication procedure.
- Every spillage report should clearly provide information about the corrective and/or preventive measures necessary to prevent a new occurrence of the spillage
- Small spillages should be reported to AES online in every occurrence no later than the 10^ocalendar day in the subsequent month after the spillage occurred
- In the event of a spillage causing significant damages to the general public and/or the environment, it should be reported to the respective local authorities, or those authorities requesting the report, following the procedure for External Communications.

5.7 Spillage Prevention Plan

5.7.1 Training

Training instances should be facilitated to all staff involved in handling AES-regulated material, hazardous and/or special waste from Cordillera Complex, such as meetings, briefings, courses, etc., addressing:

Safe handling of AES-regulated materials, hazardous and special liquid waste (working procedures, waste management procedures, chemicals and raw material handling, etc.), Management of responses to spillages.

Other topics necessary to prevent potential spillages.

5.7.2 Minimum Infrastructure Requirements

- As of January 2009 all tank for bulk storage on the ground presenting a high risk for water bodies should have a secondary waterproof containment.
- As of January 2009 any tank for bulk storage on the ground not presenting a high risk for water species should have at least a secondary containment technically devised or an alternative system.
- All new underground storage tank installed at Cordillera Complex should have a design of double walls with double wall piping and an automatic leak detection system or a single wall design located within a containment vault; and overflowing protection with light and sound alarms.
- As of January 2009 single wall tanks for underground storage with cathode protection should have a leak detection program including regular complete tests.
- As of January 2012 single wall tanks for underground storage at Cordillera Complex without cathode protection will be physically removed.

- All new bulk storage tanks above ground to be installed at Cordillera Complex should have waterproof secondary and light or sound alarms.
- All new loading and unloading areas to be installed at Cordillera Complex should have waterproof secondary containment.
- As of January 2009 all equipment holding AES-regulated material identified as high risk for water bodies should have at least a technically devised secondary containment or an alternative system.
- All new equipment to be installed at Cordillera Complex that has any AES-regulated material should have at least a technically devised secondary containment or an alternative system.
- As of the implementation of this new procedure all equipment holding any AES-regulated material and that has any leak, should be repaired and a waterproof secondary containment should be installed or should be drained
- As of the implementation of this procedure storage tanks for equipment holding any AES-regulated material shall be located in areas not presenting high risk for water bodies.
- As there areas, sections, tanks, etc., with secondary containment actions need to be produced as to allow draining water from rainfall thereof as to avoid any environmental impact.

5.7.3 Inventory of Sources of Potential Spillages

- An inventory of ABST, UST, permanent storage areas for containers and equipment holding AES-regulated material should be made and maximum storage amount and specific location should be recorded.
- An inventory of the location of AES-regulated material, hazardous and/or special liquid waste and maximum amounts stored and/or managed should be available.
- Products necessary to contain and/or absorb spillage should be identified in all areas where products that might generate a potential spillage are handled, stored and/or disposed of.

6.- Modifications to the Document

Version	Description of Change from the Previous Version
01	Removal of Document code
01	Modification of point 3.3, Replacement of Advisor in Risk Prevention with Risk Prevention Expert.
01	Modification of point 6: Removal of references; Modifications are made to the document.
01	Removal of record 7.2, Inventory of Hazardous Wastes generated
01	Change in Corporative logo

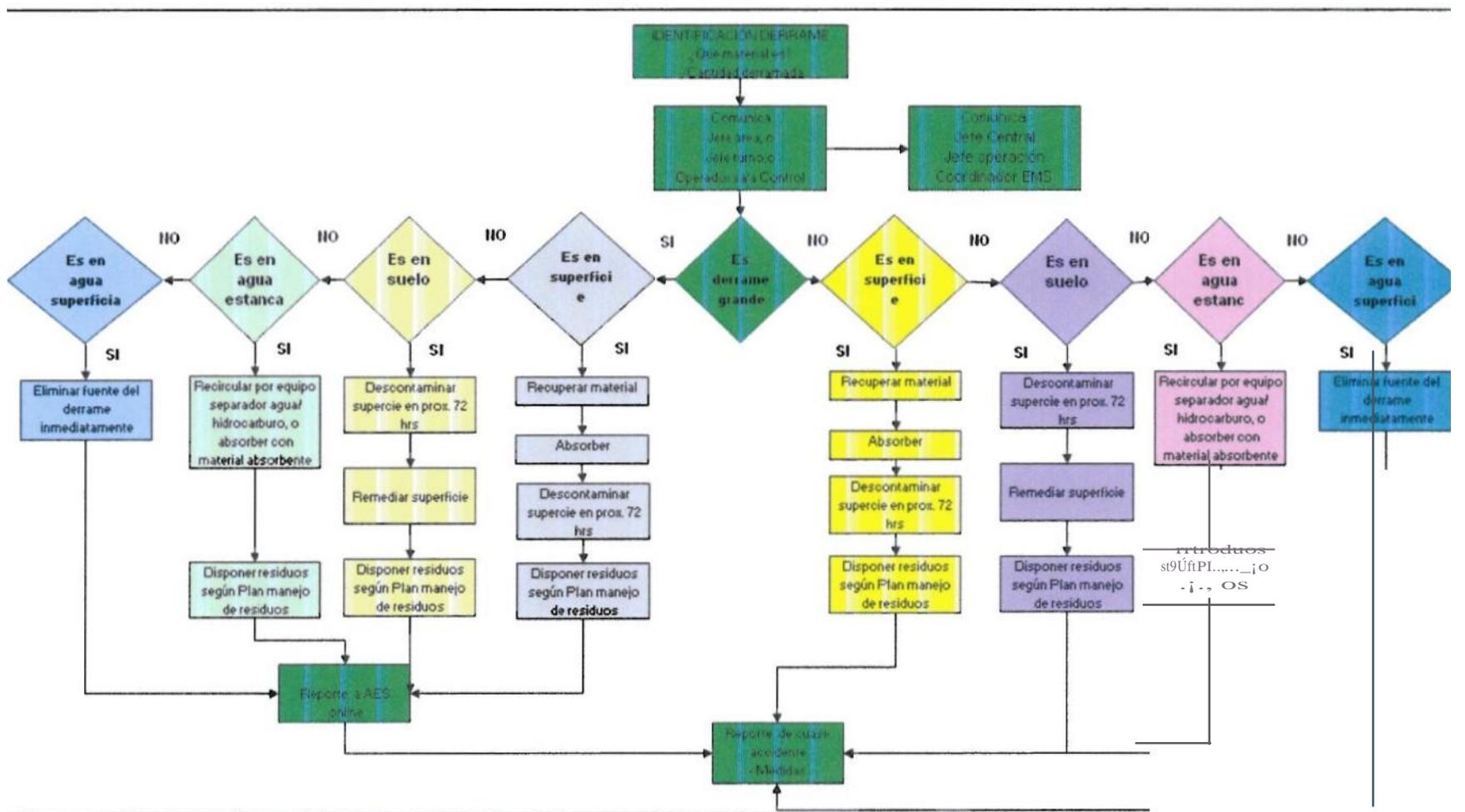
7.- Records

7.1 Near accident Report

8. Annexes

8.1 Flowchart of a Spillage

Annex 8.1 Flowchart of a Spillage



	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	1 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

TABLE OF CONTENT		
Chapter	Description	Page
1	Purpose	2
2	Scope	2
3	Definitions	2
4	Responsibilities	4
5	Description of the Activity	5
6	Control of Records	
7	Reference Documents	
8	Annexes	
9	Control of Modifications	

HISTORY OF REVIEWS					
Checki ng	Description	Carried out by	Carried out by	Approved by	Validity

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	2 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

1. PURPOSE

Establish the methodology to be applied in AES Gener SA to identify, assess, document and manage the risks related to Occupational Safety and Health.

2. SCOPE

This procedure applies to all areas, equipment and activities taking place on the facilities of AES Gener SA both by own personnel and contractors.

3. DEFINITIONS

ACCIDENT: Unwanted event that results in death, illness, injury, damage or other loss.

Law 16744. Article 5.-For the purposes of this law, labor accident means any injury that a person due to or during work, producing disability or death.

They are also accidents that occurred in the direct path, one way or return, between home and the workplace.

RISK ASSESSMENT: It is a process to obtain information necessary to estimate the magnitude of the risks that exist within a production process and determine if these are tolerable or not, in order to serve as a reference to the organization in decision-making and take measures (corrective / preventive).

HAZARD IDENTIFICATION: Process that allows you to recognize that a hazard exists and define its characteristics.

CRITICAL PARTS: The components of the machinery, equipment, materials, structures or areas, that are most likely to cause a problem or loss of magnitude when worn, damaged, abused them, mistreated or used improperly.

CRITICAL INVENTORY: Document in which are listed all the hazards and risks identified.

INCIDENT: Unwanted event that led to an accident or had the potential to cause an accident. For purposes of this General Procedure, the following incidents are defined as part of this definition:

- Accidents to persons causing disability or minor injuries
- Quasi accident.

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 3 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

- Material Damage.
- Environmental Damage.
- Operational Failure

DANGER: Source or situation that can be expected with reasonable certainty to be harmful in terms of injury, property damage, environmental damage, or a combination of these.

RISK: The probability of occurrence of an unwanted event, with significant impact on a system, which can be derived from the realization of a hazard.

PROBABILITY: A measure for estimating the possibility of an even.

GRAVITY: The most likely result of an accident. The term covers any kind of impact or adverse effects on people, property, processes, products, population, or a combination thereof.

SAFETY: Risk-free condition, which is derived from hazard control, and aspects that may affect the welfare of a worker, management, other parties involved or the environment.

OCCUPATIONAL SAFETY AND HEALTH (OSH): Conditions and factors affecting the welfare of employees, temporary workers, contractor personnel and visitors in the work area.

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of	Position	Production Manager
Signature		Signature	Production	Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 4 de 19
		Title: RISK ASSESSMENT	Checking: 0

4. RESPONSIBILITIES

The following table shows the abbreviations to identify activities and responsibilities in supplementary table, according to the procedure of Identification and Risk Assessment.

1: Ensure the correct application of this procedure	9: Approve Risk Inventories of their areas
2: Define Risk Assessment methodology	10: Spread / Train in Risk Inventories
3: Review of Risk Assessment methodology	11: Keep the Risk Inventory updated
4: Approve Risk Assessment methodology	12: Manage Risks prioritizing those classified as Medium and High
5: Identify hazards and risks in your area	13: Ask for identification and Assessment of new Risks
6: Make Initial Risk Assessment	I : Right to information
7: Make Residual Risk Assessment	E: Carry out the activity
8: Make Final Risk Assessment	C: Collaborate in the activity

The following table shows, in a complementary way, responsibilities in AES Gener SA for activities of Identification and Risk Assessment.

Activity	Plant Manager	Head of Areas	Direct Supervisor and Shift Manager	Assistant Manager for Safety AES Gener	Safety Coordinator of the Plant	All Personnel
1	E	E	C	E	E	
2	I	I		E	C	
3	E	E		I	C	
4	I			E		
5		C	E		C	E

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	



**OCCUPATIONAL SAFETY AND
HEALTH MANAGEMENT SYSTEM**

Código:
PG-8.1-001

Page:
5 de 19

Title: **RISK ASSESSMENT**

Checking: **0**

Upgrading Date:
10/30/2007

6	I	I	E	I	C	E
7	I	E	E	I	E	C
8	E	E	E	C	E	
9	E	E	C	I	C	I
10		I	E	I	E	C
11	I	I	E	I	E	C
12	I	E	E	I	C	C
13		E	E	I	E	E

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	6 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

5. DESCRIPTION OF THE ACTIVITY

5.1. Methodology of Hazard Identification and Risk Assessment

The Assistant Manager for Safety Deputy Director of Security is responsible for defining the methodology for identifying hazards and ensuring that it complies with the minimum requirements for Occupation Safety and Health Risk Assessment associated with activities, products and / or services of the company.

Once methodology is approved, the Heads of Areas, Supervisors and Shift Managers are responsible for creating an inventory of hazards and assess the risks of the business. Then they must establish their management prioritizing those risks with **Medium** and **High** estimates. However, it is essential to the effective management of risks, update the inventory risk.

5.2. Occupational Safety and Health Hazard Identification

Conducting an inventory or review of risk must be made in the following cases:

1. During the implementation of a SGSSO.
2. Implementation of new projects (modifications, additions, changes or entry of new reagents to the industrial process).
3. Audits, general reviews of **SGSSO**.
4. When the Health and Safety Department deems appropriate.
5. After an incident or accident
6. Interested party communications
7. Changes in legislation
8. The review of Risk Inventory shall be made at least once a year

Risk identification is made for those on which the company has influence (including contractors in temporary facilities), both for routine and non-routine activities.

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	7 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

5.3. Assessment of Significant Occupational Safety and Health Risks (RSSOS)

Once risks are identified, the Evaluation is performed, in order to rank them and determine what risks obtain a valuation **Medium** and **High**, and generate Action Plans to reduce the risk as low as possible.

5.4. Application of the Acceptance criteria

To declare that a risk is significant, the following criteria have been established:

1. The facilities must have the RSSOS matrix prepared and updated
2. Risks must be assessed to each job according to their activity and functions.
3. Application of the methodology developed in the next chapter.

5.5. DEVELOPMENT OF METHODOLOGY

5.5.1. General Background

Performing Risk Identification and Assessment will be based on the probabilistic method for determining the relative severity and danger of each risk, through a Matrix where Severity and Probability concepts will be assessed. To accomplish this, there are three worksheets for the sequential development of the RSSOS assessment.

A preliminary step in Risk Assessment is to prepare a list of work activities to assess by department, briefly describe each activity and identify risks. For the latter, 25 risks are listed (see Annex 1), which are not final, i.e. other risks can be determined and be added to this list.

In the first of the worksheet (see Annex 2) risks of the activities are assessed without considering control measures already implemented by department (s), and setting always the most unfavorable conditions, resulting in the valuation of the **Initial Risk** (or also pure risk). If the result gives **Middle** and **High** risks they pass to the next stage, that is, they must be recorded in the second worksheet.

In the second worksheet, once transferred the information of **Medium** and **High** risks obtained in the first worksheet, all control measures that have been implemented shall be considered for the assessed activity and these must be recorded on the worksheet. Then, considering control measures, **Residual Risk** shall be evaluated (see Annex 3). If in the assessment of these risks **Medium** and **High** results are obtained, then these should be noted in the third worksheet.

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 8 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

Once the information of **Medium** and **High** risks obtained in the second worksheet is transferred, it shall be considered what controls can be taken to minimize the risk so far is giving high or critical; these controls include: Elimination or substitution, engineering controls; training, procedures and means of awareness, personal protective equipment, etc. (see section 5.5.2 of this document). Finally, considering these control measures, the **Final Risk** is assessed (see Annex 4). For this stage of the assessment, risks must be fully controlled, and if still the results of this third worksheet are **Medium** and **High** risks, then the activity shall be checked and stopped.

