



FRESH WATER SPILL 2002 SYMPOSIUM

GUANABARA BAY OIL SPILL INCIDENT - “The Brazilian Exxon Valdez” An Institutional Perspective

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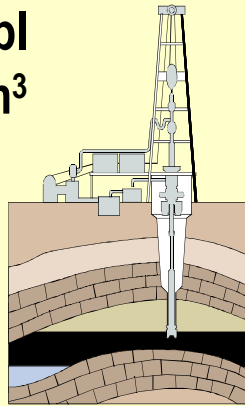
National Petroleum Agency - ANP(Braz

Cleveland
March, 2002

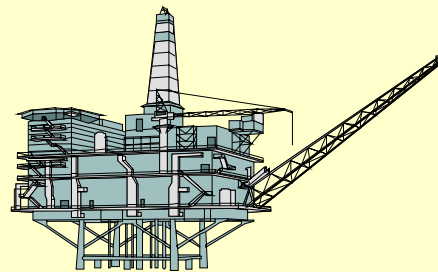


Brazil – Oil & Gas Data

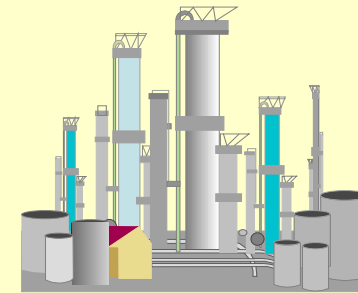
Proven Reserves (R/P 19 years)
Oil – 8.5 billion bbl
NG - 221 billion m³
(1.4 billion boe)



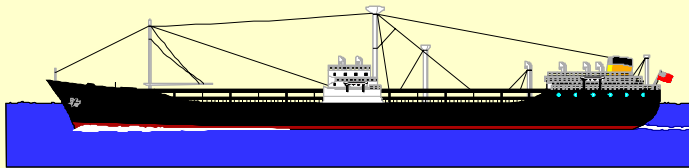
Production
1.27 million bbl/d
36.5 million m³/d



Refining Capacity
2.0 million bbl/d
NGPUs - 28 million m³/d



Net Imports (Imp - Exp)

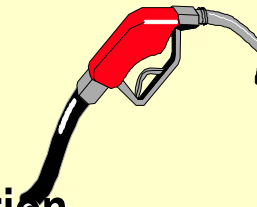


Oil - 379 thousand bbl/d
Oil products -192 thousand boe/d
NG – 6.1 million m³/d (2.2 billion m³/y)

Total Consumption

Oil products – 1.8 thousand boe/d
NG* - 27 million m³/d (preliminary data)

* Include internal sales (domestic and imported gas) and Petrobras consumption.



GUANABARA BAY SCENE (1)



GUANABARA BAY SCENE (4)



IGUAÇU RIVER SCENE (1)



(REUTERS/CNN-FILE)

IGUAÇU FALLS SCENE (2)



IGUACU RIVER OIL SPILL



Environmental Demanding Scenario

Before Guanabara Bay Oil Spill

- **Most of the oil and gas industry operating without the due Environmental License.**
- **The older the plant and installations, the less secure routines and environmental control.**
- **No Environmental Control for underground storage tank installations.**
- **Environmental Concerns and Management minor and peripheral for the oil and gas business.**
- **Poor environmental regulation and weak institutional action from the environmental agencies.**

New Environmental Demanding Scenario After Guanabara Bay oil spill

- **Individual Emergency Response Plan for oil pollution - to be approved by the environmental agencies.**
- **Regional and National Contingency Plan - to be consolidated by the Environmental Federal Authority.**
- **Mandatory Environmental Audit Practice - self or third part audits.**
- **“Risk Analysis” as a major decision making element.**

**New Environmental Demanding Scenario After
Guanabara Bay oil spill**

**Individual Emergency Response Plan for oil
pollution - Minimum Requirements:**

- **Scenarios Small and Most Probable Discharges
Worst Case Scenario**
- **Organizational Response Structure**
- **Human and Material Resources Inventory and/or
Third Part Contracts**
- **Response Procedures**
- **Basic Data Bank for Response**

New Environmental Demanding Scenario After Guanabara Bay oil spill

National Contingency Plan :

Objective - Establish responsibilities and guidelines to the private and public sectors for joint and coordinated action in oil pollution incidents.

Basic Philosophies:

- Facilitate or Enlarge the response actions from the Individual or Area Emergency Plan.**
- Assume the command in case of negligence and/or inadequate response actions / or cases of international involvement.**

