

2000 OCS Best Practices Workshop
November 14 - Houston, Texas
November 16 - Lafayette, Louisiana

Final Agenda

- 7:30 a.m. Registration and continental breakfast
- 8:30 a.m. Welcome and agenda review – Allen Verret, OOC
8:45 a.m. MMS Remarks
Houston – Carolita Kallaur, Associate Director
Lafayette – Chris Oynes, GOM Regional Director
- 9:00 a.m. USCG Remarks – Lt. Commander Bill Daughdrill, 8th District
9:15 a.m. Review of OCS Performance Indices – Ray Beittel, MMS
9:45 a.m. Review of OCS incidents – Don Howard, MMS
- 10:00 a.m. Coffee break
- 10:15 a.m. Drilling safety
EnSCO Offshore Company – Steve Gruver
Global Marine – Rick McClaine
- 11:15 a.m. Pollution Prevention
Anadarko Petroleum Corporation – Tommy Ward
Texaco Exploration and Production Company – David Barbin
- 12:15 p.m. Lunch
- 1:15 p.m. Production Safety
Island Operating Company – Gregg Falgout and Karl Leger
Conoco Incorporated – Glen Schaaf
Kerr-McGee Oil & Gas Corporation – Charlie Duhon
2:45 p.m. Operator-contractor Coordination – Danny Young, BP
(Houston); Bruce Adams, Schlumberger (Lafayette)
Review of OOC Safety Work Team effort to create a forum
for establishing common expectations about safety issues.
- 3:15 p.m. Concluding Remarks – Allen Verret, OOC
- 3:30 p.m. Adjourn



8:45 a.m. MMS Remarks

Houston - Carolita Kallaur, Associate Director
Lafayette - Chris Oynes, GOM Regional Director

9:00 a.m. USCG Remarks

Lt. Commander Bill Daughdrill, 8th District

Review of OCS Performance Data for 1996-1999

Presented to the OCS Best Practices Workshop
Ray Beittel
Minerals Management Service