To end this third and final worksheet, the determination of the Action Plan according to the checks that were considered to control the assessed risk, establishing an order of priorities according to risk estimation and determining for each control measure, responsible person(s), date of establishment and action to be taken.

Risk assessment should be, in general, a continuous process. Therefore, the adequacy of control measures should be subject to ongoing review and change if necessary. Similarly, if working conditions change, and thus vary dangers and risks, Risk Assessment must have to be reviewed.

The following tables describe the various criteria that determine the severity of the consequences and the likelihood of the risk occurrence, and the respective estimation, in order to make a judgment on the tolerability of the risk involved. Once done, actions to follow shall be determined.

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of	Position	Production Manager
Signature		Signature	Production	Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	9 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

Table N ° 1: Table of Severity

Severity	
Catastrophic	Death, permanent disabling injury or illness (or inability to return to work)
Serious	Injury or illness (unable to return to work for a while LTA) that requires more than first aid (inability to return to the same work, light duties or work restriction) with no permanent disability.
Moderate	Injury or illness (may return to work at some point) that may require first aids (may return to the same work, light duties or work restriction).
Minor	No injury or minor injury requiring only first aid (not working time lost)

Table N ° 2: Table of Probability

Probability	
Very probable	It is expected to occur in most circumstances
Probable	Probably it will occur in most circumstances and / or it occurred
Improbable	It may or may have occurred at some point.
Remote	It may occur only in exceptional circumstances

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	10 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

Table N ° 3: Matrix of Significant Occupational Safety and Health Risk (RSSOS)

		Seriousness			
		Catastrophic	Serious	Moderate	Minor
Probability	Very Probable	High	High	High	Medium
	Probable	High	High	Medium	Low
	Improbable	Medium	Medium	Low	Imperceptible
	Remote	Low	Low	Imperceptible	Imperceptible

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 11 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

Table N ° 4: Table of Residual Risk Assessment according to Matrix of RSSOS

The events recorded and estimates must be assessed according to four levels established, which are shown in the following table along with the control actions to be set for each level of risk. The table also indicates that the necessary efforts to control risks and the urgency with which control measures must be adopted should be proportionate to the risk.

Residual Risk	
High	Verify and STOP activity. It requires immediate correction.
Medium	It is necessary to reduce risk as much as possible, immediately develop strategies, goals and objectives at the department level .. When risk is due to a work being performed, the problem must be solved in lesser time than that of low risk.
Low	More profitable solutions or improvements shall be considered that do not involve a significant economic burden. Periodic checks are required to ensure that the effectiveness of control measures are maintained..
Imperceptible	No specific action is required

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	12 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

5.5.2. Risk Control Measures.

As a tool to control risks, a "Hierarchy" of Risk Control shall be considered. They are:

Remove	Total removal of the danger
Replace	Replace the material or process with a less hazardous one.
Redesign	Redesign work equipment or processes
Separate	Isolate hazards through barriers
Manage or Control	Provide controls such as training, procedures, etc.
Personal Protective Equipment (PPE)	Proper use of PPE when other controls are not practical

This is achieved by:

- Objectives, Targets and Occupational Safety and Health Management Plan
- Procedures and Work Instructions
- Training
- Monitoring and Measurement

The action plan should be reviewed prior to implementation, considering the following:

- If new risk control systems lead to acceptable risk levels.
- If the new control systems have created new dangers.
- The opinion of workers concerned on the need and operating capacity of new control measures.

6. CONTROL OF RECORDS

Documents associated with this procedure are:

- Risk Inventory

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 13 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

- Assessment Worksheet of Initial Risk Level
- Evaluation Worksheet of Residual Risk Level
- Assessment Worksheet of Final Risk Level

7. REFERENCE DOCUMENTS

- Document Control Procedure PG-9.5-001
- Planned Task Observation Procedure PG-9.4-OP-01
- Planned Inspection Procedure PG-9.4-IP-01

8. ANNEXES

- Annex 1: Risk Inventory
- Annex 2: Assessment Worksheet of Initial Risk Level
- Annex 3: Assessment Worksheet of Residual Risk Level
- Annex 4: Assessment Worksheet of Final Risk Level

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of	Position	Production Manager
Signature		Signature	Production	Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	14 de 19
Title: RISK ASSESSMENT		Checking: 0	Upgrading Date: 10/30/2007

9. CONTROL OF MODIFICATIONS

Modifications made to this Procedure must be recorded in the following tables:

Revision	Date	Description of Modifications

Rev. N°	Made by	Reviewed by	Approved by	Approval date	Modification made
0	DPR	JPF	EBC	09/2007	
1					
2					

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código:	Page:
		PG-8.1-001	15 de 19
Title:	RISK ASSESSMENT	Checking: 0	Upgrading Date: 10/30/2007

ANNEX 1: RISK INVENTORY

(25 up to now)

N°	RISKS
1	Toxic chemicals
2	Flammable chemicals
3	Corrosive chemicals
4	Explosion (chemical reaction)
5	Explosion (overpressure)
6	Electric (Shock, short circuit)
7	Electric (fire)
8	Electric (static, ESD)
9	Electric (energy loss)
10	Fire/heat
11	Ergonomics (overexertion)
12	Ergonomics (human error)
13	Excavation (collapse)
14	Fall (skids/slips)
15	Fall (Different level)
16	Mechanical/Vibration (friction, fatigue)
17	Mechanical failure
18	Trapped inside

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	



**OCCUPATIONAL SAFETY AND
HEALTH MANAGEMENT SYSTEM**

Código:
PG-8.1-001

Page:
16 de 19

Title: **RISK ASSESSMENT**

Checking: **0**

Upgrading Date:
10/30/2007

19	Hit by
20	Hit against
21	Noise
22	Radiation(Ionizing/non-ionizing)
23	Thermal (heat/cold)
24	Visibility
25	Weather events (Snow/ice/rain and wind)

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

	OCCUPATIONAL SAFETY AND HEALTH MANAGEMENT SYSTEM	Código: PG-8.1-001	Page: 18 de 19
		Title: RISK ASSESSMENT	Checking: 0

ANNEX 3: ASSESSMENT WORKSHEET OF RESIDUAL RISK LEVEL

ASSESSMENT OF RESIDUAL RISK LEVEL											
											
TYPE OF WORK											
N°	Department	Activity	Main Risk	Worst case scenario (injury, illness, body part) ^P	Existing Controls (Written Programs, POP, Training, etc.)	Controls (X= Yes)			Seriousness of scenario	Exposure Probability	Residual Risk
						Training	Procedure	PPE			

Make	DPR AES Gener	Check	José Paredes F.	Approve	Enio Belmonte C.
Position		Position	Assistant Manager of Production	Position	Production Manager
Signature		Signature		Signature	
Date	September 2007	Date		Date	

CONTINGENCY PLAN FOR CONTRACTORS

CONSTRUCTION PHASE

ALTO MAIPO HYDRO POWER PROJECT

May 2008

INTRODUCTION

The purpose of this document is to provide general guidelines for emergency management, which will apply to all contracts for works and / or services that AES Gener SA, hereinafter Gener make with third parties in connection with the construction of Alfalfal II and Las Lajas Hydro Power Plants that are part of Alto Maipo Hydro Power Project o PHAM.

It is important to note that the accuracy of the scope of this document will be defined and formalized by Gener, once tenders are allocated to each contractor works, and considering strategies for the prevention of risks of each of the contractors. However, in no case they will be less stringent than the guidelines outlined here.

1.- PURPOSE

Set the flow of information in emergencies and define guidelines for staff performance in a situation described as emergency, to protect workers, property, the environment and achieve in the shortest term restoration to normality of the work.

2.- SCOPE

This procedure applies to all staff of the work, both as to contractors, suppliers, service providers and visitors, who work in the construction of Alto Maipo Hydro Power Project, who must be properly trained in such a way to know their duties and responsibilities in an emergency, to ensure a correct performance in control of the situation

3. DEFINITIONS

Undesired event: Any unexpected situation that disrupts normal operation of the activities.

Incident: Undesired event that results in death, injury, illness, damage to the health of humans, adverse effects to the environment or community or other loss

Hazard: Any situation or source that has a potential to produce an industrial accident or occupational disease

Risk: Combination of likelihood and consequence of the occurrence of a certain event (impact on people, the environment, property and / or community)

Emergency: It is defined as an unwanted event that seriously jeopardizes the physical integrity of persons, material resources or the environment and to control it existing internal resources are insufficient.

Alert: Notice via the flow of communications that reports the warning status of the organization

Flow of Communications: Diagram showing the course to be followed by the information through the different levels of the organization that operates in a Working Face, Temporary Facilities or, Install or Camp

Leader of the emergency control: Supervisor in charge of planning, organization and control of all

actions necessary to control the emergency: it may be the head of the affected area and / or with the resident Manager.

Evacuation: Action or effect of removing people from a particular place; it usually happens in emergencies caused by various types of disasters, whether natural or accidents.

Evacuation Routes: Places correctly marked to evacuate and move safely, quickly and effectively protecting the integrity of individuals.

Safety Zone: Sector pre - established, safe, spacious, marked and without any risk to persons, being assembled there and once the evacuation was performed

Rescue crew: Qualified and competent staff to act in the first instance in an emergency.

4.- PREVIOUS ACTIVITIES NECESSARY FOR THE APPLICABILITY OF THE EMERGENCY CONTROL PROCEDURE .

For the full development of the emergency control procedures, AES Gener and contractor are required to previously define the following activities:

- Emergency drills and activation of Communication Plan: Drills will be run in conjunction with the contractor and AES Gener in each of the facilities associated with the project, i.e. camps, temporary facilities and working faces. A drill will be coordinated with relevant entities in control of the emergency (police, fire, National Emergency Office (ONEMI), etc). The frequency and duration of the exercises will be determined by both companies, according to the location and type of work to be performed.
- After the execution of an emergency drill, the contractor will evaluate the effectiveness of the communication chain, crisis management and efficiency of human and material resources available. In case of detecting faults in the applicability of the emergency procedure and of the Communication Plan, the contractor, together with AES Gener, will carry out actions to their improvement and optimization.
- The contractor will have the resources and means necessary for the proper implementation of emergency control procedures and the Communication Plan.
- The contractor will train all employees, regarding the contents of the emergency control procedures and Communication Plan. Also, they will be instructed on the role played by each of them in its execution.

Finally, it is important to note that the accuracy of the scope of this document will be defined and formalized by Gener, once tenders are allocated to each contractor works, and considering strategies for the prevention of risks of each of the contractors. However, in no case they will be less stringent than the guidelines outlined here.

5.- PROCEDURE TO AN EMERGENCY ACTION

In an emergency, the following sequence of five steps in staff performance before an unwanted event is established.

.This sequence of steps should be consistent with the flow of communication detailed in the next section..

A.- Emergency extension

Faced with an unwanted event, to give a correct answer, absolute priority is to properly size the situation. For a correct decision it is necessary to be clear when we are facing directly to an emergency or in other circumstances, before an unwanted event that can pass from a controlled situation to an emergency situation.

B.- Magnitude of the event

To determine the magnitude of the event, the following steps must be followed:

- Clearly define the type of event, whether it is fire, accident, landslide, flood, etc., which allows for adequate resources for the response.
- Identify the products and substances involved, the risks of which must be previously established in the critical inventory of the work.
- Identify potential risks of the event.
- Sort the magnitude of the event, which determines the scope of the communication flow. Consider the following:

Mild. - The event produces only material damage and no harm to others. It is easily controlled with its own resources.

Serious. - There are people injured and property damage, minor external damage and environmental effects in limited areas. For control of the event it is necessary to resort to external resources. The flow of communication should reach the levels of Safety and Health Department of AES Gener, administration body.

Severe. - The event causes severe injury, death and / or property damage, severe external damage, severe alterations of the environment in large areas. Its control is complex and all necessary internal and external resources must be available. The flow of communication should reach the maximum level of the Organization.

C.- Response to unwanted event

Once defined the magnitude of the unwanted event a response shall be given immediately with the resources available at the scene. According to the classification of the event we must consider the following:

Classification as Mild: In case of unwanted events classified as Mild, action must be taken as quickly as possible and you have to:

- Control the situation with locally available resources.
- Report alertness, according to what is indicated in the flow of communications..
- Ensure full control thereby declaring a state of emergency is avoided.

Classification as Serious: In unwanted events classified as Serious and if the situation can be controlled you have to:

- Control the situation with locally available resources.
- Report alertness.
- Ensure full control thereby declaring a state of emergency is avoided.
- Using outside resources if necessary (ambulances, not available equipment, etc.)

If the situation evolves and begins to exceed the power of local control you have to:

- Raise the alarm immediately by declaring a state of emergency.
- Evacuate to a safe place.
- Isolate the impact zone immediately, using external resources if needed.

Classification as Severe: Faced with unwanted events classified as Serious, you have to:

- Raise the alarm immediately and declare a state of emergency.
- Evacuate to a safe place.
- Isolate the impact zone immediately, using external resources if needed.

D.- Emergency response.

D.1 Activation of the state of emergency

The person who faces an unwanted event should properly assess the situation. Once assured that the situation is really an emergency or that the response given to the event was not enough and control is quickly being exceeded, the alarm will activate the emergency. He must proceed to:

- Identify.
- Report the precise location of the emergency.
- Define the type of emergency (fire, landslide, floods ...)
- Classify the emergency (mild, serious, severe).
- Indicate if there are injuries, if there is damage to the property, if there is damage to the environment, if there is a risk of explosion and the actions taken to control the situation.

D.2 Immediate action.

Once the state of emergency has been activated, an immediate response should be given; staff must act in this area. For this we must consider the following:

- Form rescue and control crew with available resources (trained personnel) in the scene.
- Identify and act in the place or point of the problem.
- Protect crew members using personal protection.

D.3 Procedure of emergency control

For the attack and ultimate control, the scene should be properly analyzed and then jointly defined the most appropriate procedure to address the emergency, considering the following:

- Dimension more accurately the situation and to estimate the consequences.
- Once having sufficient information, you must define the actions that will, step by step, allow giving a methodical and strong response to the situation.
- Generate alternatives to control deviations or worsening of the situation.

- Define the necessary human and material resources, and external support, to address the situation appropriately.
- Decide the protocol to allow more appropriate management of information.

D.4 Organizing the team

Good organization of the human group to face the emergency is essential for control. People with expertise and proficient enough to avoid unsafe acts that may aggravate the situation should participate. It is therefore necessary to accomplish the following:

- To form and train the team that will act at the final control of the emergency, with appropriate personnel both own and external.
- Assign responsibilities and strengthen leadership, avoiding contradictions and dualities that damage control.
- Implement appropriate response group with internal and external resources according to the type and magnitude of the emergency.

