



PEAT

Workers Environmental Education Project

MODULE 4

ENVIRONMENTAL LICENSING AND MITIGATION MEASURES



This program is a mitigation measure required by IBAMA during the federal environmental licensing process.



SUMMARY



1. The environmental licensing process
2. Environmental Projects





THE ENVIRONMENTAL LICENSING PROCESS



ENVIRONMENTAL LICENSING



Environmental Agency: IBAMA (exploration, drilling and production of oil and natural gas activities)

CONAMA Resolution N° 237/1997 regulates aspects of environmental licensing established by the National Environmental Policy.

CONAMA Resolution N° 023/1994 regulates the special procedures for licensing of exploration, drilling activities and production of oil and natural gas.





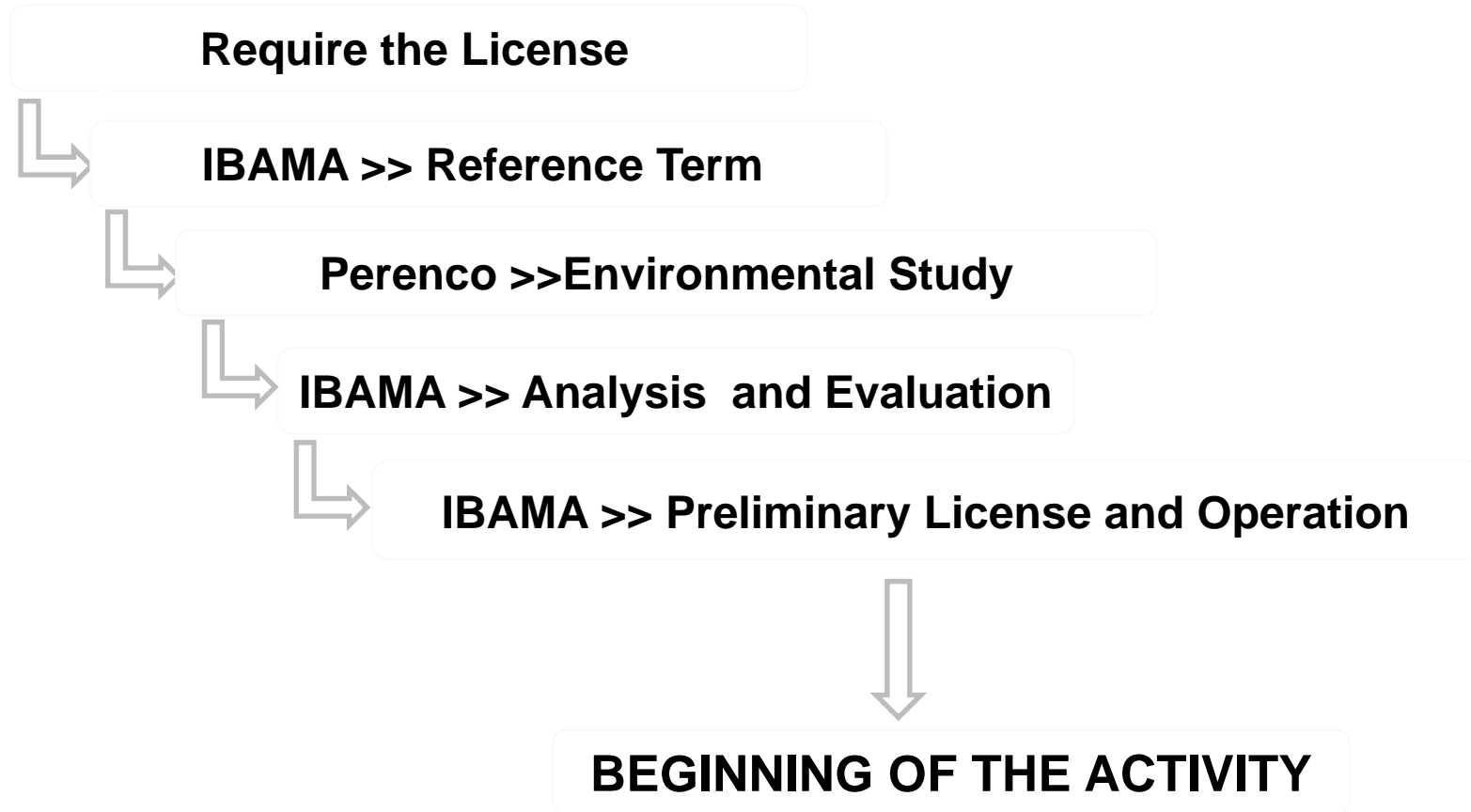
Environmental Licensing

Procedure whereby the environmental agency **licenses the location, installation, expansion and operation** of projects and activities **that use environmental resources** considered **effective or potentially pollutant** or those which, in any way, can **cause environmental degradation.**





Environmental License





Environmental Studies

Studies on the environmental aspects related to the location, operation and expansion of an activity or project, presented as the basis for the **analysis of the requested license**, such as: environmental report, environmental control project and plan, preliminary environmental report, environmental assessment, management plan, recovery plan of degraded area and preliminary risk analysis.



PERENCO'S ENVIRONMENTAL LICENSES



Preliminary License (LP): is issued in preliminary phase of the **planning** of the venture or activity, **approving its location and design, attesting the environmental feasibility.** It also **establishes the basic requirements of the conditionings** to be in compliance with for the next phases of its implementation.

Operanting License (LO): **authorizes the operation,** after the verification of the effective compliance of what was established by the previous licenses, including environmental control measures and conditionings determined for the operations.





Term of Reference TR CGPEG/DILIC/IBAMA N° 02/09:
Environmental Impact Assessment and its Environmental
Impact Assessment Report - **EIA / RIMA**; holding **public