Houston, Texas - 14 November 2000
Lafayette, Louisiana - 16 November 2000



OCS Safety and Environmental Management Program

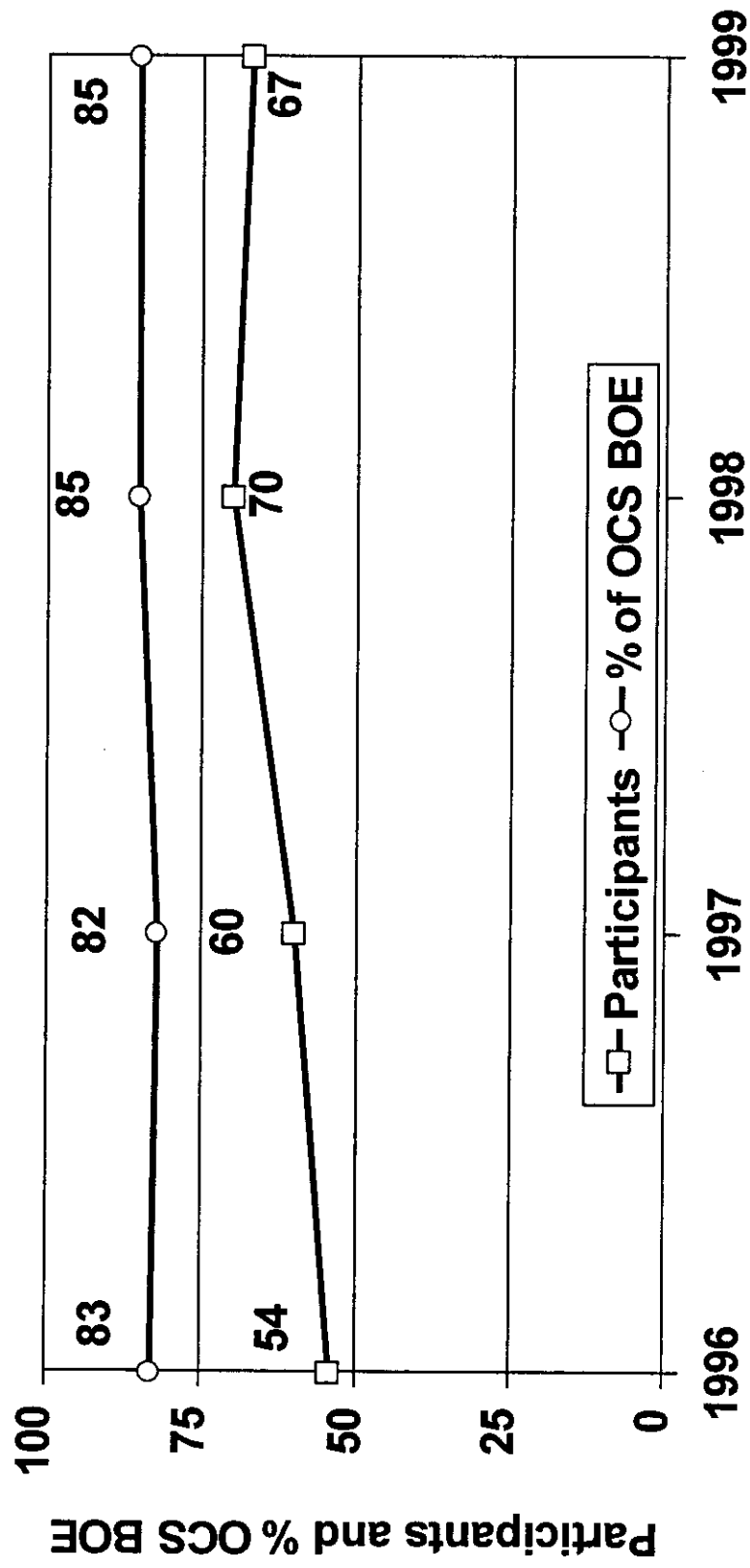
OCS Performance Measures Program

- ✓ **Started in 1997**
- ✓ **Create performance baseline**
- ✓ **Industry/government effort**
- ✓ **Consensus product**
- ✓ **Depends on voluntary participation**



OCS Safety and Environmental Management Program

Participation in OCS Performance Data Survey



OCS Safety and Environmental Management Program

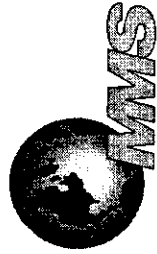
Performance Measures

- ✓ **20 incident rates**
- ✓ **Rate = incident ÷ opportunity**
- ✓ **Annual calculation; historical data**
- ✓ **Industry or participant incident rate**



Incident Rate Types

- ✓ **Industry incident rate**
 - **Only MMS data**
 - **All of the OCS**
- ✓ **Participant incident rate**
 - **No or some MMS data**
 - **Part of the OCS**



Incident Rate Categories

- ✓ Safety**
 - **Injuries and Illnesses (8)**
 - **Accidents (2)**
- ✓ Environmental**
 - **Oil spills (7)**
 - **Pollutant discharges (1)**
- ✓ Compliance**
 - **Drilling INCs (1)**
 - **Production INCs (1)**