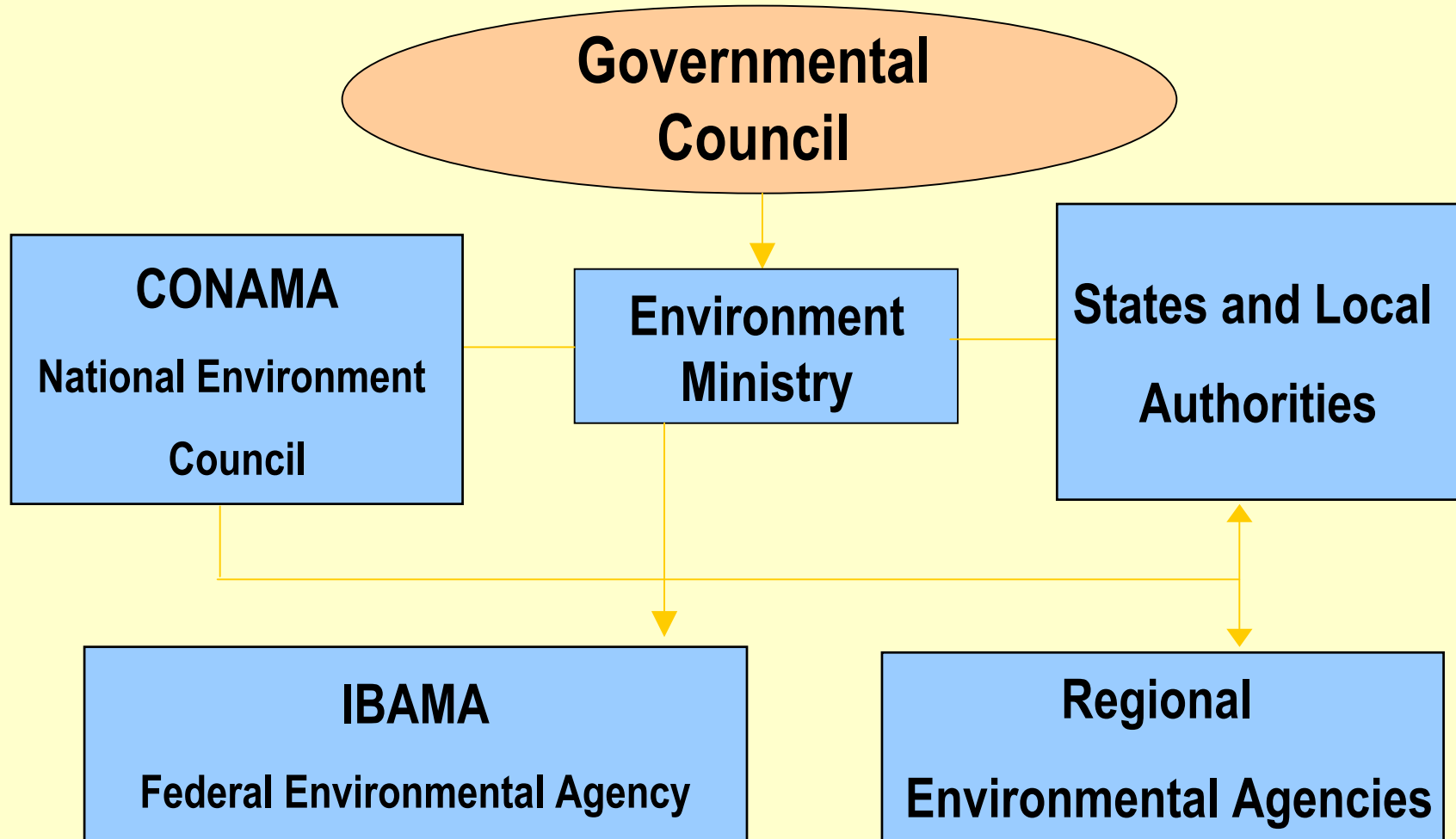
New Environmental Demanding Scenario After Guanabara Bay oil spill

- **Increase of equipment inspection standards on level and reliability**
- **Environmental License requirement for underground storage tank installations.**
- **Environmental Management raised to a corporate level in the oil industries organization structure.**
- **“PEGASUS”**: a long term Petrobras’ environmental program, to foresee the investment of US\$ 900 million over the next three years.

Oil Pollution Act (After “Exxon Valdez”)

- Notification mechanisms
- Emergency Plans
- Risk Analysis
- Alarms and Monitoring
- Inspection Routines
- Security Systems

The Environment National System



ANP - Responsibilities and Actions on Environmental Questions

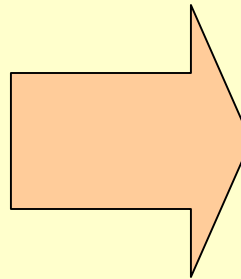
ANP

Environmental Agencies and Councils

Establishment of environmental standards and general principles

Issue Environmental Licenses

Environmental Control and Inspection



- Environmental Licenses as a requirement to Authorization and Concessions for the oil industry activities.
- Establishment of project quality standards and operational inspections .
- Institutional Partnership with Environmental Agencies.
- Establishment of responsibilities and operational causes on oil industry incidents.

MAIN CONCLUSIONS

- Real big changes in behavior, mentality and legislation only occur, in an effective way, after a major disaster. It is the prevalence of the “a posteriori” logic.
- The outcome as new environmental regulations, new operational procedures, environmental consciousness, preparedness and response capacity, appear or are created promptly, demonstrating that have always been achievable but latent, with no political or internal force to prevail by themselves.

MAIN CONCLUSIONS

At the oil industry level, several actions resulted from the new set of institutional demands:

Û Material and human resources improvement supporting their response plans,

Û Change in the organizational structure to raise the environmental management to a corporate level, and be part of the oil business.

Û Incorporate the environmental concern perspective into the Security culture and mentality.

CONCLUSIONS

ñ ANP has the firm conviction that the question shall change: :

- from “Can we do?”
- to “Should we do? And How?”

Ë All processes must be immerse in an open and transparent atmosphere, including the society and the communities in the influence area of the project.

**IN FACT THIS IS THE REASON FOR THE
AGENCY EXISTENCE**



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Nacional do
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Further information ...



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