hearings.**

IBAMA has required the EIA / RIMA over the RCA normally
required due **to environmental characteristics of the
location** of the blocks.



LICENSE CONDITIONINGS



IBAMA is responsible to determine and monitor the implementation of the conditionings of the environmental licenses.

The appropriate penalties for violations to the environment are in accordance with Law n^o 9.605/98 – Law for Environmental Crimes.



LICENSE CONDITIONINGS



IBAMA can **modify the conditionings, suspend or cancel a license issued**, when there is:

- Violation or inadequacy of any conditioning or legal regulation;
- Omission or false description of important information on which the license was based;
- Generation of serious environmental and health risks.





ENVIRONMENTAL PROJECTS



ENVIRONMENTAL PROJECTS



The environmental projects are part of the requirements of the licensing process of the activity.

Objective: contribute to the conservation of the environment of the Area of Influence of Activity.



ENVIRONMENTAL PROJECTS



- Project for Fishing Monitoring
- Risk Management Plan – PGR
- Environmental Monitoring Project – PMA
- Pollution Control Project – PCP
- Social Communication Project – PCS
- Project for Environmental Education – PEA
- Workers Environmental Education Project– PEAT
- Project for Characterization of Mesoscale Circulation
- Oil Spill Response Plan- OSRP



PROJECT FOR FISHING MONITORING



Objective:

To provide tools for better understanding the relation between the drilling activities and the fishing productivity.

This Project will consist in gathering information regarding the fishing communities in the area of influence.



RISK MANAGEMENT PLAN



Objective:

Ensure safe operations, keep the previously identified environmental risks at acceptable levels and perform permanent efforts on reducing these risks.

Preliminary Hazard Analysis(APP):



RISK MANAGEMENT PLAN



The main guidelines of PGR:

- Definition of roles and responsibilities;
- Programs for maintenance of the rig and equipment;
- Periodic inspections the unit;
- Competence, training and drills;
- Management of Contractors;
- Permit to Work System (PTW);
- Registration and investigation of accidents, incidents and near misses;
- Management of Change.