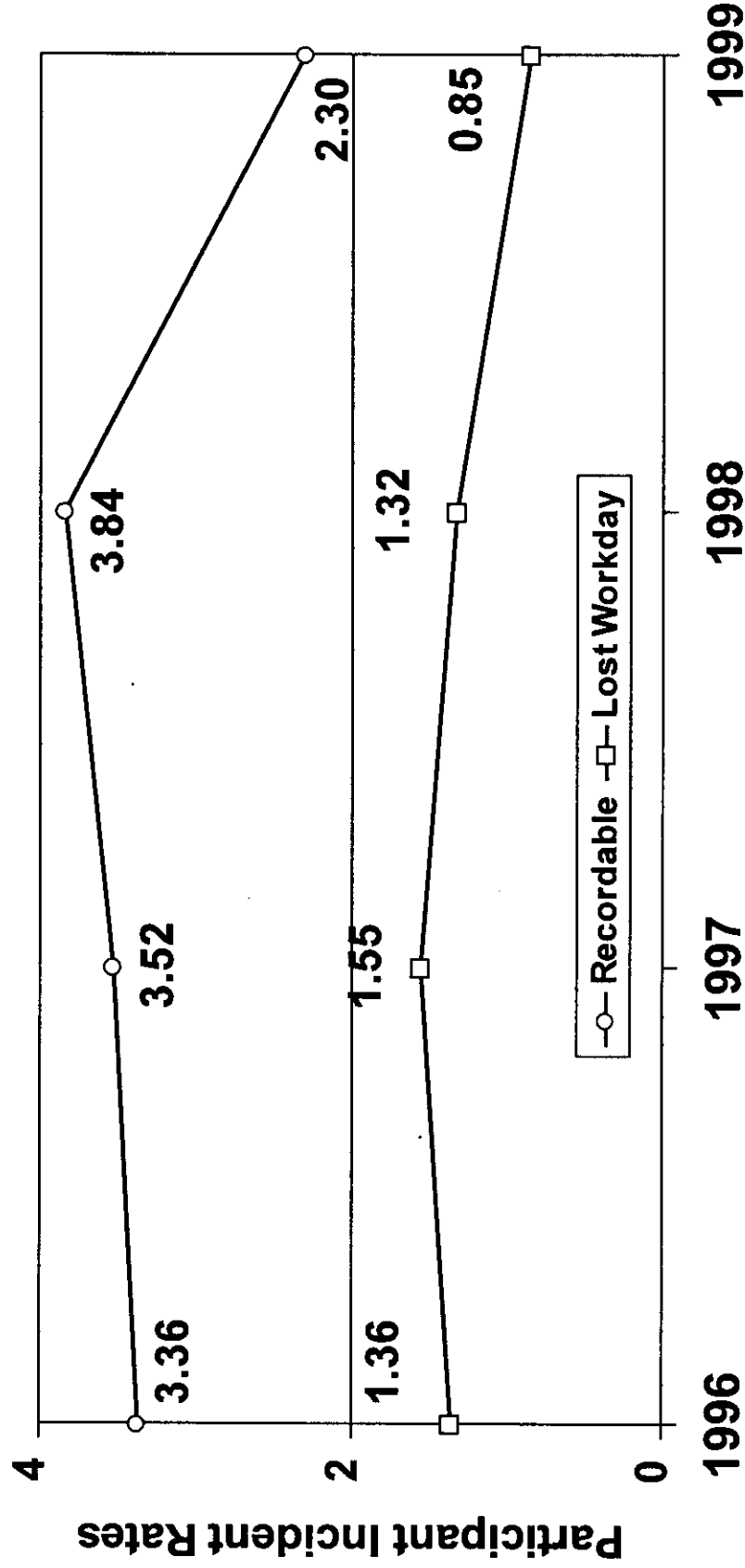


Safety - Injuries and Illnesses

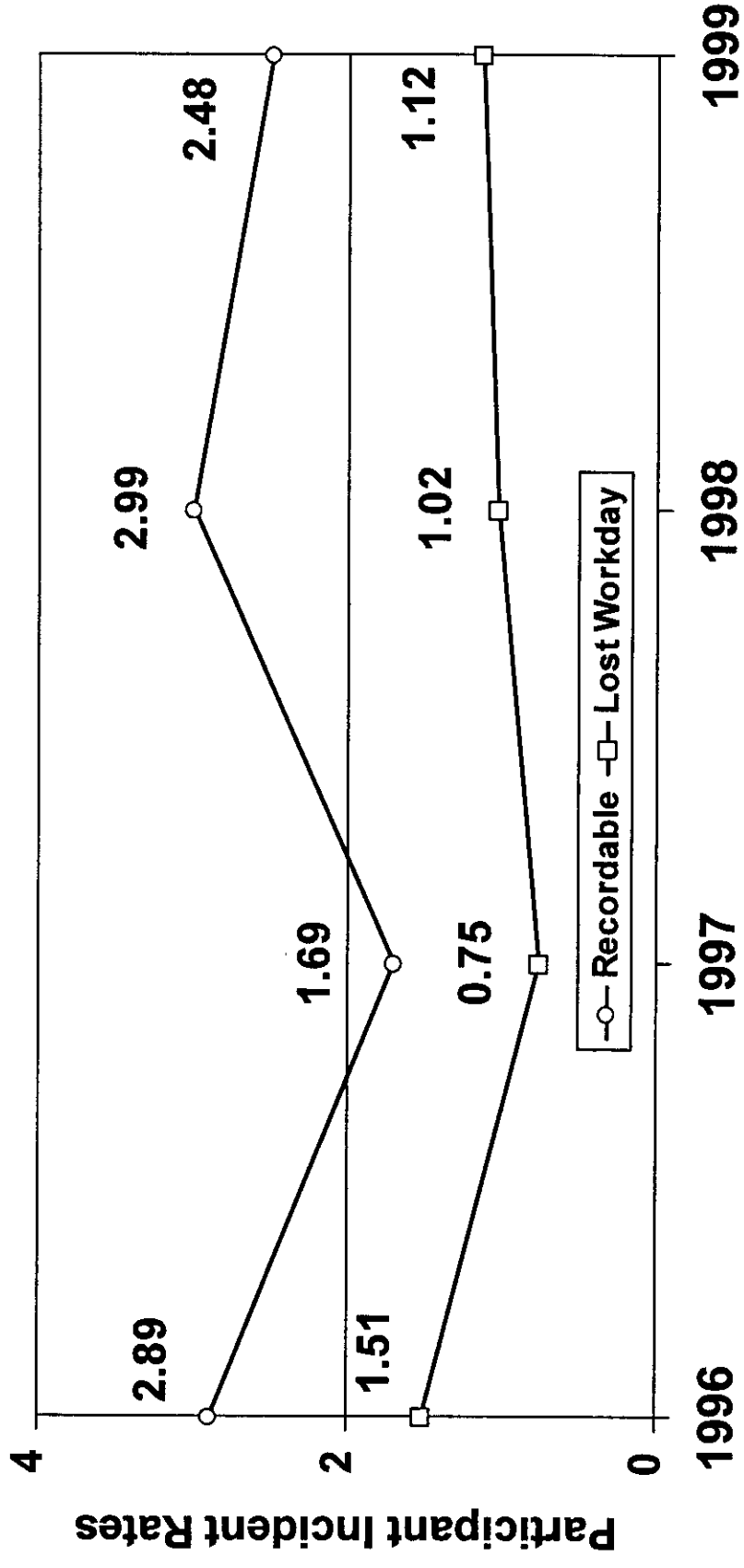
- ✓ **OSHA definitions**
- ✓ **Voluntarily reported to MMS**
- ✓ **Injury/illness categories**
 - **Recordable**
 - **Lost workday case**
- ✓ **Work categories**
 - **Drilling**
 - **Construction**
 - **Production**
 - **Combined operations**
- ✓ **Injury/illness rate =**
(injuries + illnesses) ÷ hours worked