D.5 Entry and control to the damage area

Entry to the damage area must be strictly controlled to avoid unnecessary exposure to the risks. It is necessary to:

- Compulsorily use appropriate personal protective equipment.
- Allow enter the area only of personnel in charge of the emergency control.
- Monitor if necessary.
- If there is a fire, possible explosion or toxic gas emissions, prohibit entry to the area.
- Maintain constant communication.
- Move away from the damage area any person outside of the work group.
- Have a clear escape route in case of danger.
- Provide timely information necessary to the appropriate authorities

E.- End of the emergency.

You must define the conditions to decree the end of the situation that created the emergency situation and upon meeting give the information to the appropriate authority. Finally, we must make a thorough investigation of the unwanted event, collecting all possible evidence in order to make corrections and prevent further occurrence.

8.- EMERGENCY CONTROL PROCEDURES

All potential emergencies identified for the construction phase of Alto Maipo Hydro Power Project and the sequence of actions to be executed by the contractor, for control and mitigation are described in detail below.

Notwithstanding this, and once works contracts are awarded, each contractor must reassess his respective work and its associated potential emergencies, and specify the measures to control them. This reassessment, in any case involves actions less restrictive than those indicated here.

AES GENER S.A. EMERGENCY PROCEDURES		
EMERGENCY IDENTIFICATION FIRE		<p>Occurrence of uncontrolled fire that can be extremely dangerous for people, private property and natural resources. Exposure to fire may cause death from smoke inhalation or faintness caused by it and later her severe burns.</p>
PLACES OF RISK	<p>Areas of storage of flammable substances in temporary facilities and camps.</p>	
EMERGENCY CONTROL MEASURES	<ul style="list-style-type: none"> - Fire alarm will be activated. - Communication Plan will be activated. - Fire procedure, including the presence of the Emergency Brigade with their respective personnel protection elements will be activated. - The damage area will be evacuated and admission to all staff will be prohibited. - The area will be inspected for injuries. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - The Emergency Brigade shall perform the actions to try and control the emergency by using fire extinguishers or other fire extinction elements (only if the accident is controllable). - If the situation cannot be controlled with own resources, firefighters shall be immediately notify and workers evacuated to safe areas. - Activities shall be reactivated once the incident is under control. - A full investigation of the unwanted event will be conducted, collecting all possible evidence in order to make the corrections accordingly and prevent further occurrence. 	

AES GENER S.A.		
EMERGENCY PROCEDURES		
EMERGENCY IDENTIFICATION		The avalanche risk refers to the mass movement that moves sharply up the slopes of a mountain, dragging large amount of rocky material, snow and ice.
AVALANCHE		
PLACE OF RISK	In temporary facilities, work faces, and camps in the area of Volcán River and Yeso River.	
EMERGENCY CONTROL MEASURES	<ul style="list-style-type: none"> - Avalanche alarm will be activated. - Communication Plan will be activated and the arrival of the Emergency Brigade. - The evacuation procedure will be activated and admission to all staff will be prohibited. - The area will be inspected for injuries. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - The construction works shall only be reactivated when ONEMI or police has informed the Project Manager that the area is safe. - A full investigation of the unwanted event will be conducted, collecting all possible evidence in order to make the corrections accordingly and prevent further occurrence. - A safety and health specialist will inspect the area, demarcating risk areas. The practitioner will determine whether to relocate facilities is convenient. If this were the case, the relevant authorities will be informed. 	

AES GENER S.A.		
EMERGENCY PROCEDURES		
<p>EMERGENCY IDENTIFICATION</p> <p>MATERIAL SLIDES</p>		<p>It corresponds to the downward movement of a volume of material composed of rock, soil, or both. The types of movements correspond to: rockslide ("rock fall"), lodging ("toppling"), slip, dispersion ("spread") and flow.</p>
<p>PLACE OF RISK</p>	<p>It will be present during cutting activities of land and rock, for constructing roads or work platforms and during excavation activities for the construction of works such as canals, bridges, siphons, water intakes, etc.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - Communication Plan will be activated. - The evacuation procedure will be activated and admission to all staff will be prohibited. - The area will be inspected for injuries by qualified personnel. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - Depending on the magnitude of the collapse, the works will be stopped immediately and, if applicable, all personnel will be evacuated to safe areas. Works will only be activated when the safety and health expert of the work, after the necessary consultations with specialists (engineers, geologists), has informed the Head of the Project that the area is safe. - A full investigation of the unwanted event will be conducted, collecting all possible evidence in order to make the corrections accordingly and prevent further occurrence. - The safety and health specialist will inspect the area, marking risk areas, and will recommend altering the layout or the relocation of the work, as applicable. 	

AES GENER S.A. EMERGENCY PROCEDURES		
EMERGENCY IDENTIFICATION SEISMIC EVENT		Earthquake or ground shaking produced by internal causes.
PLACE OF RISK	In all Project facilities.	
EMERGENCY CONTROL MEASURES	<ul style="list-style-type: none"> - Communication Plan will be activated. - The evacuation procedure will be activated. - Workers should be directed to the area of security and they will wait for instructions of trained staff. - Once the event occurred, the area shall be checked for injuries by qualified personnel. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - Depending on the damage, works will be stopped immediately and if it is relevant all personnel will be evacuated out of the work area. - Works will only be activated when the safety and health expert of the work, after the necessary consultations with specialists has verified that all facilities have not been damaged and are out of danger. - Once an earthquake has been produced, Gener shall proceed to assess the damage in the physical structure of the collection, conduction and storage works, roads and other construction, establishing repair procedures. <p>A complete description of the response to the emergency shall be made, gathering all possible evidence in order to make the corrections accordingly and improve procedures.</p>	

AES GENER S.A.
EMERGENCY PROCEDURE

<p>EMERGENCY IDENTIFICATION</p> <p>CHEMICAL SPILL</p>		<p>This refers to the accidental spillage of hazardous substances or fuel (as listed in DS 382/2004), on natural resources like water and land, or buildings. (oils, lubricants and paints)</p>
<p>PLACE OF RISK</p>	<p>Temporary facilities, camp and working faces.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - Communication Plan will be activated. - The evacuation procedure will be activated. - The area will be inspected for injuries and environmental damage by qualified personnel. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - The affected soil shall be promptly cleaned and removed. - To this end, each installation will have the necessary implementation for removal of spilled material, whether shovels, machinery, pumps, temporary storage tanks as required. Also, the procedures set out in the Safety Data Sheet shall be followed. <p>While it is anticipated that any accidental spill will have a low or mild magnitude, considering the type and quantity of hazardous materials that exist in temporary facilities, there will be response procedures for these events, so as to cause the least impact.</p>	

AES GENER S.A. EMERGENCY PROCEDURE		
<p>EMERGENCY IDENTIFICATION</p> <p>TRAFFIC ACCIDENT</p>		<p>A traffic accident is an accident in which at least one car or other transport vehicle is involved.</p>
<p>PLACE OF RISK</p>	<p>Public roads and service roads built by the Project.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - Communication Plan will be activated. - The area will be inspected for injuries by qualified personnel. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - The affected area shall be marked, prohibiting entry into the area of accident. - .After controlling the situation, the road shall be restored. - A complete description of the response to the emergency shall be made, gathering all possible evidence in order to make the corrections accordingly and improve procedures. 	

AES GENER S.A.		
EMERGENCY PROCEDURES		
EMERGENCY IDENTIFICATION EXPLOSION		<p>Abrupt release of a large amount of energy enclosed in a relatively small volume, which produces a rapid and violent increase of pressure, with release of heat, light and gases</p> <p>..</p>
PLACE OF RISK	<ul style="list-style-type: none"> - Transportation of explosives - Explosive storage places: Magazines - On work faces where works of tunneling are performed. 	
EMERGENCY CONTROL MEASURES	<ul style="list-style-type: none"> - In case of accidental activation of explosives handling or storage of these, Gener will make complete evacuation of the personnel from risk areas, and works will be stopped in the area concerned, until the safety and health expert of the work, upon report of the company specializing in explosives, determines that there is no risk. - Communications Plan, which specifies, depending on magnitude of the accident, the persons that shall be informed, will be activated. - Staff of a specialist subcontractor shall inspect the area and determine if the potential risk remains, and take the necessary security measures to prevent future accidental explosions. - It shall be verified if there are people who have been affected by the explosion. If required, appropriate elements to protect life and health first of such persons shall be used. For this, in each working face, there will be necessary implementation for first aid. 	

AES GENER S.A. EMERGENCY PROCEDURE		
<p>EMERGENCY IDENTIFICATION</p> <p>FALL TO DIFFERENT LEVEL</p>		<p>Accident generated by working at height or different levels. Depending on its size, this type of accident can result in injury, disability, or death.</p>
<p>PLACE OF RISK</p>	<p>Temporary facilities and working faces.</p>	
<p>EMERGENCY CONTROL MEASURES</p>	<ul style="list-style-type: none"> - Communication Plan will be activated. - The area will be inspected for injuries by qualified personnel. If this is the case the person will be transferred immediately to a hospital. - The emergency will be dimensioned. - The event will be classified (mild, serious, severe). - Depending on the magnitude of the event, the works will be stopped.. - The affected area shall be marked, prohibiting entry into the area of accident. - After controlling the situation, the execution of the works shall be restored. - A complete description of the response to the emergency shall be made, gathering all possible evidence in order to make the corrections and improve procedures. 	

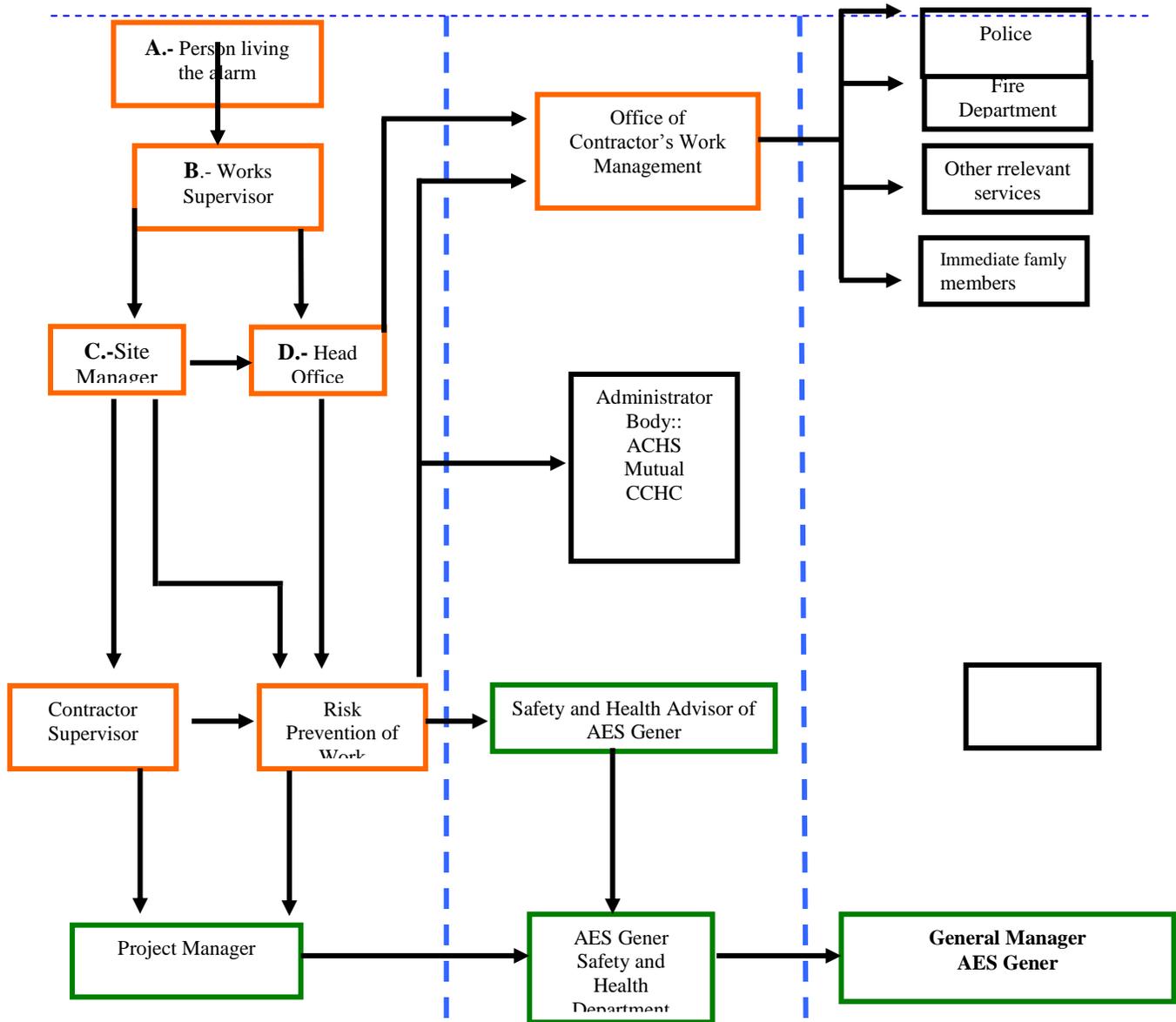
6.- COMMUNICATION PLAN

The Communication Plan refers to the actions and measures to provide each worker transmission and reception procedures that will be activated in an emergency.

6.1 COMMUNICATION DIAGRAM

A flow of communication is established according to the classification of emergency in order to achieve an efficient and effective exchange of information within the corresponding limits in each case. In the following figure, the flow of communications to an emergency situation is illustrated:

Figure 1
Communication Diagram



Mild: Only property damage and no damages to third parties

Serious: There are injuries and property damage, minor external damage or in limited areas.

Severe: Injuries and property damage, serious deterioration of the environment in large areas.

Associated with this flow of communications, there are the following functions and roles;

A. Person giving the alarm

Inform the Works Supervisor, once the emergency has been produced.

B. Works Supervisor

- After receiving the alarm, immediately inform to the Site Manager, and the operator of the Contractor head officer, reporting the type of emergency and its dimension.
- Go to the place of emergency.
- Take command as leader until the arrival of the Site Manager.
- Define, in conjunction with the Site Manager, the most appropriate procedure for the type of emergency.
- Apply the procedure to overcome the emergency.
- Maintain update information of the situation.

C. Site Manager

- After receiving the alarm, immediately inform to the Contractor Supervisor, the Safety and Health Expert and the operator of the Contractor head officer.
- Go to the place of emergency.
- Estimate the situation and provide more complete information:
 - i) Type and classification of emergency.
 - ii) Type of injury and/or possibility of further injuries.
 - iii) Identity of the injured..
 - iv) Type of material damage and possibility of further damages.
 - v) Environmental damage or potential damages.
 - vi) Degree of control of the emergency.
- Take command as a leader and define team formation facing emergency.
- Take charge of the situation, taking the first steps and deliver first coordination for emergency control.
- Define, in conjunction with the Works Supervisor, the most appropriate procedure for the type of emergency.
- Considering the seriousness of the situation, seek external support necessary to control the emergency (Police, Fire Department, Mutual Insurance Association etc.)
- Maintain update information of the situation.
- Define, in conjunction with the Safety and Health Expert and the Contractor Supervisor, the conditions to overcome the emergency.