Objective:

Monitor and evaluate the physical, chemical and biological characteristics in areas of influence of the activity.

PMA will be separated into 5 subprojects :

- Identification and Registration of Local Marine Life
- Visual Inspection in the Location of the Wells
- Monitoring of Drilling Fluids and Cuttings
- Monitoring of Sediment in water depth less than 1000m
- Reinforcement of Projects for Rehabilitation and Release of Seabirds



ENVIRONMENTAL MONITORING PROJECT



Subproject 1: Identification and Registration of Local Marine Life

Efforts of daily observation (performed by a competent professional) for verification and registration of the biota that may approach the rig.

To succeed in this subproject is important the commitment of all!

Report immediately to your supervisor if you see any animal in the water!





Subproject 2: Visual Inspection in the Location of the Wells

Visual inspection of sea floor around the locations of the wells.

Identification of the structures and sensitive biological communities.





Subproject 3: Monitoring of Drilling Fluids and Cuttings

The drilling fluids **are used in the drilling process, recycled and then disposed** according to their specific characteristics.

Procedures are adopted in order to control and adjust the discharged volume, its characteristics and ecotoxicological levels.

The Monitoring Project of Fluid and Cuttings aims to evaluate these procedures.

In this project Perenco will use water-based fluids and synthetic base fluids.



ENVIRONMENTAL MONITORING PROJECT

Subproject 4: Monitoring of Sediment

Objetivo:

Evaluate the possible environmental changes/impacts in the sediment resulting from the drilling activities.

Two monitoring campaigns: one before the start-up of operations and one after the drilling unit demobilization.



ENVIRONMENTAL MONITORING PROJECT

Subproject 5: Reinforcement of Projects for Rehabilitation and Release of Seabirds

Complement to monitoring actions already implemented by other E&P companies in the cities of the area of influence of the project.

-Vet assistance, rehabilitation and release of seabirds that arrive at the beaches of the influence area, specially penguins.

- Rehabilitation of injured birds in the operational area.



POLLUTION CONTROL PROJECT



Objective

Control, quantify and register the generation of **wastewater**, **emission** of pollutants to the atmosphere and **solid wastes** generated by the drilling unit, supply vessels, dedicated vessel and shore base.



PCP follows the guidelines provided by the Technical Note CGPEG/DILIC/ IBAMA N° 01/11.



POLLUTION CONTROL PROJECT



PCP Actions:

- Treatment, quantification and disposal of effluents:
 - Sewage;
 - Water from the drainage system of the rig;
 - Water from the cooling system.
- Treatment, quantification and disposal of organic waste (food waste);
- Correct segregation of solid waste generated in all units for further temporary storage and final disposal on shore;
- Inventory of emissions to the atmosphere;
- Safeguard the correct operation and efficiency of pollution control equipment and systems responsible for energy generation through the establishment of a preventive maintenance program.



WASTE SEGREGATION - CONAMA 257/2001



Metal

Iron, Steel, or aluminum materials, such as: scrap, metal parts, soda cans and rusty material; but only if they are not contaminated by oil or chemical products.

Plastic

Clean plastic bottles, yogurt packages, disposable plastic glasses and any other plastic, as long as it is not contaminated by oil, organic waste or chemical product.

Wood

Non used Pallets, wooden braces, sawdust and any clean, non contaminated wood.

Hazardous Waste

Empty paint and solvent cans, contaminated absorbent material, used oil filters, gravels and contaminated sediments, PPE's and other material contaminated by oil and/or chemical products. Fluorescent lamps and batteries are also hazardous waste, but they have to be disposed separately, in specific collectors for each of them.

GLASS

Glass which is not contaminated by oil, chemical products or organic waste.

Paper/Cardboard

Draft and Office papers, cardboard boxes and any other non contaminated (food leftover, chemical products, or oil) paper. Used Napkins should **NOT** be disposed on this collector

Organic Waste

Fruit peels, or any other food leftover.