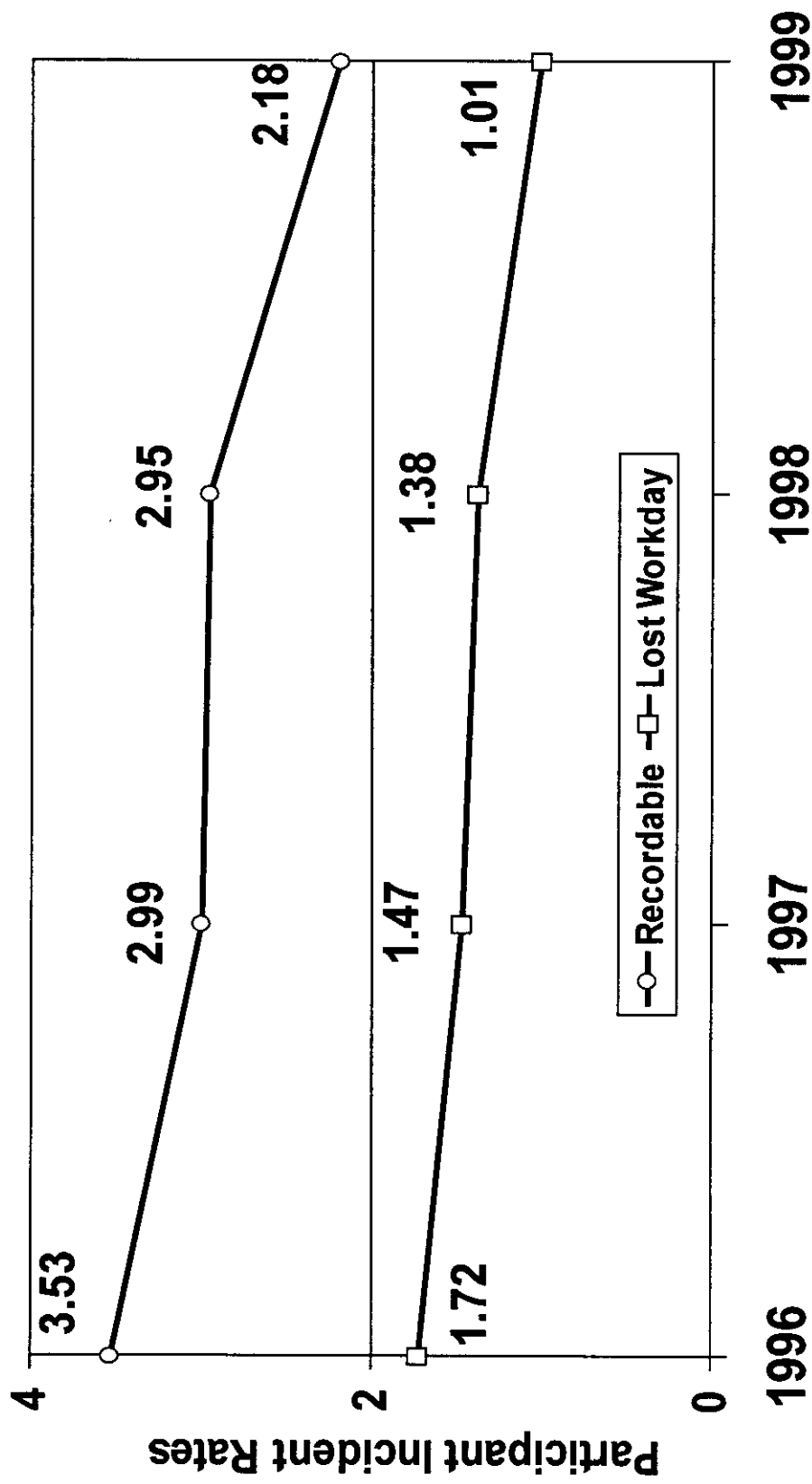
Drilling Operations Recordable and Lost Workday Case Incident Rates