D. Head Office

- After receiving the first alarm, immediately inform to the Safety and Health Expert of the company, activating the flow of communication.
- Communicate, according to the type and classification of the emergency to management office of the Works, who in turn reports to local Police, Fire Department and family members of the injured.
- Communicate, according to the information received, the following:
 - i) Type and classification of emergency.
 - ii) Type of injury and/or possibility of further injuries.
 - iii) Identity of the injured..
 - iv) Type of material damage and possibility of further damages.
 - v) Environmental damage or potential damages.
 - vi) Degree of control of the emergency.

E. Contractor Supervisor

- Go to the place of emergency.
- Communicate, according to the type and classification of the emergency to the Safe and Health Inspector of the company.
- Communicate, according to the type and classification of the emergency, the Project Manager of AES Gener, who in turn reports to the Health and Safety Department and the General Management of AES Gener.
- Define and designate, in conjunction with Works Supervisor and Site Manager, the most appropriate procedure for the type of emergency.
- Define, in conjunction with Site Manager, the necessary human and material resources.
- In coordination with the Health and Safety Expert, define the external information protocol, in compliance with the procedures established by the client.
- Deliver official information, if required, to media after consulting general management. Report to whom it may concern compliance with the conditions leading to the end of the emergency.
- Check and make emergency final report, together with the Health and Safety Expert of the work.

F. Safety and Health Expert of the Work

- After receiving the alarm, immediately inform to the Project Manager of AES Gener.
- Go to the place of emergency.
- Considering the classification of emergency, report to the Administrator Body (Chilean Safety Association, Mutual or another related entity) and the administrative office of the contractor. Also, notify the Health and Safety Department of AES Gener.
- Make the necessary arrangements respecting the procedures of the client, with:
 - Environment Authority.
 - Health Service Authority.
 - Municipal Authority.
 - Fire Department.
 - Police.
 - Other services responsible for emergency control.
- Define, in coordination with Contractor Supervisor, the external information protocol, in compliance with the procedures established by the client
- Participate in defining the conditions that must be met to end the emergency.
- Coordinate with the leader in charge of the situation, measures to overcome the emergency.
- Check and make emergency final report of the emergency, together with the contractor supervisor.

6.2 EMERGENCY NUMBERS

Below there is a list of those numbers to be contacted in case of emergencies. This list will be supplemented and updated prior to the start of the construction phase of the project.

Unit	Address	Phone
Asociación Chilena de Seguridad (ACHS)	Ramón Carnicer 201 Providencia (Emergency) Teniente Bello N° 135, Pte Alto	685 3000 850 00 23 1404(AMBULANCES)
Mutual de Seguridad	Avda. Lib. Bdo. O'Higgins N° 4848, Santiago	7764795-6775322
Instituto de Salud del Trabajador (IST)	IST Santiago, Placer 1410	5569266-8107821
Hospital San José de Maipo	Comercio N° 838	861 22 56-8611104
FIRE DEPARTMENT	2ª Compañía San José de Maipo 14ª Compañía Los Leones 1875	8611530 - 8611052
POLICE	Subcomisaría Camino El Volcán N°19333 Retén San Gabriel Camino el Volcán S/N	8611088 - 8612290 8611946
Air rescue	Km. 11, Road 68, Pudahuel	800-8011131-6409313
ONEMI (NATIONAL EMERGENCY OFFICE)	Beaucheff 1637/ 1671, Santiago	252 4200

CONTRACTOR COMPANIES RISKS PREVENTION PLAN

CONSTRUCTION STAGE

ALTO MAIPO HYDROELECTRIC PROJECT

May 2008

INTRODUCTION

The purpose of this document is to provide the Risk Prevention regulatory provisions which will apply to all works and/ or services contracts that AES Gener, hereinafter Gener, will enter into with third parties in the scope of the construction of the Alfalfal II and Las Lajas Plants, forming part of the Alto Maipo Hydroelectric Project, hereinafter the Project or PHAM, so as to safeguard the physical integrity of the people giving services in their execution as well as prevent those accident risks endangering both Gener's human and material resources.

The application of its provisions is mandatory for all people who may be participating in the construction work of the Project, Contractors or subcontractors. In this sense, Gener reserves the right to control the regulatory provisions indicated in this Document.

It should be stressed that the detailed precision of the scopes of the present document will be defined and made official by Gener once the bids will be assigned to each Contractor, and taking into consideration the strategies in the matter of risk prevention of each of the contracted enterprises. This in any case may not be less strict than the guidelines stated herein.

1. PURPOSE

Establish the risk prevention provisions and measures that will govern the work of the Contractor and its workers.

2. SCOPE

This Plan will apply to all the Works personnel of the Contractor working in any of the worksites and/or activities or services which will be carried out for the construction of the Alto Maipo Hydroelectric Project.

3.- DEFINITIONS

- i. **Contractor Company:** Natural or juridical person who, by virtue of a contract, assumes obligations to execute material work and/or give services to Gener.
- ii. **Risks Prevention Department:** Is the Gener area in charge of planning, organize, execute and supervise permanent action to avoid labor accidents and professional diseases.
- iii. **Project Manager** the Gener employee in charge of the contracted work and/or service.
- iv. **Risks prevention consultant of the Project:** Gener employee in charge of supervising aspects related to the safety and risk prevention of the contracted work and service.
- v. **Contractor Supervisor:** Employee of the contracting Company in charge of the contracted work and/or service, having sufficient authority and autonomy to solve the problems that may arise at the Works. The Supervisor shall have certifiable experience in similar positions and Gener reserves the right to reject the Supervisor if he does not comply with the minimum requirements.
- vi. **Dangerous Substances:** Those substances defined in the Official Chilean Norms NCh382.Of89 and NCh2120/1 to 9 Of89 will be considered as dangerous.
- vii. **Mutual:** Institution which administers the social security funds against labor accidents and professional illnesses in conformity with Law N° 16.744.
- viii. **Contractor personnel:** All workers depending from a Contractor.
- ix. **Project facilities:** All buildings, grounds or areas destined to some works, activities and/or services, within the scope of the construction of the Alto Maipo Hydroelectric Project, such as camps, work installations, work faces, etc.

- x. **Incident:** Undesirable event that could deteriorate or deteriorates the efficiency of the entrepreneurial operation, the most common types are:
 - o **Accident:** Undesirable event resulting in physical damage to people, damage to property, loss in the processes and/or damage to the environment.
 - o **Deteriorating incident:** Undesirable event resulting in non-accidental losses, such as robbery, fines and environmental damages.
 - o **Quasi-accident:** Undesirable event which, in slightly different conditions, could have resulted in physical damage to people, damage to property, loss in the processes and/or damage to the environment.
- xi. **Danger:** Any situation or source having the potential to produce a labor accident or a professional illness.
- xii. **Risk:** Combination between probabilities and consequences of the occurrence of a specific event.

2.- GENERAL PROVISIONS OF THE RELATIONSHIP BETWEEN GENER AND THE CONTRACTOR COMPANY

The following are the general provisions regulation the relationship between the Company and the Contractor concerning risk prevention. These will be first regulated by the provisions and legal requirements applicable to the matter, and in the second place by the directives that govern the Company in the framework of its risk prevention vision and policy

2.1. Legal provisions

- All Contractors shall fully comply with Law 16.744 concerning Labor Accidents and Professional Illnesses.
- All Contractors shall have a Hygiene and Safety Joint Committee, whose functions and conditions will comply with the indications of Law 16.744 concerning Labor Accidents and Professional Illnesses.
- All Contractors are bound to establish and keep up to date an Internal Labor Hygiene and Safety Regulations, according to the indications of Title V of D.S. 40/1969: "Professional Risks Prevention Regulations.

- Every Contractor is bound to have a Risks Prevention Department whose function and organization conditions shall follow the provisions of Title III and IV of D.S. 40/1969: "Professional Risks Prevention Regulations.
- All Contractors shall ensure that in all the work faces, work installations, camps and in general in all areas prepared for the execution of some work, the requisites contained in D.S. 594/98 "Basic Sanitary Conditions in Work Places" are complied with.
- The Risk Prevention actions as developed by each of the sub Contractor Companies will be coordinated and defined according to the Special Regulations for Contractors and Subcontractor Companies, according to what is set forth in Art. 7 of Law 20.123 about subcontracting. In this sense, every contractual relationship between the Gener enterprise and the Contractor and subcontractor Companies will be regulated by that law, especially those matters related to the subcontracting regime and the work of transitory service Companies.

2.2. Gener General Provisions.

2.2.1 Affiliation to a Mutual Security Institution .

- Every Contractor shall be affiliated to a Mutual Security Institution (Mutual de Seguridad), fact that shall be informed to the Project Manager and its personnel at the time of hiring. Besides, it shall certify that payments of the security quotas are up to date, submitting the corresponding certificates.

2.2.2 Risk Prevention Handbook for Contractor Companies

- All the Contractor Company personnel should know and follow the provisions contained in the Risks and Contingencies Prevention Handbook for Contractor Companies. To this end, the Contractor Company shall give a lecture to explain the scope of it to its workers.
- To the effects of the application of this Handbook, the subcontractors and their personnel will be considered as personnel depending from the Contractor that signed a contract with Gener

2.2.3 Safety meetings and inspections

- The Contractor shall hold weekly safety meetings with its employees. If any concern arises about safety, the Contractor should solve it at once. The Contractor will leave a record of the information gathered during the safety meetings (the date, attendees matters examined and remarks) in a **Safety and Hygiene Record Card** (this card shall be requested from the Project Manager. One copy of this card shall be delivered to the Project Manage.

- The Contractor shall carry out inspections of the activities of its workers at least once a week. If some substandard condition should be detected, the Contractor Supervisor should try to solve it at once. The inspections shall be documented in the **Contractor Control Card**.
- The control measures and the corrective action taken should be indicated. The Supervisor in charge of the Gener work will carry out a follow-up to ensure that all the corrective actions will have been implemented.

2.2.4 Accidents and incidents at the Works.

- The Contractor Company should keep up a safe and healthy environment from start to end of the works.
- Accident prevention shall be integrated to the execution of the works by means of an activities program to guarantee the maximum protection to the physical safety and health of the workers.
- Should an accident or incident take place, the Contractor Supervisor shall inform the Project Manager at once about the occurrence. This information can be given by telephone or e-mail. Work shall stop until the Project Manager authorizes its resuming.
- The Contractor Company shall submit a written report of any incident occurring at the works, and to this end the report should contain the following at least:
 - i. The type of accident or incident. (Route, accident, quasi accident, incident, etc.)
 - ii. Name and ID number of the injured party (if any), equipment, process or environment.
 - iii. Date and time of the accident or incident.
 - iv. Birth date and hiring date.
 - v. Exact place of the accident.
 - vi. Description of the event.
 - vii. Analysis of the causes, explaining clearly the immediate and basic causes that originated it.
 - viii. Control measures adopted to avoid it happening again, and follow-up.

This shall be subscribed by the Contractor Supervisor.

- Control measures are an obligation entered into by the Contractor Company, to correct the elements or conditions that caused or facilitated the incident or accident. And which, if not corrected, enable the Project Manager to impede the resuming of the works. This

situation will be at the total cost of the Contractor and does not contemplate any compensation in price or time on the part of Gener.

- The written accident report shall be delivered to the Project Manager in a period no longer than 48 hours after the accident occurred.
- Stop the work should a severe or fatal accident occur.

2.2.5 Contractor's Supervision

The Contractor shall appoint at least one Supervisor at the work site, permanently for the whole period of the work. The Supervisor shall have verifiable experience in similar positions to the work he will carry out, and Gener reserves the right to accept or reject the Supervisor proposed by the Contractor.

2.2.6 Identification of the Contractor's personnel:

- Every Contractor shall deliver to the Project Manager, at least 2 working days before the start of the works, The following antecedents of each one of the persons who will enter the Gener premises or works, so as to prepare the pass cards:
 - i. Name and antecedents of the Contractor Company.
 - ii. Name of the Works or operation to which it is destined.
 - iii. Date of beginning and end of the works or operation.
 - iv. Full name and surname
 - v. ID number of the workers
 - vi. Home address
 - vii. Telephone
 - viii. Class D personal police record.
 - ix. Date hired by the Contractor Company.
 - x. Position, classification, profession or job.
- The Contractor shall certify, before starting the work, that its workers are in good physical conditions to work, this will be certified by medical examinations carried out by the Mutual institution to which the Contractor belongs.
- These examinations will vary according to the risk to which the worker will be exposed, but at least it shall include a medical examination for work at High Altitude. The Gener Project Manager will indicate the other examinations required.

- The Contractor shall comply with the provisions imposed by Decree 287 of the Labor Directorate dated January eleven 1996 and obtain the corresponding authorizations to be delivered to Gener.
- A safety lecture shall be given, giving prior notice to Gener and before starting work, according to D.S. N° 40 (Right to know), where all the workers shall be advised about the risks to which they will be exposed and the control measures to taken to control them. This lecture shall be documented clearly indicating the date, full name, I.D. and signature of the attendees. Matters dealt with or dangers explaining during the meeting and the full name. Position and signature of the lecturer. The lecture shall be given by a Risks Prevention Expert or a Supervisor of the Contractor Company. Gener reserves the right to reject the lecture if it considers that the person who gave it does not have the necessary expertise or the matters dealt with are not the risks or dangers of the work.
- All thee personnel of the Contractor Company will be required to use an identification system, based on individual cards with photograph, which shall be supplied by the Contractor Company. This card shall be delivered, together with all the data required, to the Project Manager for checking and approval.
- The Project Manager, after checking all the data delivered by the Contractor will send to Gener's administration the list of the authorized personnel, so as to validate the pass cards.

2.2.7 Entry to the PHAM facilities

- Entry to the Project facilities will be forbidden to those persons who, by observation of the lodge or surveillance personnel, show evident signs of being under the influence of alcohol or drugs.
- Carrying weapons of any kind is forbidden within the Project facilities.
- All the heavier tools, machinery, supplies and in general anything used for the Project shall enter the Project facilities with the corresponding waybills of the Contractor Company, complying with the provisions that the Internal Revenue Service would have set to that effect (waybills stamped by the SII, not just any bill). The Project Manager will check that all the tools, machinery will be in good condition according to Gener's standards. Then the Project Manager will file the waybill to keep it until the tools, etc. are removed from Gener's facilities.
- The entry or exit with bundles, packages, elements, materials or others from any facility of the Project without a waybill showing the contents, this to be checked by Gener. The lodge /surveillance personnel will check the contents as described in the document.
- Any person entering or leaving the facilities of the Project taking equipment, tools, work elements, etc. which are his own, of Gener or of the Contractor property, shall have an authorization from the Project Manager who authorized the Contractor and shall have the corresponding waybill.
- Every person is responsible for the equipment, materials, tools or others whether their own or supplied according to his work. Gener is not responsible for any loss of machinery, tools, equipment, materials or personal effects that are not its property.