Non Recyclable Waste

General mixed waste, contaminated, or non recyclable. On this collector you can dispose used napkins, candy and cookies packages, and any other material contaminated by organic waste.

Medical Waste

Waste from ambulatory and hospital care, such as: used cotton, bandage, gauze, syringe and others..



POLLUTION CONTROL PROJECT



The participation of all in this Project is essential to achieve success!

The correct segregation of waste according to the color code is **very important.**

After the segregation in the waste bins, the waste will be stored in the offshore unit in big containers that are send to shore.



POLLUTION CONTROL PROJECT



RRR - REDUCE REUSE RECYCLE



RRR – Reduce, Reuse, Recycle

Reduce the need.

Reuse as much as possible.

Recycle!

Benefits:

- Decrease the amount of waste to be disposed in landfills (increases its useful life);
- Preserves natural resources;
- Saves energy;
- Reduces air, water and soil pollution;
- Generates jobs (establishment of recycling industries, with recycling cooperatives' workers).



RRR - REDUCE REUSE RECYCLE



REDUCE

- Consume only what is necessary;
- Consume reusable products;
- Consume more durable products.

REUSE

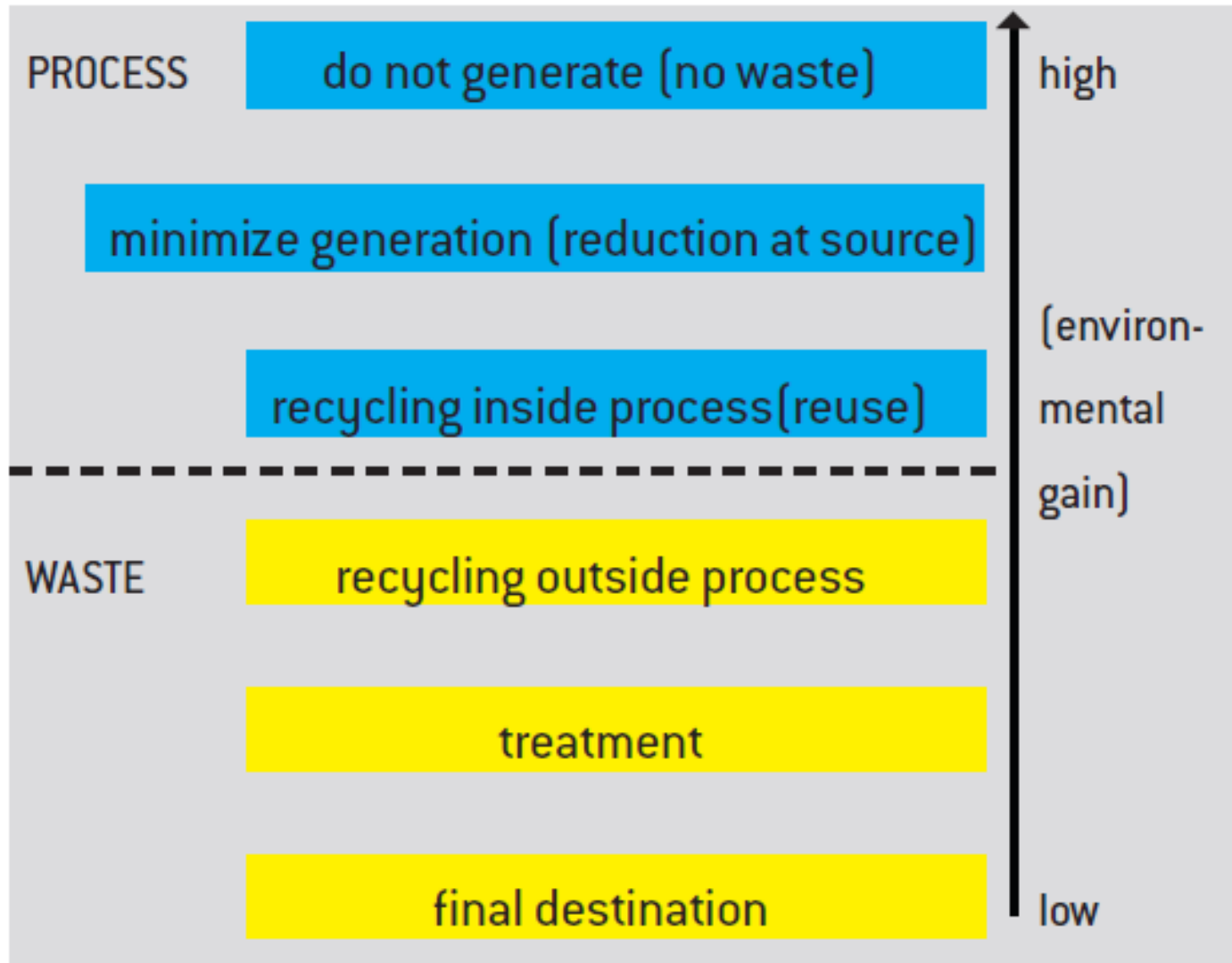
- Reuse materials;
- Circulate material that still serve for other people;
- Use returnable packing;
- Develop and support recovery and conservation activities.