Construction Operations Recordable and Lost Workday Case Incident Rates

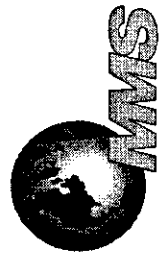
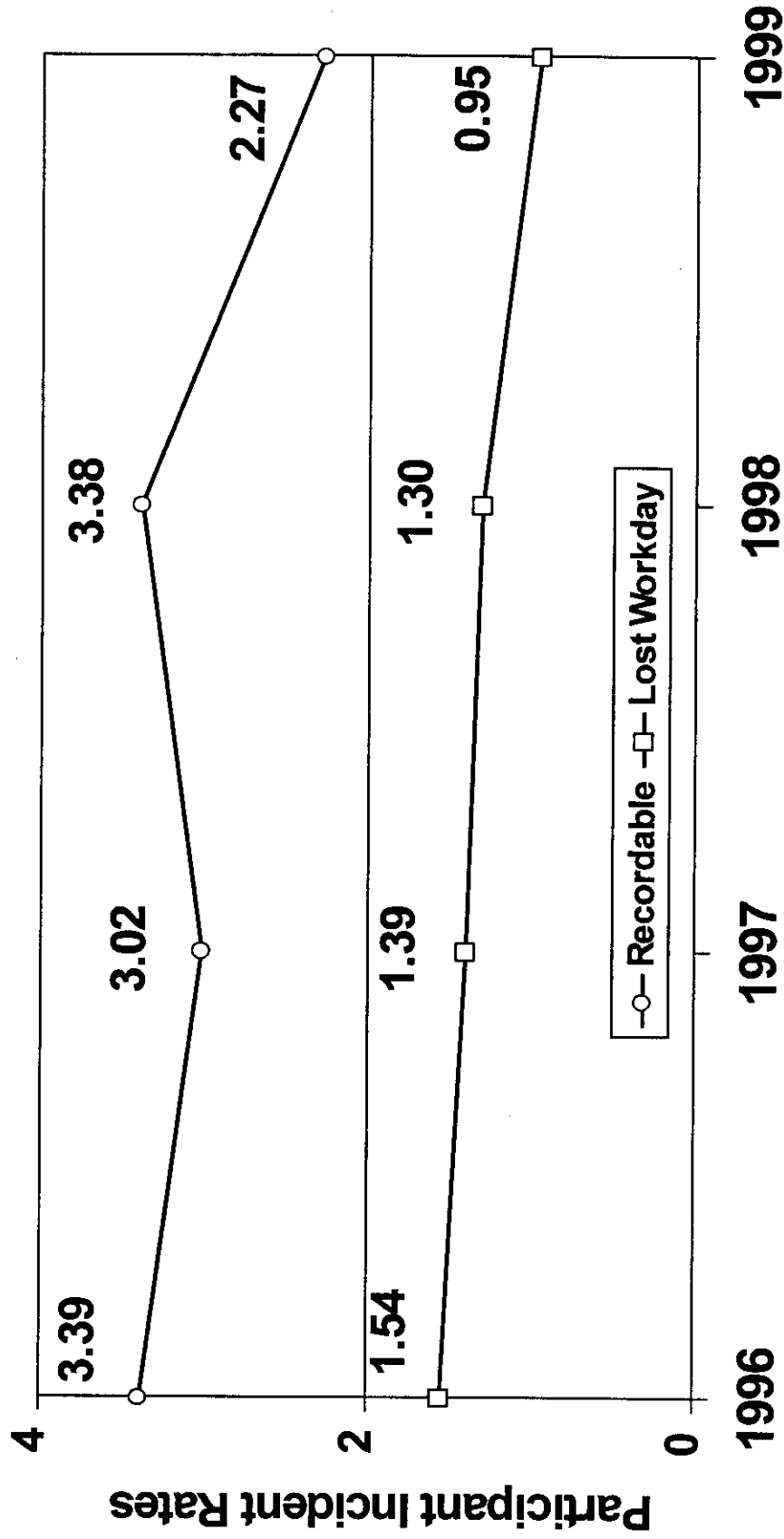