2.2.8 Statistics

- The Contractor Company shall keep updated accident statistics according to the provisions of DS N° which approves the Regulation on Prevention of Professional accidents.
- No later than the third working day of the following month, the Contractor Company shall deliver the following information to the Project Manager:
 - i. Total workers during the month, advised to the Mutual Company;
 - ii. Total man-hours effectively worked.
 - iii. Total accidents and incidents occurred during the month, indicating day of the event and day of medical release.

2.2.9 Shifts and working hours:

- The Contractor will indicate the shifts and working hours for each facility associated to the construction of the project, these shall follow the legal provisions, especially as to the number of hours and distribution of the shifts.

2.2.10 Environmental conditions

- The Contractor and subcontractor shall comply with all the legal provisions linked to the care of the environment and those given in each by Gener in each specific case and in all tasks for the construction of the Project.
- For all the works, the Contractor Company shall deliver beforehand to Gener all the information concerning the use and handling of dangerous substances as well as of the residues produced by the contracted work or service.
- All the dangerous substances that the Contractor Company brings into the project facilities shall be clearly labeled and accompanied by their corresponding safety sheet. The entry of recipients or containers (bottles, cans, bags, aerosols and/or tanks) of dangerous substances that do not bear the corresponding labels according to Chilean norms will NOT be allowed.
- Gener reserves the right to inspect and check the content of the containers and approve the storage conditions. The Project manager will inform the Contractor Company about any detected non-compliance with the applicable laws on the matter. Non-compliance to the national or to the internal Gener norms on the part of the Contractor Company will enable Gener to stop the entry of the dangerous substances until the violation to the norms will have been corrected.
- The Contractor shall inform about the dangerous substances that he may need to bring into the project installations to carry out the work. To this effect, three (3) copies of the Safety Data Sheets shall be provided, to be checked by the Project Manager assisted by the Chemical and Risk Prevention Areas.
- When it should be necessary to use materials or elements that can generate dangerous residues, the Contractor should inform about this Gener in good time indication as well the measures that it will take for the treatment and final disposal of the residues according to the norms in force.
- Once the works are started the Contractor shall inform the Project Manager whenever he requests it, the origin, type, storage and final disposal of the residues produced as a result

of the contracted tasks. The Project Manager can object and request that the handling of the residues be studied again.

- It is absolutely forbidden to throw any element or residue to the ground, to the toilets discharge, the sea, the streams, lakes, rivers, etc.
- It is absolutely forbidden to clean the equipment or machines of the Contractor within the project facilities in such a way that could generate dangerous residues or contamination of the grounds.
- The tasks of lubrication of the equipment and machinery shall be done taking the utmost care not to cause spillage. Should this occur, the Contractor shall carry out their containment with the adequate elements and proceed to the cleaning and disposal of the spills. The cleaning and disposal costs will be fully borne by the Contractor.
- The use of water for clearing causing dragging of solid or contaminating matter to the storm sewers is strictly forbidden. If this task is necessary, the prior authorization of the Project Manager will be required.
- If spillage should occur, the Contractor shall inform the Project Manager besides carrying out containment at once, to avoid greater contamination.
- To this end, the Contractor Company shall have the adequate elements for the containment, cleaning and final disposal of the spilled substances.
- The Contractor Company shall inform the Project manager about the destination of the residues or sub products that may be generated during the carrying out of the tasks.
- The Contractor Company will be responsible for all the expenses and costs implied in the cleaning and final disposal of the dangerous residues belonging to it.
- The Contractor Company shall clean all dangerous substances residues left from their use. The cleaning, recycling and final disposal of the dangerous substances residues shall be informed to the Project Manager.

3.- RISKS PREVENTION RESPONSIBILITY

- The Risks Prevention of Accidents and Professional Diseases is considered by Gener as a Priority activity and strongly linked to the production process and the responsibility for this activity corresponds to all the workers,, both of its own and of the Contractors.

- The contractor's supervision will be responsible for the prevention of accidents risks which can be originated by the works or services under its responsibility, and also of taking all the necessary measures tending to eliminate the causes that can originate accidents.
- The contraction shall have a minimum instruction program for its personnel, which shall include the following:
 - i. Instruction about the work to be carried out by the workers, where the line management will give to its personnel complete work training, besides starting and ordering the work.
 - ii. Instructions about the Risk Prevention norms that the worker shall follow and comply with during the development of his functions. (This matter to be comprised in its own Order, Hygiene and Safety Regulations).
 - iii. Make the AES Gener Risk Prevention Regulations for Contractor Companies known to all its personnel.
 - iv. Gener will audit the compliance with these obligations, requesting the minutes where the reception of these instruction by the personnel will have been certified.
 - v. Certified instruction of the psycho-senso-technical examinations for the drivers and equipment operators.

4.- SAFETY RULES

- The Contractor shall have in the work installations, work faces and camps all the necessary installations to comply with Decree N° 594 of September 15, 1999, which established the Basic Sanitation and Environmental conditions in the work places.
- The Contractor shall ensure that its personnel will have the adequate work clothes as well as their correct presentation and the respective personal protection elements.
- The personnel of the Contractor cannot transit to any zone or work area that will not correspond to that where it works, or give access to them. For any adjacent area or sector that the Contractor may wish to use, the pertinent authorization of the Project Manager shall be obtained.
- The Project Manager will inform the Contractor supervisor of any transgressions to the safety standards that may be detected, so that the supervisor may take the suitable actions to solve the problem. As long as the infractions are not solved, the Project Manager may impede the reassuming of the work; this situation will be at the total cost of the Contractor and will not contemplate any compensation in price or time on the part of Gener.

- Order and cleanliness of the respective work areas shall be kept at all times, as well as in the place where the materials or tools will be kept.
- In the case of an incident or accident of the Contractor's personnel, fire outbreak or any other abnormal situation at the worksite, the Contractor shall report the fact at once to the Project Manager or to the nearest Gener worker, according to the procedures indicated in the Emergency Plan for Contractor Companies.
- Besides, it shall deliver a written investigation report about the accident no later than 48 hours, where the causes of the occurrence will be clearly determined and the control measures taken to prevent another accident.
- The Contractor's personnel shall not obstruct in any way the access to the extinguishers, the fire hose cabinets or other firefighting elements, emergency stations for eye washing and showers, emergency equipment for spillage or other equipment related to safety.
- The Contractor's personnel shall not block the passages, roads or emergency exits.
- The prevention procedures shall be followed when loading fuel within the project installations, and obtain prior authorization from the Project Manager.
- In case of accident or fire outbreak, the Contractor's personnel shall follow the response procedures, attached to the Emergency Plan for Contractor Companies.
- The Contractor will report to the Project Manager any situation or event that could cause damages, stopping the work affected at once.
- It is strictly forbidden to the entire Contractor's personnel to operate machinery or equipment owned by Gener without authorization and training by the Project manager or whoever he appoints.
- The work places shall have natural or artificial lighting adequate, the latter shall be sufficiently intense (According to Decree N° 594).
- The workers are forbidden to travel as passengers upon heavy machinery or the parts of the vehicles destined to loading only. The materials loaded upon trucks shall be well shored up and balanced and according to the capacity of the vehicle. Excess loads that may put people in danger when moving around the worksite will not be allowed.
- Contractor Companies shall develop risk control procedures for the following operations, according to their activity:
 - *Light vehicle driving

- *Operation of surface mobile equipment
- *Operation of underground mobile equipment
- *Handling of dangerous substances
- *Execution of work upon heights
- *Hoisting operations

5.- PERSONAL PROTECTION EQUIPMENT

- It is the obligation of the Contractor to provide all the personal protection equipment for its workers, as well as all other additional and special equipment, accessories and implements, adequate to the specific risk conditions that could be faced during the development of the works or service.
- The Contractor shall provide the personal protection equipment to all its workers from the first day of work, and enforce its use **AT ALL TIMES** within the installations of the project. Noncompliance with this provision will be sufficient to request the removal from the works of those workers that do not have and/or do not use their full safety equipment.
- All the personal protection against work accidents risks and professional diseases devices, equipment and implements to be used, either of national or foreign origin, shall be certified by institutions, laboratories or Chilean establishments authorized to that effect, according to Supreme Decree N° 18 of March 23, 1982.
- Every Contractor shall supply to its workers the following minimum personal protection equipment:
 - Safety helmet (cannot be white or metallic), with the name and/or logo of the Contractor; this helmet shall be of the MSA type, V-Gard model.
 - Jump suit or pants and jacket with the name and/or logo of the contractor, stamped, with reflecting tapes minimum 2 cm wide armband, back (shoulder height) and legs (below knees).
 - Eyeglasses, UVEX Patrol type, anti-smog treatment. Any eyeglasses equivalent to these shall be authorized by Gener Risks Prevention Department.

- Dielectric safety boots, with steel toes and covering up to the ankles. Slippers and normal shoes are not allowed at any time.
 - Reflecting jacket to be used in tunnels
 - Leather gloves, if there is any type of work where the use of other implements is required.
 - Masks with adequate filters shall be used where there are toxic or irritating gases, or dust. They shall be OK'ed by the Project Manager before putting them in use.
 - In work places where the noise level is above 80 dB, or where the Project Manager requires it, anti-noise protection elements of the kind placed over the helmet or Bilsom type, without metallic parts. Any ear protection different from this, shall be authorized by the Gener Risks Prevention Area.
 - The full scale harness shall be used when working over one meter and eighty centimeters (1.80) above the floor or where work is carried below that height but there is the risk of a fall.
 - Any other specific personal protection element required according to the work to be carried out.
- If loads should be handled during the execution of the work or services, the Contractor engages itself to provide the mechanical means to its personnel t so as to handle loads and avoid manual handling of it. If handling is unavoidable, the Contractor shall take the necessary measures; provide the adequate hygiene and safety conditions and the necessary implements to allow preventing or minimizing the consequences of an accident or professional illness. However for those tasks where the handling of loads becomes inevitable and the mechanical aids cannot be used, the Contractor workers able to carry out this task shall not carry loads over 50 kilos.

6.- PREVENTION AND PROHIBITION MARKS

- The Contractor will be responsible for the placement of all the tapes, posters, barriers and signals necessary to safeguard all individuals, both Contractor Company workers and Gener employees, during the execution of the work, giving prior and timely information to the Project Manager About the characteristics of each of the elements.
- Danger tapes or barricades shall be placed, warning about the types of risks to which they are exposed, around the excavations, holes or opening of the floors, roofs, elevated platforms and the areas where there should be a possibility of objects falling from heights.

- The Contractor personnel are under the obligation to respect the prevention and prohibition signals. Non-respect of the danger signals placed in different places in the Project facilities can cause the cancellation of the respective contract.
- Once work is finished in the equipment or installation bearing danger signals, the person responsible of the work crew or the Project Manager will be informed so as to authorize the removal of the danger tapes.

6.- RISKS DETECTION METHODS

Gener has risks detection and evaluation methods applicable to each of its installations, following the general lines of its risks prevention policy (Document annexed in Appendix A).

Firstly, it is not possible to establish specific methods for the evaluation of the risks of the Alto Maipo Hydroelectric Project construction, as they will depend mostly on the safety strategies of the Contractor Company. Therefore, and before the start of the construction work, Gener and the Contractor companies will agree on and precisely establish new risks detection methods, to allow the detection, evaluation, documentation and administration of the risks related to Safety and Occupational diseases of the workers involved in the Project. According to the provisions indicated previously and applicable to all the areas, equipment and activities to be developed.

However, section 7 of this document lists the main risk prevention procedures for the risks identified up to date during the construction period of the Project.

7.- RISKS IDENTIFICATION AND SPECIFIC PREVENTION MEASURES

All the risks identified for the construction period of the Alto Maipo Hydroelectric Project are shown below in index card format. In this same format and according to the type of risk identified, the measures that should be taken by the Contractor Company for the prevention of the identified risks are described in sequence.

To summarize, from the analysis of each one of the 4 activities to be developed at the Works. It appears that the main risks correspond to:

- Explosion risks;
- Avalanches risks;
- Earthquake risks;
- Risk of spillage of dangerous substances during transport;
- Risk of spillage of dangerous substances during handling in the operations.
- Materials slippage risks;
- Traffic accident risks;
- Risks of falls from different levels;
- Fire risks.

Without prejudice of the above and once the work contracts are assigned, each Contractor Company shall re-assess its respective Works and the associated potential risks, according to what is indicated in section 6 of this Plan. Additionally, they shall complement the risk prevention procedures and estimate contingencies according to the environmental documents issued as a result of the environmental qualification process.

RISK PREVENTION PROCEDURES

<p>RISK IDENTIFICATION</p> <p align="center">EXPLOSION</p>		<p>Related to the accidents caused by explosives, which can cause injuries to people and damages to equipment and installations,</p>
<p>PLACES AT RISK</p>	<ul style="list-style-type: none"> - Transport, loading and unloading of explosives - Premises where explosives are stored: Magazines. - At the work faces where the tunnel construction work takes place. 	
<p>SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - The Contractor Company in charge of explosives at the works shall have General Regulations for the Storage, Transport and Handling of them. - All the personnel working in the transport, storage, use, handling, control and destruction of explosives shall know and follow the norms and legal provisions of Law N° 17.798 and the Complementary Regulation for the Control of Weapons and Explosives and submit to the controls that are carried out by the National Directorate of National Mobilization of the Army. - The Contractor shall certify that the personnel who transports, stores, handles and operates with explosives is adequately trained and instructed about the matter, is in optimum physical and psychological conditions and that the corresponding license granted by the control organism is up to date. - While working with explosives it is strictly forbidden to smoke, carry cigarettes, matches or lighters, use clothes with high synthetic content or carry any other objects liable to cause sparks or static electricity. - All the transport of explosives shall be done using containers authorized and certified by the Chilean Testing Office. - The Contractor in charge of the Magazines shall keep the statistics and control of the incoming, outgoing and existences of the explosives. - The use of open flames in areas where loading and explosives takes place is strictly forbidden. - Vehicles transporting explosives shall be duly authorized. - Before carrying out blasting, the Supervisor in charge shall adopt all necessary measures to avoid damages to persons, equipment and installations. - The Contractor is in charge of the handling and destruction of explosives in bad condition, according to the laws in force. - The magazines will be located in sites away from building of any kind, be adequately fenced and patrolled and will have a perimeter fire lane. 	