RECYCLE

Recycling is to give “new life” to materials starting from the **reuse of its raw materials to manufacture new products.**



RRR - REDUCE REUSE RECYCLE



RRR - REDUCE REUSE RECYCLE



Material	Decomposition Time
Paper	3 to 6 months
Styrofoam	8 years
Glass	4 thousand years
Plastic Cup	50 years
Pet Bottle	400 years
Aluminum Cans	undetermined

Material	Value (R\$/t)
Aluminum	950,00
PET	300,00
Batteries	200,00
White Paper	220,00
Hard Plastic	250,00
Fluorescent Lamps	30,00
Glass	35,00

- 1 ton. of recycled paper, 20 trees spared;
- 1 Kg of segregated glass produces 1Kg of recycled glass;
- 50 Kg of recycle aluminum avoids that 5.000 Kg of ore are extracted and saves 95% energy;
- 65 Aluminum Cans ~ 1 Kg;
- 64% of the national production of cans is recycled.



SOCIAL COMMUNICATION PROJECT



Objective

Divulge the activity to the communities living in the Area of Influence, presenting the impacts related to the activity and the respective actions to be taken.





Subproject: Identification and Registration of Fishery Activities

Observation efforts (performed by a competent professional), during all drilling activity with verification and registration of fishery activities in the surroundings of the rig.

Report immediately to your supervisor if you see a fishing boat close to the rig.





Objective

Evaluate, in a participative way with the artesian fishery community of the area of influence, which educative and competence actions would increase the hability of management of local projects.





Objective

Inform the workers involved in the project about the activity's pollutant potential and their role in reducing the environmental impacts of this activity.





Objective

To characterize the behavior of the meso-scale circulation in the region of *Vitória-Trindade* current, considering the complex system of currents in the region.

This project aims to assist in understanding the pattern of local circulation.



OIL SPILL RESPONSE PLAN -OSRP



Objective

To minimize the damage caused by accidents of oil pollution at sea establishing procedures for an effective response.

The Oil Spill Response Plan meets CONAMA Resolution N°398.





Accidental Scenarios

- Spill from tanks of the supply boats;
- Spill during the transfer of oil from the supply boat to the drilling unit;
- Spill from tanks of the drilling unit;
- Spill due to blowout of the well during the drilling or formation tests.