Production Operations Recordable and Lost Workday Case Incident Rates



OCS Safety and Environmental Management Program

Combined Operations Recordable and Lost Workday Case Incident Rates

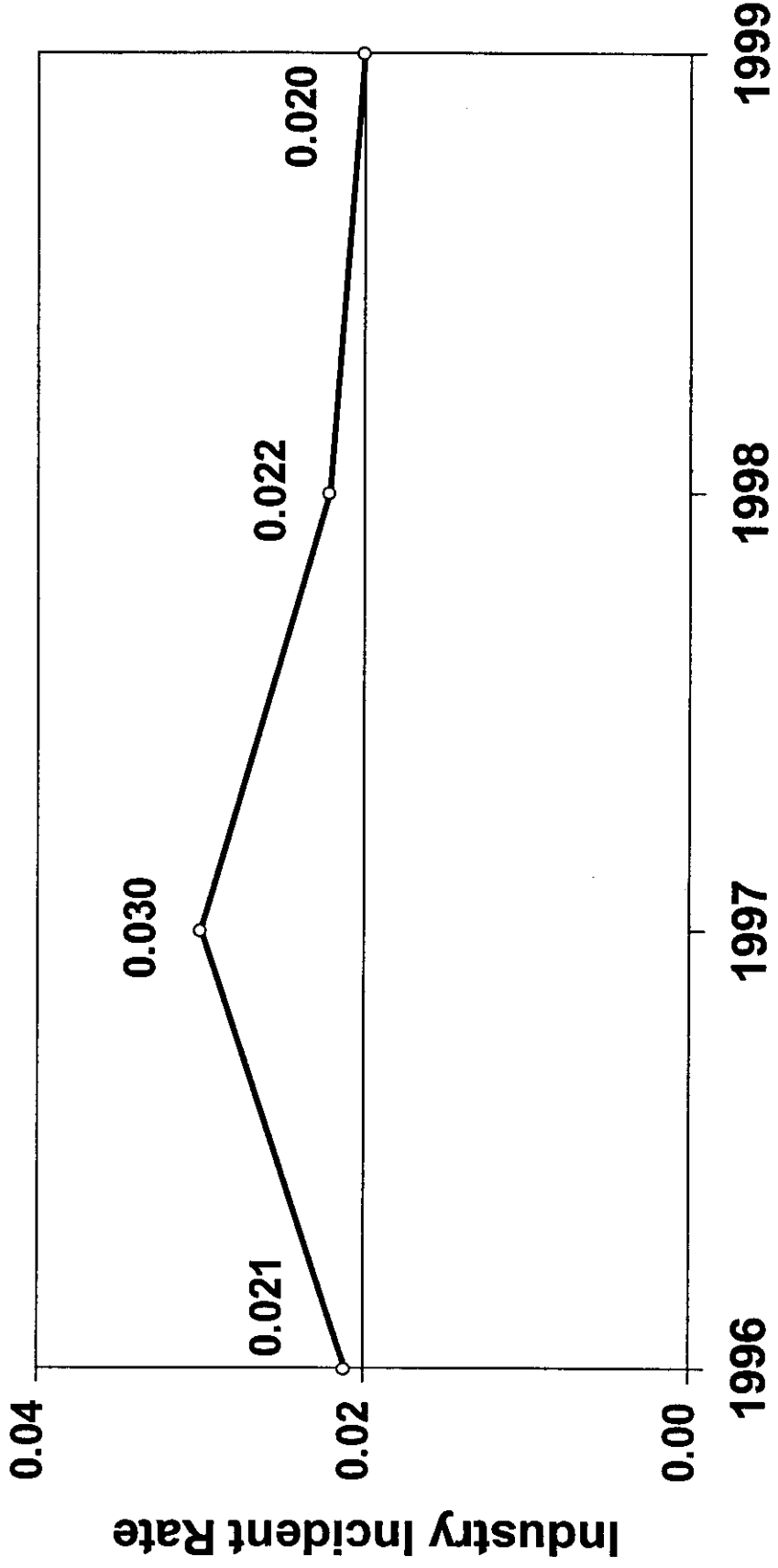


Safety - Accidents

- ✓ **Fires and explosions; well blowouts**
- ✓ **Reported by rule to MMS**
- ✓ **Fire/explosion rate =
(fires + explosions) ÷ (platforms + wells spudded)**
- ✓ **Well blowout rate =
well blowouts ÷ wells spudded**