AES GENER S.A. RISKS PREVENTION PROCEDURES		
IDENTIFICATION OF THE RISK AVALANCHE		<p>The avalanche risk refers to an abrupt mass movement upon mountain slopes, dragging large quantities of rocks, snow and ice.</p>
PLACES AT RISK	<p>Work installations, work faces and camps located in the Volcán and Yeso rivers.</p>	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - The location of the camps has been foreseen outside the areas having avalanche and lahar risks. Especially in the upper sector of the Volcán River the engineering design and the construction of the headraces follows the technical standards for high mountain constructions. - The camps, Works installations and work faces will have the adequate high mountain safety equipment for the personnel. - The personnel will be informed and trained in rescue and emergency work, according to the obligations of the respective Joint committees. - The works and camps installations will be built with materials specially manufactured to withstand the temperatures and precipitations occurring at the place. - The Contractor shall prepare and Emergency Evacuation Plan. - Safety zones will be defined in the camps and work installations. All the evacuation lanes will be defined and signaled and they shall remain at all times free from obstructions. - All camps, works installations and work faces will have special radio equipment. The Communications Plan will remain activated all the time. - Any activities carried out on the surface and generating strong vibrations will be carried out only with prior authorization of the Risk Prevention expert of the Contractor. 	

GENER RISKS PREVENTION PROCEDURES		
RISK IDENTIFICATION EAARTHQUAKE		<p>Refers to abrupt movements of the ground produced by tectonic or volcanic disturbances.</p>
PLACES AT RISK	<p>The whole area of the Project</p>	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - The engineering design and the construction of the PHAM installations follow the seismic resistance national and international norms or standards. - Informative lectures will be carried out concerning response procedures to a seismic event. - The connection areas or storage zones for fuels or other flammable substances that could represent risks during earthquakes will be marked. - The Contractor shall carry out evacuation simulacrums and inform its personnel about the evacuation lanes and response procedures. - The works Contractor shall prepare and Emergency Evacuation Plan. - Safety zones will be defined in the camps and work installations. All the evacuation lanes will be also defined and signaled; they shall remain free from obstructions at all times. - All camps, works installations and work faces will have special radio equipment. The Communications Plan will remain activated all the time. 	

AES GENER S.A. RISKS PREVENTION PROCEDURES	
RISK IDENTIFICATION	
SPILLAGE OF DANGEROUS SUBSTANCES DURING THEIR TRANSPORT	This refers to accidental spillage of dangerous or combustible substances (according to the D.S. 382/2004 list) upon natural resources such as water and grounds or over constructions in general.
PLACES AT RISK	<ul style="list-style-type: none"> - Circulation lanes where the transport of dangerous substances will take place.
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - The Contractor Company in charge of the transport of dangerous substances will be governed by the provisions of the laws in force. - The driver will have the adequate license, together with the necessary training for action in the case of accidents with spillage of the transported substances. - The transport vehicle shall have, in a visible place, the respective Safety sheets for the substance to be transported. - The driver shall have all the personnel protection equipment as specified in the respective safety sheet of the transported substance. - The transport Company shall instruct the driver about the handling and manipulation of the transported substances, As well as first aid procedures and control of eventual spillages, (includes instruction about procedures associated to the handling of dangerous substances). - The transport vehicle shall bear markers according to the type of transported substance, according to NCh, 2190. - The transport Contractor shall have an always active communications plan. Every driver shall also have the radio communication equipment. - All elements and equipment of the transport vehicle shall be in optimum conditions (lights, tow carts, extinguishers for the transport of fuels or flammable substances, tachometers, etc.). <p>The transport Company shall have inspection procedures, which shall be applied before starting on any of the routes. The service will be stopped upon the suspicion or detection of faults. The service will reassume once the necessary corrections are carried out.</p>

AES GENER S.A. RISKS PREVENTION PROCEDURES		
RISK IDENTIFICATION		This refers to accidental spillage of dangerous or combustible substances (according to the D.S. 382/2004 list) upon natural resources such as water and grounds or over constructions in general. (oils, lubricants and paints)
PLACES AT RISK	Works installations, work faces and camps.	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - Every installation where some kind of chemical substance will be stored or handled will have the respective Safety Sheets in a visible place, these sheets to contain among other data, the characteristics of the substance, its risks and the emergency procedures to be activated in case of accident. - All the personnel handling and storing this type of substances will be trained. To this end, the Contractor Company will have a Training Program. - The chemical substances will be identified and labeled according to the classifications and type of risk established by NCh 2.190 of.93. - Each work FACE will have the necessary implements to contain or remove the substance in case of spills,; these may be shovels, machinery, pumps, and provisional storage tanks, as required. - A special area for the storage of these materials inside the work installations will be prepared, it will be duly marked and set up, according to the instructions of the pertinent authorities. - The fuel and oil drums will be placed upon wooden pallets or others to as to make their Transport easy and avoid the humidity and corrosion of the drums due to direct contact of the grounds and the drums. - Spent oil and other oily residues will be stored in adequate places and in closed drums for their later sale or disposal in authorized sites or return to the suppliers. - Diesel oil and gasoline will be supplied by duly authorized distribution Companies and will the safety implements as indicated in the laws in force. - According to Supreme Decree N° 379/86 of the Ministry Economy which regulates the storage of liquid fuels derived from petroleum and destined to own consumption, + The Contractors will be required to record the fuel tanks on the registries of the Electricity and Fuels Superintendence (SEC),. Whenever these should have a capacity over 1,100 liters. 	

AES GENER S.A. RISKS PREVENTION PROCEDURES		
RISK IDENTIFICATION FALL OF MATERIALS		<p>Corresponds to falling movements of a volume of material formed by rocks, earth or both. The types of movements correspond to: Rock falls, toppling, sliding, spread and flows.</p>
PLACES AT RISK	Zones where works to cut grounds and rocks to build roads or work platforms and excavation activities for the construction of works such as channels, bridges, siphons, headraces , etc.	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - Before starting the work, the workers who take part in it will be trained in safe work procedures, the use of the required personal protection elements, prevention measures and emergency to be implemented when such events occur. This type of training shall specifically be given to those workers participating in terrain cuts and excavations. - Before starting work, all the rocks, rock falls, rubble and all loose material that would constitute a danger for the workers carrying the excavation or cuts. - The zone where the cut an excavation work will be done shall be clearly marked and signaled. - All the excavations or talus cuts shall be inspected after a rainfall or earthquake. Should faults be detected, all the necessary containment measures shall be implemented to ensure stability of the work. - In the sectors where little terrain stability would be detected, the Risk Prevention expert of the Contractor Company shall study the case and indicated the solutions or precautions to be taken to assure the stability of the cuts. - For the specific cases of terrain or rock cuts, these solutions can be contention nets, revegetation and/or filling of the talus- - In the case of excavations, the containment measures are props, reinforcements, wedges, etc. - The Risks Prevention Expert of the Contractor Company shall inspect permanently the edges of the excavation, and warn if cracks or faults should appear. - No materials, machinery or elements that may represent a danger of instability of the material can be stashed near the edges of the excavation. - Each one of the terrain cuts shall be done considering the most adequate slope according to the stability conditions of the terrain. - The removal of vegetation in sectors of slopes cuts, so as to avoid causing the start of erosion processes (dragging of materials). - The construction of provisional accesses will be avoided in sectors showing abrupt and unstable talus. 	

AES GENER S.A. SAFETY PROCEDURES		
RISK IDENTIFICATION TRAFFIC ACCIDENTS.		A traffic accident is an accident where at least an automobile or other kind of vehicle is involved.
PLACES AT RISK	Public and private roads where the trucks or light vehicles participating in the Project will transit.	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - The Contractor will implement a formal procedure to face traffic accidents so as to attend to the emergency in a suitable manner. - The personnel hired to drive the trucks, buses or machinery will be qualified personnel with updated driving license. The license required shall comply with Traffic Law N° 18.290. - The vehicles that transport machinery and materials to the work area will bear the signals as required by the laws in force and will be less than 5 years old. - The vehicles will comply with the applicable traffic laws (technical revision, insurance, transport permit, transport regulations of the personnel, etc.) - The weight of the trucks loaded with equipment or materials will not exceed the maximum allowed according to the routes/bridges that are used. If not, the corresponding permit will be obtained from the Transit authority in each case. - The transport of fuels and other materials will be carried out according to the provisions of the laws in force. - Any time the passage of oversized loads over the roads, streets of cities or towns should be necessary, this will be coordinated with Carabineros de Chile, the corresponding local authorities and public services. - A communications system will be available (walkie-talkie, cell phones) to allow easy communication with the different work faces. - The existing pedestrian lanes will always kept in order during the execution of the works. - Special signals will be placed in the access places to the work faces. Signals, barriers, blinking electric lights and delineating cylinders will be used to that effect - Machinery and vehicles operating at the work faces will be kept in optimum operating conditions. 	

AES GENER S.A. SAFETY PROCEDURES		
RISK IDENTIFICATION FALL FROM DIFFERENT LEVELS		Eliminate or minimize the risks of fatal accidents, injuries leading to incapacity and incidents in the work at height or different levels.
PLACES AT RISK	Work installations and work faces.	
SPECIFIC PREVENTION MEASURES	<ul style="list-style-type: none"> - Generate General Procedures to deal with the different types of excavations, manuals and using machinery, Work upon heights over structures, scaffoldings, portable mobile platform, stairs, etc. - There shall be adequate signals indicating the danger zones of falls at different levels and/or toppling. - Hard material barriers will be placed around deep excavations carried out with machinery or drag shovels. - Where there are potential falls over 1.80m, the personnel shall be safeguarded and use protection such as a harness and lifeline as a minimum. - - All the equipment for work on heights shall comply and be used according to the design standards, and shall also have the respective certification. - All the access ways shall be clean and free from materials in the areas or sectors where there are excavations so as to act promptly and rapidly in emergency or accident cases. - The elevated, portable and mobile platforms, work cages and other elevated equipment shall follow approved design standards. - Persons working at heights shall secure their helmets with the respective strap or chin strap. - There shall be a response plan to emergencies for a quick attention in the case of persons falling from heights. - All the equipment shall be appropriate to the purpose of their usage and shall be checked and inspected previously by competent personnel. 	

**AES GENER S.A.
SAFETY PROCEDURES**

<p>RISK IDENTIFICATION FIRE</p>		<p>Uncontrolled fire occurrence that can be extremely dangerous to people, property and natural resources. Exposure to fire can produce death by inhalation of smoke or loss of consciousness reduced by it and later severe burns.</p>
<p>PLACES AT RISK</p>	<p>Zones of warehousing of flammable substances, in the works installations and camps. .</p>	
<p>SPECIFIC PREVENTION MEASURES</p>	<ul style="list-style-type: none"> - The flammable or easily combustible substances will be stored in premises specially prepared for it, according to the indications of the O.G.U.C. and the storage sheets for the storage of chemical substances issued by the Health Service. The flammable materials will be disposed in and orderly and classified manner inside the premises, according to their chemical compatibility. - On the specific case of dangerous residues, these will be handled according to the instructions of DS N° 148/03 of the MINSAL (See Annex 8 attached to the DIA "Handling of Residues"). - The chemical substances will be identified and labeled according to the classifications and type of risk established by NCh 2.190 of.93. - The Risks Prevention Expert of the works will define a space around the flammable substances storage area, where it will be absolutely forbidden to light fire, smoke and/or carry elements that can produce sparks. - The Risks Prevention expert will carry out permanent inspections to detect possible faults in the procedures to handle flammable substances. - The works Contractor shall keep ready at all times control and firefighting equipment consisting in Chemical dry powder and c02 extinguishers for the different kind of predictable fires, according the combustible or flammable materials kept of manipulated on the premises. The number of extinguishers and their placement will depend on the surface to be protected according to the provisions of Article 46 of DS N° 594/99 of the MINSAL. "Regulations about the Basic Sanitary and Environmental Conditions of Work Places". - The Contractor will constitute a trained brigade which will be operative during the whole construction of the Project. - The handling of combustibles will be carried out according to the procedures established by the SEC (See Dangerous Substances Handling Procedures). - Risk reduction procedures will established through continuous surveillance of the premises for the storage of flammable substances and by the safety training of all the personnel. - Evacuation lanes will be set inside the installations, these shall be kept free and signaled at all times. - All the personnel will be trained as to fire risks. <p>The works Contractor will implement and internal, external communications and alarms systems able to deliver emergency instructions or ask for help.</p>	

WINTER PROGRAM ALFALFAL-MAITENES POWER PLANTS

CONTENTS:

1. - OBJECTIVE
2. - GENERAL RULES
3. - BARRIERS
4. - DRIVERS
5. - VEHICLES
6. - PROCEDURE OF ALERTS
7. - REGULATION OF ALERTS
8. - USE OF CHAINS
9. - RESPONSIBILITIES
- 10.-SIGNALLING SYSTEM
11. - SHELTERS
12. - BOULDER AREAS

1. - OBJECTIVES

This program defines the procedure, before any emergency produced by weather conditions during winter and its main objective is personal safety, protection of vehicles, machinery and equipment.

2. - GENERAL RULES

Winter period is understood as the time between **April 15** and **September 15**.

The provisions of this program shall be effective during the winter noted above or any other time of year, if in the judgment of Power Plant Administration, it is advisable by circumstances or special precautions are required.

During such period the rules specified in the program are applied.

This program is a rule whose provisions apply to AES Gener SA personnel, Contractors, Co-workers, Visitors and People present in the facilities of Alfalfal-Maitenes Complex.

All drivers and all vehicles must comply with the provisions of the Traffic Act, with those established in this program and with the instructions of the barrier.

Failure to comply with instructions given by the staff of the barrier or by the operator on duty, leave no room for excuses and the offender will be sanctioned as determined by the head of Alfalfal-Maitenes Complex, according to the "Vehicle Control" procedure of AES Gener SA

3. - BARRIER

The barrier which operates this program is located at the entrance of Alfalfal Power Plant facility.

Persons required moving upstream of the barrier shall comply with the following:

- AES Gener SA staff, have appropriate authorization and in knowledge of the operator on duty.
- Third parties, or other, are authorized as the case may be:
 - Army of Chile.
 - Ministry of National Assets.
 - Río Colorado Mining.
 - Fundo "La Ermita" Owner.

Authorizations to other third parties must be endorsed by AES Gener SA; in the document it shall be stated the area where the person goes, the reason why access to the area and the list of authorized persons.

In the barrier people must complete and leave the sheet signed created for this purpose; also, the identity card of the driver or the person in charge of the group shall remain on the barrier, so that when returned they are required to go through the barrier to take it back and thus keep the permanence time controlled, giving alert in case of noncompliance.

The Operator on Duty in the Control Room will report on a daily basis to the barrier during winter period the following:

- Weather conditions
- Weather forecast for the day and for the next 24 hours.
- Current alert
- Condition of roads and need of using chains.