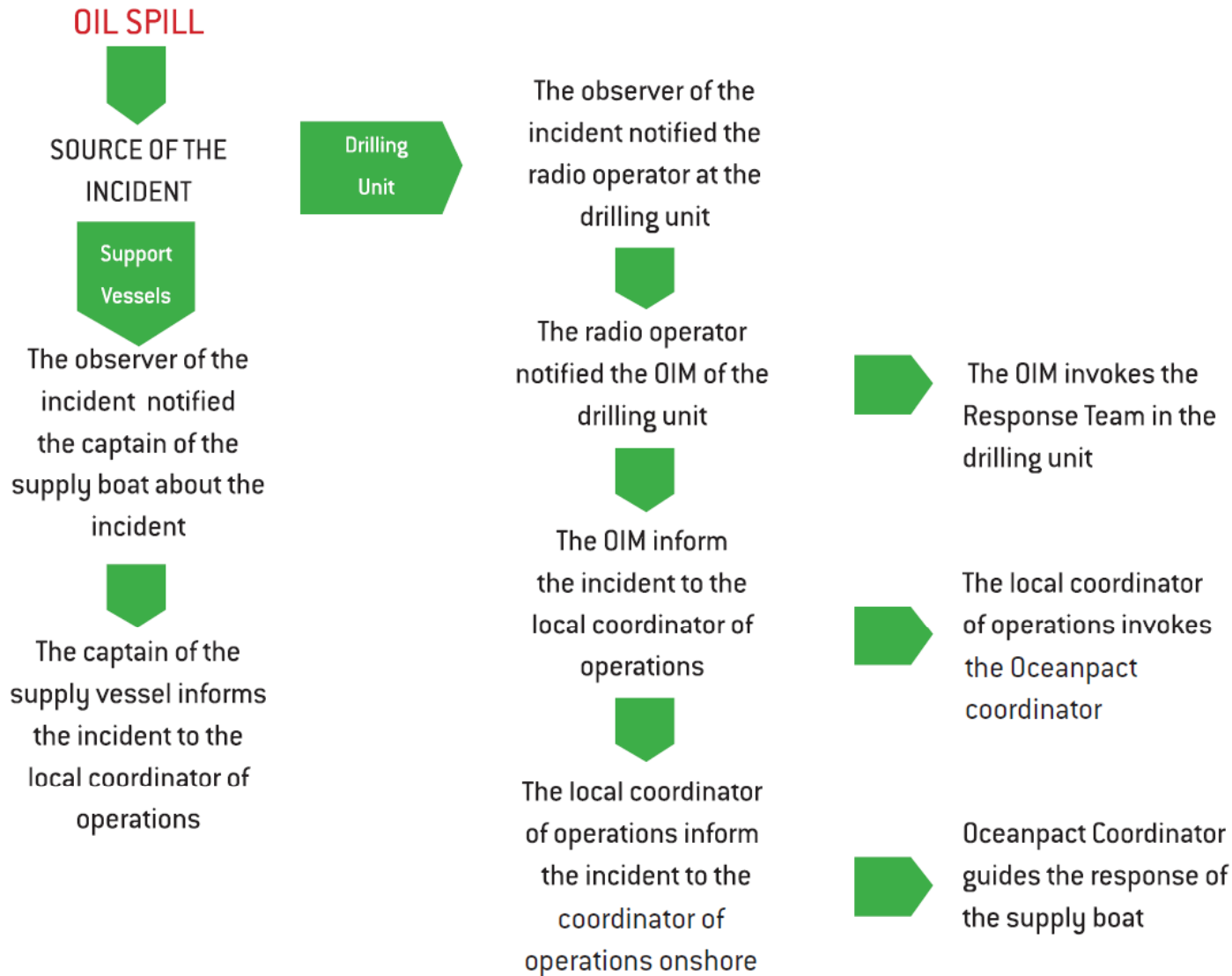
Communication of Spill

Perenco will report every oil spill incident to IBAMA, the Port Authority of Jurisdiction and ANP (Brazilian National Agency of Petroleum, Natural Gas and Biofuels).

In case of oil spill, your first reaction must be to contact the control room!