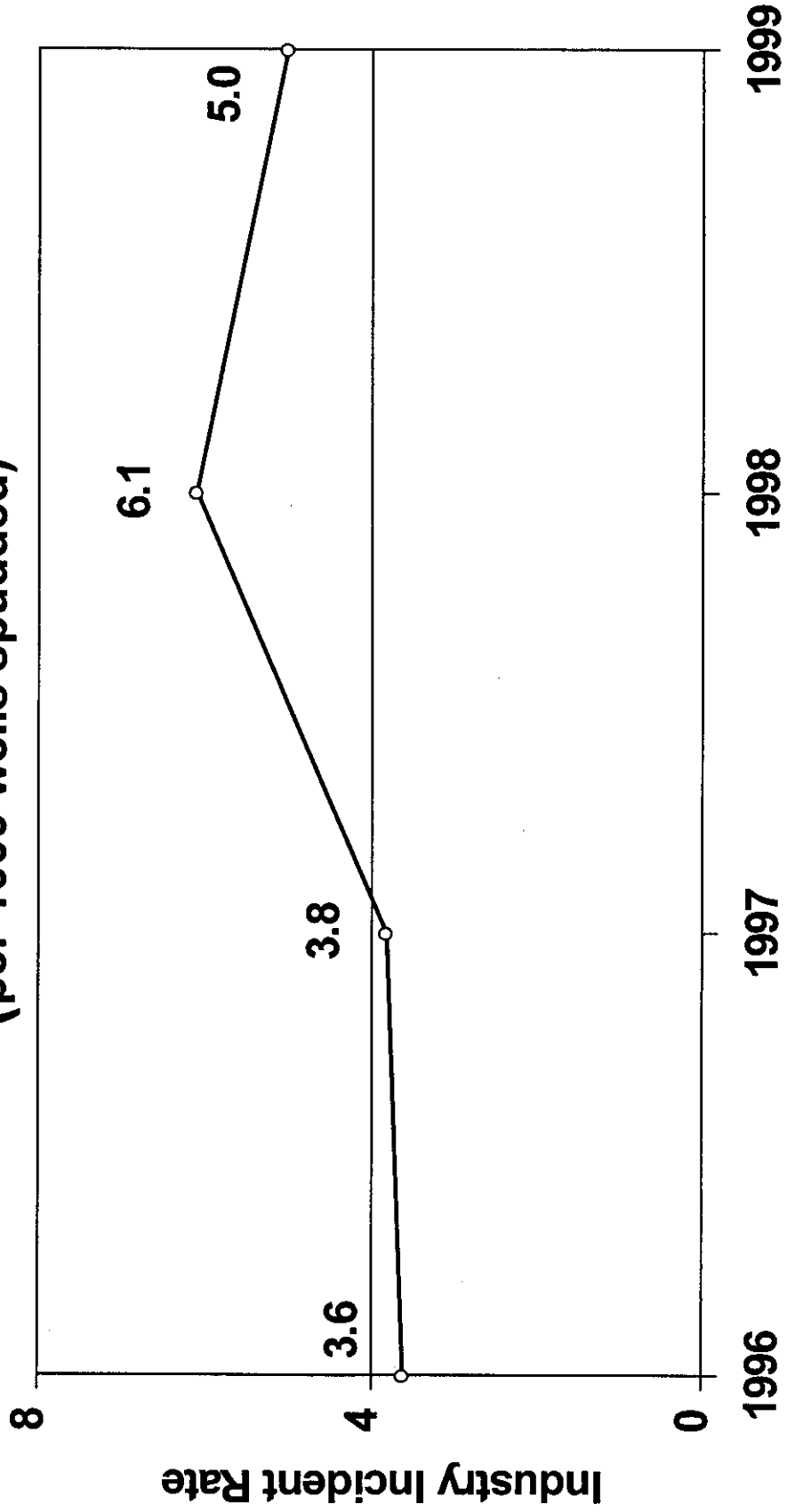


Fire and Explosion Incident Rate



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Blowout Incident Rate (per 1000 wells spudded)



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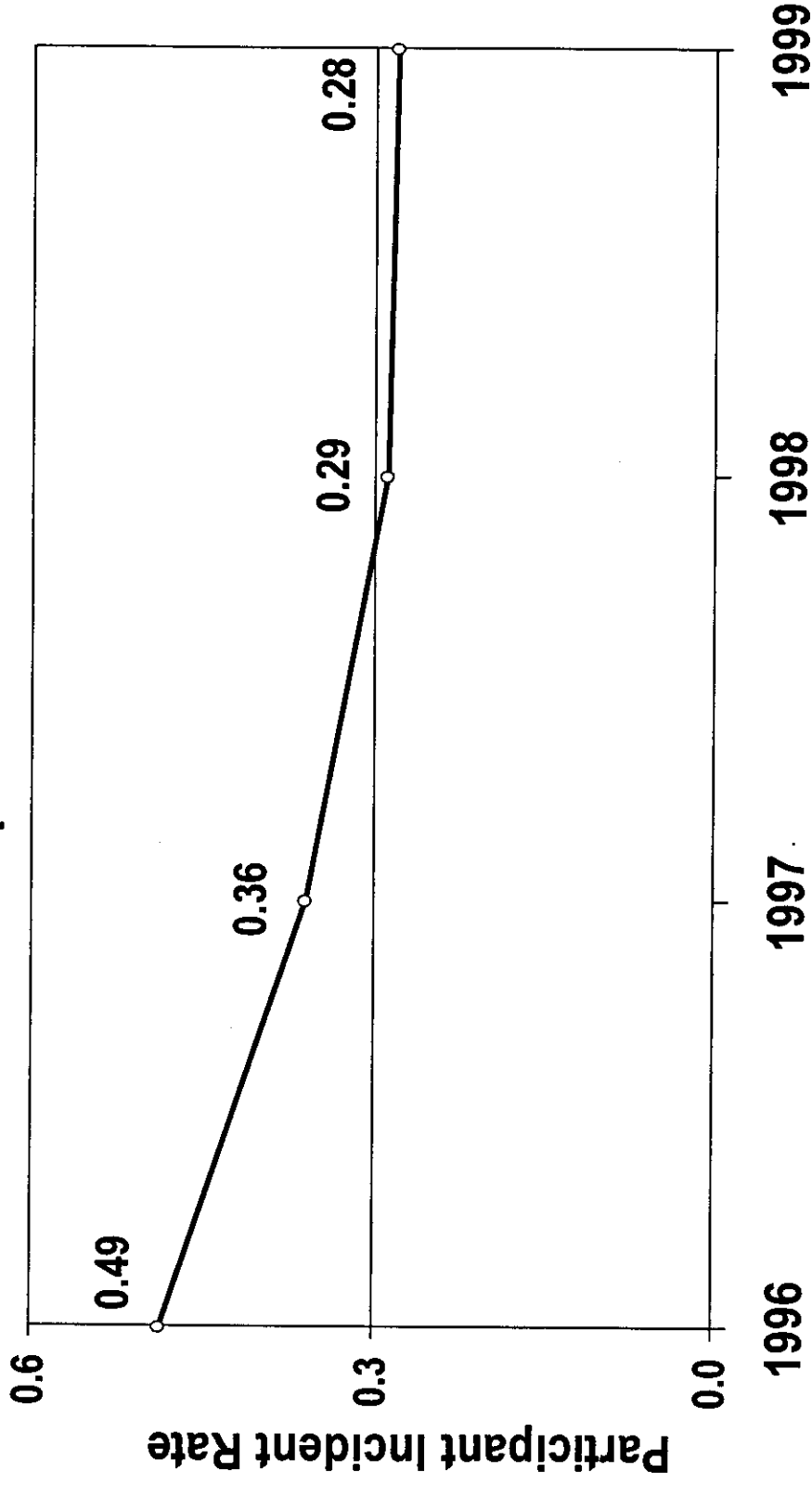
Environmental - Oil Spills