Barrier staff will provide information on where to place chains and their withdrawal from the wheels, to drivers of vehicles that goes up to Olivares and/or Colorado branches.

Important information, obtained by the barrier of drivers that goes down from Olivares and/ or Colorado branches, shall be communicated to the Operator on duty of the Power Plant.

The staff on duty at the barrier will register under any condition, the following information:

- Name of people going into the vehicle.
- Vehicle type and license plate.
- Date and time of passage through the barrier.
- Approximate time of arrival at destination.
- Date and time of return.
- Signature of the internal control sheet.

The information identified in the preceding paragraph shall be transmitted to the head of the complex or otherwise to the operations manager. After regular hours this information must be communicated to the control room operator.

The maintenance personnel or contractors, who go to the Water Intakes or somewhere in between, of Olivares or Colorado branches and / or Los Almendros road line, must have a radio and inform the Operator on Duty of the Power Plant his departure and arrival, while maintaining a constant radio contact with Alfalfal control room. (EDC).

The staff of the barrier shall not allow passage to vehicles that do not have the elements listed in section 5.

4. - DRIVERS

Every driver who goes to any part of the area in winter period must ensure that the vehicle has the means specified in section 5, in addition to carrying personal equipment for the conditions required.

Drivers should follow the following special rules of driving:

- If you have no experience on snowy roads, do not drive.
- Keep always a slower speed than the one indicated on the road signage, as this has been studied for normal conditions; extreme precautions if the road has snow and especially ice.
- Avoid getting too close to another vehicle, keep a minimum distance of 50 m between your vehicle and the preceding one and the same distance from machinery in operation on the road; in this case, wait until this gives way by changing lights or other hand signals to overtake it.
- Always give preference to heavier or greater number of wheels vehicles than yours.
- Respect rigorously roadside signage, whether it is permanent or temporary.
- In case you have to pull over, always choose a safe place and no in areas at risk of avalanches or boulders (in attached layout you may identify those areas).
- Do not use the brakes excessively. Instead, shift gears and / or slow speed. You should consider that sudden changing gears cause slip as well as the same effect of braking.
- With snow or sun, wear dark glasses.
- In case you are blocked by boulders or storms, do not take risks attempting to continue the route. Use shelter places indicated in point 11.

5. - VEHICLES

During winter period the vehicles traveling on the roads of Olivares and Colorado branches should be four-wheel drive.

Vehicles must have the following support elements:

- Ice breaker chains with tension rods in good condition or special tires for snow and ice.
- Strobe or rope
- Jack
- Wheel wrench
- Spare tire in good condition
- Shovel
- Lantern
- Fire extinguisher
- First-aid kit
- Advance warning triangles
- Portable Radio

The vehicle must be provided with antifreezes for cooling water and have tires with a road surface in good condition.

During winter period, own vehicles and contractor vehicles authorized by AES Gener,

vehicles authorized by Río Colorado Mining and that meet the conditions of this program will only be allowed to pass to interior roads

6.- PROCEDURE OF ALERTS

The alert procedure is a set of measures that apply to the safety of people and property when weather conditions are unfavorable.

Alert is a special notice issued when there is risk of avalanches, storms, rainstorms or rockslide. In this situation, traffic by interior roads shall be subject to the rules of each alert.

There are three (3) alerts that are issued according to the magnitude of the looming risk and these will be reported to the barrier.

End of alert: Operations will return to normal regimen and displacement by interior roads shall be subject to their conditions. All this once existing conditions at each point is evaluated by the person in charge of this plan.

Alerts, meaning and signaling, will be those described in points 7 and 10.

In winter periods or bad weather, the Operator on Duty of the Power Plant should take from the website of the Chilean Meteorological Office, the weather forecast of the day and the next 24:00 hours, as the positioning of the isotherm "zero". Failure to access the Internet, the forecast is requested to the Meteorological Office or to the National Emergency Office (Onemi) by phone.

7.- REGULATION OF ALERTS

Valid for all work areas with the restrictions described in each alert.

7.1 First Alert: Green flag.

It means: Approximation of bad weather

- Pedestrian traffic: **Normal in water intake and office areas**
- Pedestrian traffic by interior roads: **Forbidden**
- Vehicle traffic on interior roads: **Normal**

7.2 Second Alert: Yellow flag.

It means: Snowy, bad weather in the area, without the risk of avalanche, or bad weather in decline.

- Pedestrian traffic: **Normal in water intake and office areas**
- Pedestrian traffic: **by access roads to water intakes: Forbidden.**
- Vehicle traffic on interior roads: **Restricted, only vehicles authorized by AES Gener S.A.**

7.3 Third Alert: Red Flag.

It means: Heavy snowfall, increasing “Avalanche Danger.”

- Pedestrian traffic: **Restricted (Water Intakes and Los Almendros line).**
- Pedestrian traffic on interior roads: **Forbidden.**
- Vehicle traffic on interior roads: **Forbidden, roads closed.**

Cleaning (snow removal) on roads to water intakes cannot be carried out. Road contractor will only keep clear the main route of access to the power plant, for the arrival or evacuation of staff.

In office areas, EDC, petty offices and locker rooms cleaning work can be made (snow removal).

8. - USE OF CHAINS

Chains are always used when there is snow and / or ice on the roads of circulation.

Failure to follow the instructions on wheels chains and their use will be sanctioned by AES GENER.

9.- RESPONSIBILITIES

9.1.- AES Gener S.A., Alfalfal – Maitenes

- Meet and ensuring compliance with the provisions of these rules and punish infringements.
- Issue and manage alerts contained in this regulation.
- Advanced or delayed start or end dates of winter period.
- Keep weather record and characteristics of fallen and deposited snow.
- Control through the barrier that vehicles meet the requirements specified in this and other regulations.
- Cleaning and signaling of roads in the area of responsibility.
- Analyze and interpret the rules of this regulation, in situations of fact.

9.2.- CONTRACTORS

- Put in place appropriate preventive measures in case of rainstorms, avalanches and other weather events that may affect the development of work.
- Form and maintain rescuers.
- Keep the list of persons present in the area during winter period.

- Set schedules for vehicles so that they come down to Alfalfal barrier no later than 17:00 h.
- Signaling paths corresponding to them according to their area of responsibility.
- Signaling all stationary equipment.
- Cleaning of access and roads in the area of responsibility.
- Provide the necessary machinery to implement the above.
- Programming and instruction to its work force in situations of rainfalls and risks.
- Meet and ensuring compliance with the rules of this and other regulations.
- Manage alerts in the area of responsibility.
- Perform the necessary actions to control the inherent risks in winter period, whether or not covered by this regulation.

10.- SIGNALLING SYSTEM

ALERT	SIGNALLING	MEANING
FIRST	GREEN	Approaching of bad weather to the area
SECOND	YELLOW	<ul style="list-style-type: none"> ➤ Snowing ➤ Bad weather in the area ➤ No avalanche risk ➤ Mandatory use of chains
THIRD	RED	<ul style="list-style-type: none"> ➤ Heavy snowfalls ➤ Bad weather in the area ➤ Avalanche danger is increasing ➤ Mandatory use of chains
END OF ALERT	SIGNALLING IS REMOVED	Operations are restarted 4 h after third alert.

11.- SHELTERS AND GUARDS

Use of shelters

In case personnel are blocked by bad weather or boulders on the roads, Olivares and Colorado Water Intakes have shelters for 4 persons, equipped to support an emergency for 15 days.

Equipment of shelters

These include food and comfort necessary to face emergencies, which will be checked and replaced in the month of April of each year.

Shelters for emergencies

In case of being blocked by boulders or snow storm on the road, in parts where it is not possible to return to the water intake or continue to the Power Plant and taking into account that it is not possible to render aid or assistance immediately, drivers should be aware that they can fulfill the function of shelter the following locations:

Tunnel Window 5 km 39 Olivares Branch
Tunnel Window 4 km 36,5 Olivares Branch
Tunnel Window 7 km 35,5 Olivares Branch Bypass
Tunnel Window 8 km 36,5 Colorado Branch
Tunnel Tambillo slope km 40,5 Colorado Branch
Tunnel Window 9 km 46,5 Colorado Branch
Water Intake Control Room. Colorado km 51 5 Colorado Branch

Drivers should try to get into the vehicle to these places to weather the emergency and must do so on foot only if visibility permits.

If bad weather continues for one or more days without any possibility to assist them, people should remain calm until the end of the storm, without leaving the shelters, keeping in mind that since the first day of storm we will try to locate them either with land patrols or helicopters; in the latter case it is advisable that hearing the noise of the aircraft they should make signs with clothes, hopefully red, or make fire using a wiping cloth or fabric with oil and / or fat.

If it is not possible to reach these shelters and you are between two boulders with snowstorm, do not leave the vehicle under any circumstances, do not park in front of ravines no matter how small they are, the vehicle must be placed as close as possible of a natural wall, of rocks or large stones hopefully, higher than the vehicle, to protect against falling rocks or avalanches.

11.1. - Regulations for shelter use

Shelters of Colorado and Olivares water intakes are buildings that are designed and equipped to serve as such, to the personnel that could be isolated by emergencies caused by bad weather.

Rations and other packaged foods that are kept there are for cases of “**EMERGENCIAS**” when personnel is isolated and should not be consumed in other normal situation.

On leaving the shelter, leave the power off and close the valves in gas appliances, check that there are no water taps open. By making use of the fireplace, verify that it is not burning wood. Leave the furniture arranged.

On leaving the shelter, do not leave food scraps and remove garbage generated, to avoid the stench of decomposition and therefore the entry of rodents.

12.- BOULDER AREAS

A register has been established of boulders rolled into the canyons of Olivares and Colorado Rivers affecting access roads to both Water Intakes and that are of high risk in winter periods.

12.1. MAIN BOULDERS

- 1. - Between La Gloria Bridge and Confluence** from km 26 to 30, this sector is characterized by being a tranche of road very boxed by very high summits. It presents the danger of dragging debris and falling rocks or stones from height, especially with rainstorms, even with heavy rains of summer. Boulders of snow are scarce. Drivers must be alert to the noise produced by such landslides.

- 2. Between Confluence and Olivares Water Intake**
 - 2.1. - Tres Puntas Boulder, in km 31 falls from great heights, and reaches the road and bridge of the same name, boulder of snow.
 - 2.2.-Los Lunes Bridge Boulder. in km 32, boulder of snow.
 - 2.3.-Los Lunes Slope Boulder, in km 35, this boulder reaches Coironal Bridge, affecting access to window No. 7, boulder of snow.
 - 2.4.-El Piedrero Boulder, in km 35,300, it does not always reach the road, boulder of snow.
 - 2.5. - Los Maitenes Boulder, in km 36, boulder of snow that spreads out also affecting access to Olivares junction.

- 2.6. -Los Maitenes Stream Boulder, in km 37, it does not always reach the road, boulder of snow and stones.
- 2.7. - El Frío Boulder, in km 40, boulder of snow and stones that fanned out.
- 2.8. - Olivares Boulder, km 43, it does not always reach the road, but it do affect access to T-8.

3. - Between Confluence and Colorado Water Intake.

- 3.1. Los Ranchos Boulder, km 31, boulder of snow, rocks and mud.
- 3.2. Las Pataguas Boulder, km 35,500, boulder of snow.
- 3.3. Los Caballos Boulder, km 35,800, boulder of snow.
- 3.4. Salinilla Boulder, km 36, this boulder spreads out, boulder of snow.
- 3.5. Espinoza Boulder, km 36,400, boulder of snow and stones.
- 3.6. El Hospital Boulder, km 37, boulder of snow that crosses the river to the road.
- 3.7. Quintana Boulder, km 37,500, boulder of snow.
- 3.8. Las Yeguas Boulder, km 38.500, large and heavy boulder of snow, which spreads out.
- 3.9. Tambillo Boulder, km 41, these are several small snow rakes, of low height falling from the hillside very close to the road.
- 3.10. El Encabritao Boulder, km 46, large and heavy boulder of snow.

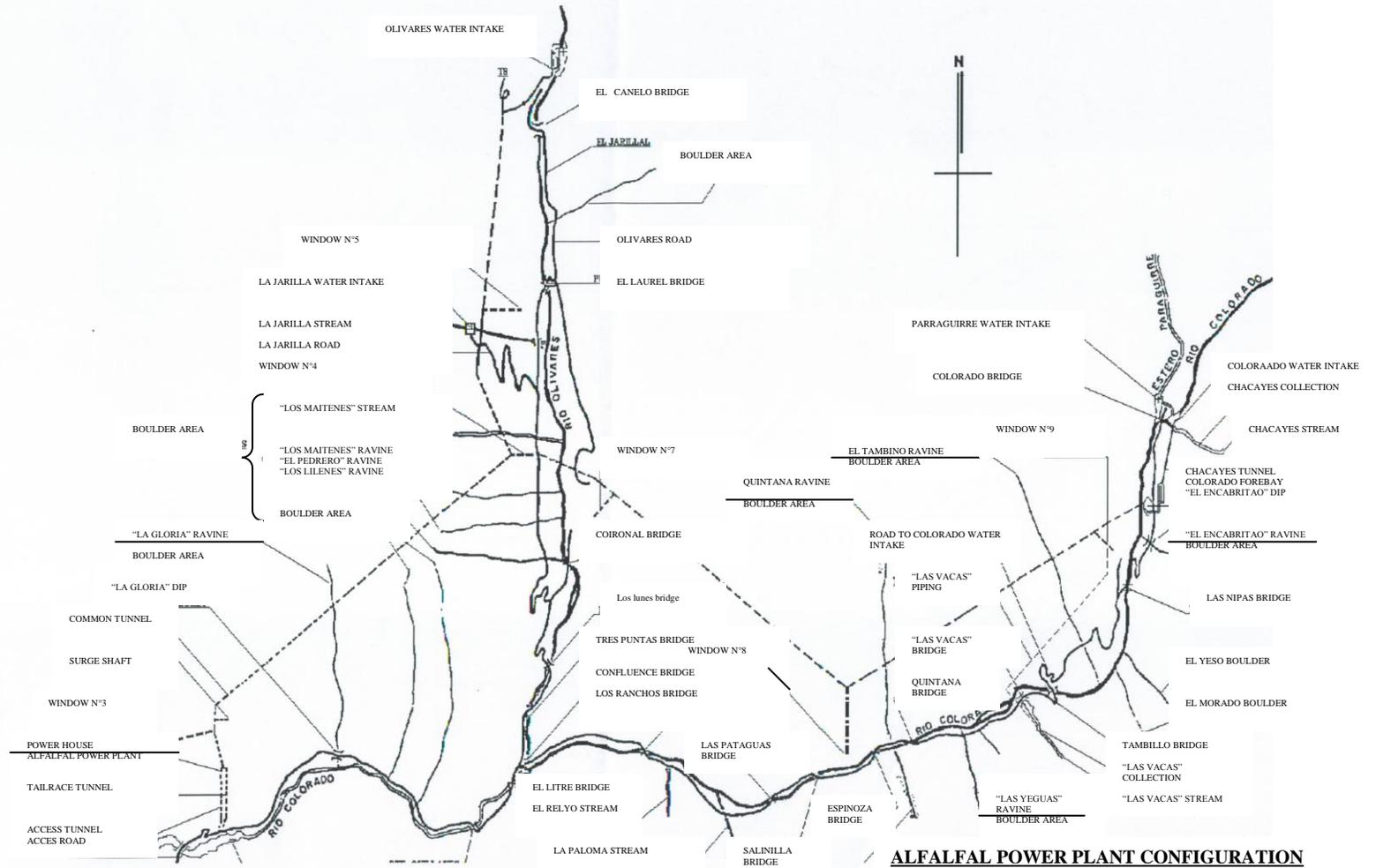
Remember that during the period of frost (August-September), rock falls occur when frost starts to melt.