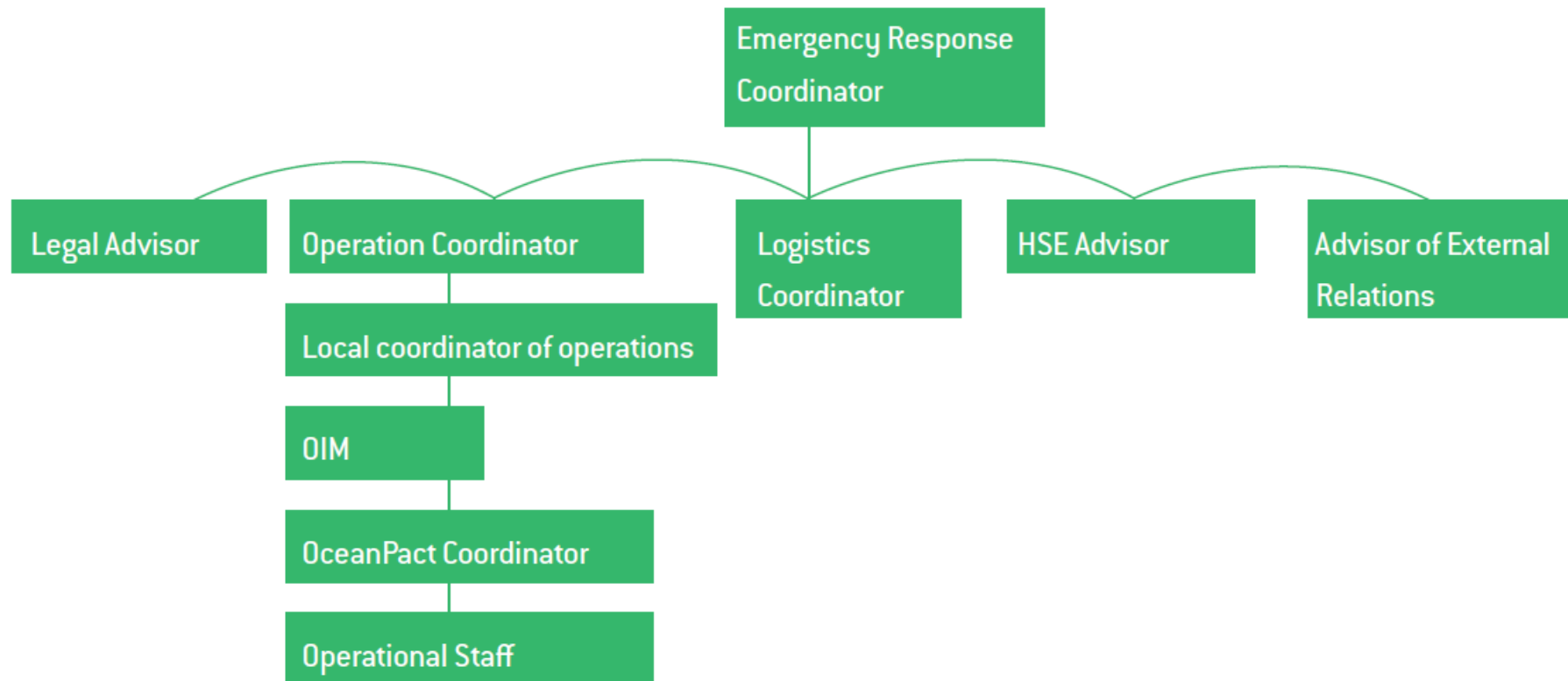


OIL SPILL RESPONSE PLAN - OSRP





Emergency Response Organization





Response Equipment

Oil spill on board of the Drilling Unit

Ocean Star has 07 SOPEP kits containing:

- Absorbent pads;
- Gloves;
- Tyvek overall;
- Long distance goggles;
- Respirator;
- Waste bags;
- Shovels.





Response Equipment

Oil Spill at sea

The dedicated and supply vessels of the drilling operation will contain equipments and materials in order to combat oil spill.





Operational Response Procedures

Response procedures described in the OSRP.

OceanPact Company is responsible for the implementation and execution of this plan.





THANK YOU!!!!