"BE SURE TO READ THIS"

WHENEVER YOU GO OUTSIDE ALFALFAL I POWER PLANT (WATER INTAKES-WINDOWS, ETC.) THE FOLLOWING RECOMMENDATIONS SHOULD BE TAKEN INTO ACCOUNT:

- 1. Do it with a driver who knows the area.**
- 2. Check the vehicle and make sure all its elements are in good condition (tires, headlights, taillights, jack, chains, shovels, etc.).**
- 3. Drive at a speed not exceeding the fixed road signage of the place and always drive on defensive.**
- 4. Bring a communications radio in good condition, check the load, to communicate with the control room periodically.**
- 5. If you do not know the area, ask directions from someone with experience and familiar with it.**
- 6. Never work or go alone to any place where there might be a risk, ask for help.**
- 7. Never operate on an equipment, if you do not have the appropriate permits from the operator on duty or area coordinator. Make sure that the equipment is duly cut off.**
- 8. Each time you enter or work in a window, you must use your personal protective equipment (helmet, safety shoes, gloves, etc.). In addition, verify the environmental conditions inside the window.**
- 9. You will take at least a flashlight in good condition (if you are using it for a long time, carry spare batteries).**
- 10. In confined spaces, gasoline vehicles shall not circulate, if there is not adequate ventilation. Preferably use oil vehicles. If this is not possible, then you should take some of the following measures:**
 - a) If possible wear a self-contained breathing apparatus or similar.**
 - b) Do not stay long in the place, if you notice that the air is dense.**
- 11. All vehicles entering a window and reach destination must stop the engine to prevent it from contaminating the environment.**

AS YOU WILL SEE, SAFETY IS A TASK OF EVERYBODY.



WINTER PROGRAM

QUELTEHUES- VOLCÁN

POWER PLANTS

CONTENTS:

1. - OBJECTIVE
2. - GENERAL RULES
3. - DRIVERS
4. - VEHICLES
5. - PROCEDURE OF ALERTS
6. - REGULATION OF ALERTS
7. - USE OF CHAINS
8. - RESPONSIBILITIES
9. - SIGNALLING SYSTEM
10. - SHELTERS
11. - BOULDER AREAS

1. - OBJECTIVES

1. - This program defines the procedure, before any emergency produced by weather conditions during winter and its main objective is personal safety, protection of vehicles, machinery and equipment.

2. - GENERAL RULES

Winter period is understood as the time between April 15 and September 15.

The provisions of this program shall be effective during the winter noted above or any other time of year, if it is advisable in the judgment of the administration of Queltehues-Volcán Power Plants, and / or if special precautions are required.

During such period the rules specified in the program are applied.

This program is a rule whose provisions apply to AES Gener SA personnel, Contractors, Co-workers, Visitors and People present in the facilities of Queltehues-Volcán Power Plants.

All drivers and all vehicles must comply with the provisions of the Traffic Act, with those established in this program and with the instructions from Cordillera Work Unit.

Failure to comply with instructions leaves no room for excuses and will be sanctioned as determined by the administration of Cordillera Work Unit, according to the "Vehicle Control" procedure of AES Gener SA.

3.- DRIVERS

Every driver who goes to any part of the work area in winter period must ensure that the vehicle has the means specified in section 4.2, in addition to carrying personal equipment for the conditions required.

Drivers should follow the following special rules of driving:

- 1°. If you have no experience on snowy roads, do not drive.
- 2°. Keep always a slower speed than the one indicated on the road signage, as this has been studied for normal conditions; extreme precautions if the road has snow and especially ice.
- 3°. Avoid getting too close to another vehicle, keep a minimum distance of 50 m between your vehicle and the preceding one and the same distance from machinery in operation on the road; in this case, wait until this gives way by changing lights or other hand signals to overtake it.
- 4°. Always give preference to heavier or greater number of wheels vehicles than yours.
- 5°. Respect rigorously roadside signage, whether it is permanent or temporary.

- 6°. In case you have to pull over, always choose a safe place and no in areas at risk of avalanches or boulders.
- 7°. Do not use the brakes excessively. Instead, shift gears and / or slow speed. You should consider that sudden changing gears cause slip as well as the same effect of braking.
- 8°. With snow or sun, wear dark glasses and with UV filter.
- 9°. In case you are blocked by boulders or storms, do not take risks attempting to continue the route. Try to find a safety place.

4.- VEHICLES

During winter period the vehicles traveling by work areas of Queltehues-Volcán Power Plants should be four-wheel drive.

Vehicles must have the following support elements:

- Ice breaker chains with tension rods in good condition or special tires for snow and ice.
- Strobe or rope
- Jack
- Wheel wrench
- Spare tire in good condition
- Shovel
- Lantern
- Fire extinguisher
- First-aid kit
- Advance warning triangles
- Portable Radio

The vehicle must be provided with antifreezes for cooling water and have tires with a road surface in good condition.

During winter period, vehicles duly authorized and that meet the conditions of this program will only be allowed to circulate by work areas.

5.- PROCEDURE OF ALERTS

The alert procedure is a set of measures that apply to the safety of people and property when weather conditions are unfavorable.

Alert is a special notice issued when there is risk of avalanches, storms, rainstorms or rockslide. In this situation, activity of persons is subject to the rules of each alert.

There are three (3) alerts that are issued according to the magnitude of the looming risk and these will be reported by the operator of Queltehues Power Plant, upon request of the climatic conditions to the operator of Alfalfal Power Plant, to the officials of the Work Unit who in turn are responsible for transmitting the information to Contractor, Co-workers and Visitors who are in the work area.

End of alert: Operations will return to normal regimen after assessing the conditions in the area.

Alerts, meaning and signaling, will be those described in points 6 and 9.

In winter periods or bad weather, the Power Plant Operator will request by telephone the weather forecast of the day and the next 24:00 hours, to the operator on duty of Alfalfal Power Plant, who everyday at 06:00 and 19:00 will have the weather information for the area.

6.- REGULATION OF ALERTS

Valid for all work areas with the restrictions described in each alert.

6.1. First Alert: Green Flag.

It means: Approximation of bad weather

- Transit of Maintenance and Operation personnel:
Normal in Water Intakes, Volcán Power Plant, workshops and Offices.
- Vehicular traffic on access roads to areas of work:
Normal.

6.2. First Alert: Yellow Flag

It means: Snowy, bad weather in the area, without the risk of avalanche, or bad weather in decline.

- Transit of Maintenance and Operation personnel:
Normal in Water Intakes, Volcán Power Plant, workshops and Offices.
- Vehicle traffic to Water Intakes:
Restricted, only vehicles authorized by operator on duty

6.3. First Alert: Red Flag

It means: Heavy snowfall, “Avalanche Danger.”

- Transit of Maintenance and Operation personnel:
Restricted
- Vehicle traffic to Water Intakes:
Forbidden
 - Cleaning (snow removal) on roads to access to water intakes cannot be carried out.
 - In office access areas SDM and workshops cleaning work can be made (snow removal).

7.- USE OF CHAINS

The operator on the duty of the Power Plant shall determine when to put on and take off snow chains; on the emergency truck and personnel transportation vehicles this shall be done by the same users.

Failure to follow the instructions on wheels chains and their use will be sanctioned by AES GENER.

8.- RESPONSABILIDADES

8.1 AES Gener S.A., QUELTEHUES – VOLCAN.

- Meet and ensuring compliance with the provisions of these rules and punish infringements.
- Issue and manage alerts contained in this regulation.
- Advanced or delayed start or end dates of winter period.
- Keep weather record and characteristics of fallen and deposited snow.
- Control through the officer of the Work Unit that vehicles meet the requirements specified in this and other regulations.
- Cleaning and signaling of roads in the area of responsibility.
- Analyze and interpret the rules of this regulation, in situations of fact.

8.2 CONTRACTORS.

- Put in place appropriate preventive measures in case of rainstorms, avalanches and other weather events that may affect the development of work.
- Keep the list of persons present in the area during winter period.
- Set schedules for vehicles so that they come down to Queltehues Power Plant no later than 17:00 h, and report of leaving the area.
- Signaling for all work in progress affecting the normal movement of persons and / or vehicles.
- Instruction to your workforce in and for storm conditions, in cases of emergency and risks

- Meet and ensuring compliance with the rules of this and other regulations related with this issue.
- Manage alerts in the area of responsibility.
- Perform the necessary actions to control the inherent risks in winter period, whether or not covered by this regulation.

9.- SIGNALLING SYSTEM

ALERT	SIGNALLING	MEANING
FIRST	GREEN	Approaching of bad weather to the area
SECOND	YELLOW	<ul style="list-style-type: none"> ➤ Snowing ➤ Bad weather in the area ➤ No avalanche risk ➤ Mandatory use of chains
THIRD	RED	<ul style="list-style-type: none"> ➤ Heavy snowfalls ➤ Bad weather in the area ➤ Avalanche danger is increasing ➤ Mandatory use of chains
END OF ALERT	SIGNALLING IS REMOVED	Operations are restarted 4 h after third alert.

10.- SHELTERS

Use of shelters.

In case personnel are blocked by bad weather or boulders on the roads, Maipo and Volcán Water Intakes and Quelitehues Power Plant have shelters for 4 persons, equipped to support an emergency for 15 days.

Equipment of shelters

These include food, provisions and comfort necessary to face emergencies, which will be checked and replaced in the month of April of each year.

Shelters for emergencies

In case of being blocked by boulders or snow storm on the road in water intakes and taking into account that it is not possible to render aid or assistance immediately, maintenance and operation personnel may use the shelters especially implemented to this effects.

If bad weather continues for one or more days without any possibility to assist them, people should remain calm until the end of the storm, without leaving the shelters

They should bear in mind that since the first day of storm we will try to locate them either with land patrols or helicopters; in the latter case it is advisable that hearing the noise of the aircraft they should make signs with clothes, hopefully red, or make fire using a wiping cloth or fabric with oil and / or fat.

If it is not possible to reach these shelters and you are between two boulders with snowstorm, do not leave the vehicle under any circumstances, do not park in front of ravines no matter how small they are, the vehicle must be placed as close as possible of a natural wall, of rocks or large stones hopefully (higher than the vehicle).

10.1. Regulation for shelter use.

Shelters of Maipo and Volcán Water Intakes, and the shelter of Queltehues Power Plant, are buildings that are designed and equipped to serve as such, to the personnel that could be isolated by emergencies caused by bad weather.

Packaged rations and other foods that are kept there are for cases of EMERGENCIAS and should not be consumed in other normal situation.

On leaving the shelter, after the emergency, you must ensure that gas appliances have the valves closed; the same condition applies to the drinking water system. Lights should be turned off and electric appliances unplugged.

On leaving the shelter, arrange the furniture; bedclothes used should be left apart to be removed and washed.

Do not leave food scraps and remove garbage generated, to avoid the stench of decomposition and therefore the entry of rodents.

11.- BOULDER AREAS

A register has been established of boulders rolled into the canyons of Maipo and Volcán Rivers affecting access roads to both Water Intakes and that are of high risk in winter periods.

11.1 MAIN BOULDERS

1.- Maipo Water Intake Branch:

- 1.1 "Santa Rita" Boulder, it falls approximately at km 1. Entrainment of stones and mud blocking road dip.
- 1.2. "El Loro" Boulder, it falls between 3 and 4 kms. Entrainment of snow and stones reaching the road.
- 1.3. "Las Melosas" Boulder, it falls at km 5 to the Las Melosas shelter's entrance, composed mostly of clay and causes a road cutting.

- 1.4. "Los Helados" Boulder, it falls at about km 6, composed mostly of snow and stones and causes road cutting.
- 1.5. "El Zorro" Boulder, it falls over the road dip located at about km 9, consisted of stones and mud and causes road cutting.
- 1.6. "Los Caballos" Boulder, it falls at about km 12, between settling ponds and Maipo water intake, composed mostly of snow, which causes road cutting.

2.- Volcán Water Intake Branch:

- 2.1 "El Cobre" Boulder, ravine located before reaching El Volcán town (downstream). Entrainment of stones and mud, which causes road cutting.
- 2.2. "La Greda" Boulder, ravine located past El Volcán town (upstream), composed mostly of snow and rocks, reaches the road causing his cutting.
- 2.3. "La Tenca" Boulder, ravine located past La Greda (upstream) 1.5 km approx., dragging snow and stones, which causes road cutting .
- 2.4. "El Salto" Boulder, ravine located past La Tenca (upstream) 2 km approx., dragging snow and stones, which reaches the road.
- 2.5. "El Yesillo" Boulder, ravine located past La Tenca (upstream) 1.5 km approx., dragging snow and stones, which reaches the road.

Remember that during the period of frost (August-September), rock falls occur when frost starts to melt.

¡BE SURE TO READ THIS!

WHENEVER YOU GO OUTSIDE THE POWER PLANT, WATER INTAKES, PONDS, SHELTERS ETC. THE FOLLOWING RECOMMENDATIONS SHOULD BE TAKEN INTO ACCOUNT:

- 1. Do it with a driver who knows the area.**
- 2. Check the vehicle and make sure all its elements are in good condition (tires, headlights, taillights, jack, chains, etc.).**
- 3. Drive at a speed not exceeding the fixed road signage of the place and always drive on defensive.**
- 4. Bring a communications radio in good condition, check it by communicating with the control room periodically.**
- 5. If you do not know the area, ask directions and/ or advises from someone with experience and familiar with it.**
- 6. Never work or go alone to any place where there might be a risk, ask for help.**
- 7. Never operate on equipment, if you do not have the appropriate permits from the operator and/ or dispatcher on duty, and verify the equipment to be operated before doing so.**
- 8. Every time you work in one of the premises of the work unit, you must use your personal protective equipment (helmet, safety shoes, gloves, etc.).**
- 9. You will take at least a flashlight in good condition (if you are using it for a long time, carry spare batteries).**