- ✓ **Rates for number and volume**
 - **Spill number rate =**
number of spills ÷ (platforms + wells spudded)
 - **Spill volume rate =**
volume spilled ÷ volume produced
- ✓ **Spill size categories**
 - **Less than 1 bbl**
 - **1 bbl to less than 10 bbl**
 - **10 bbl or more**



Oil Spill Number Incident Rate

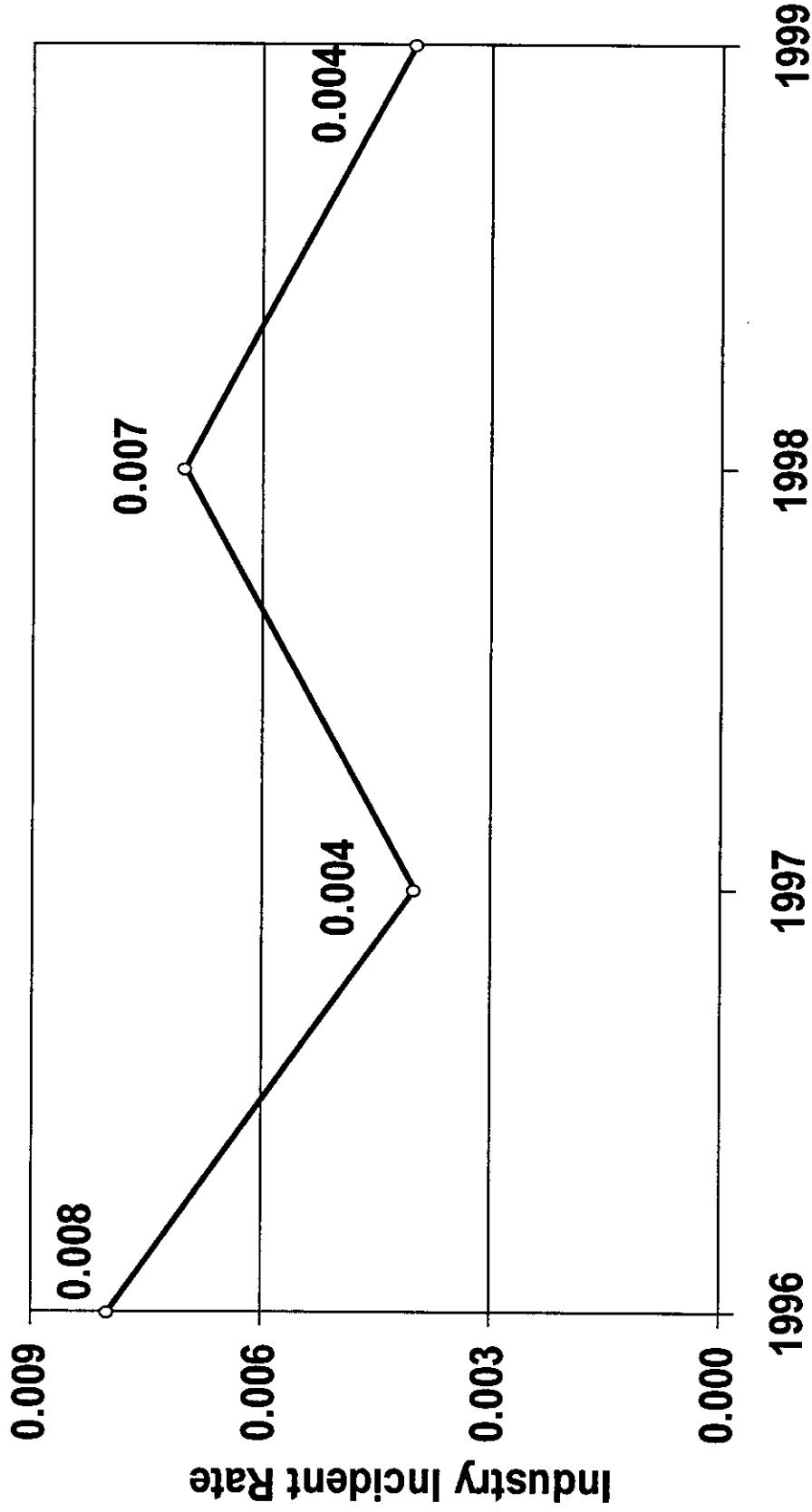
spills <1 bbl



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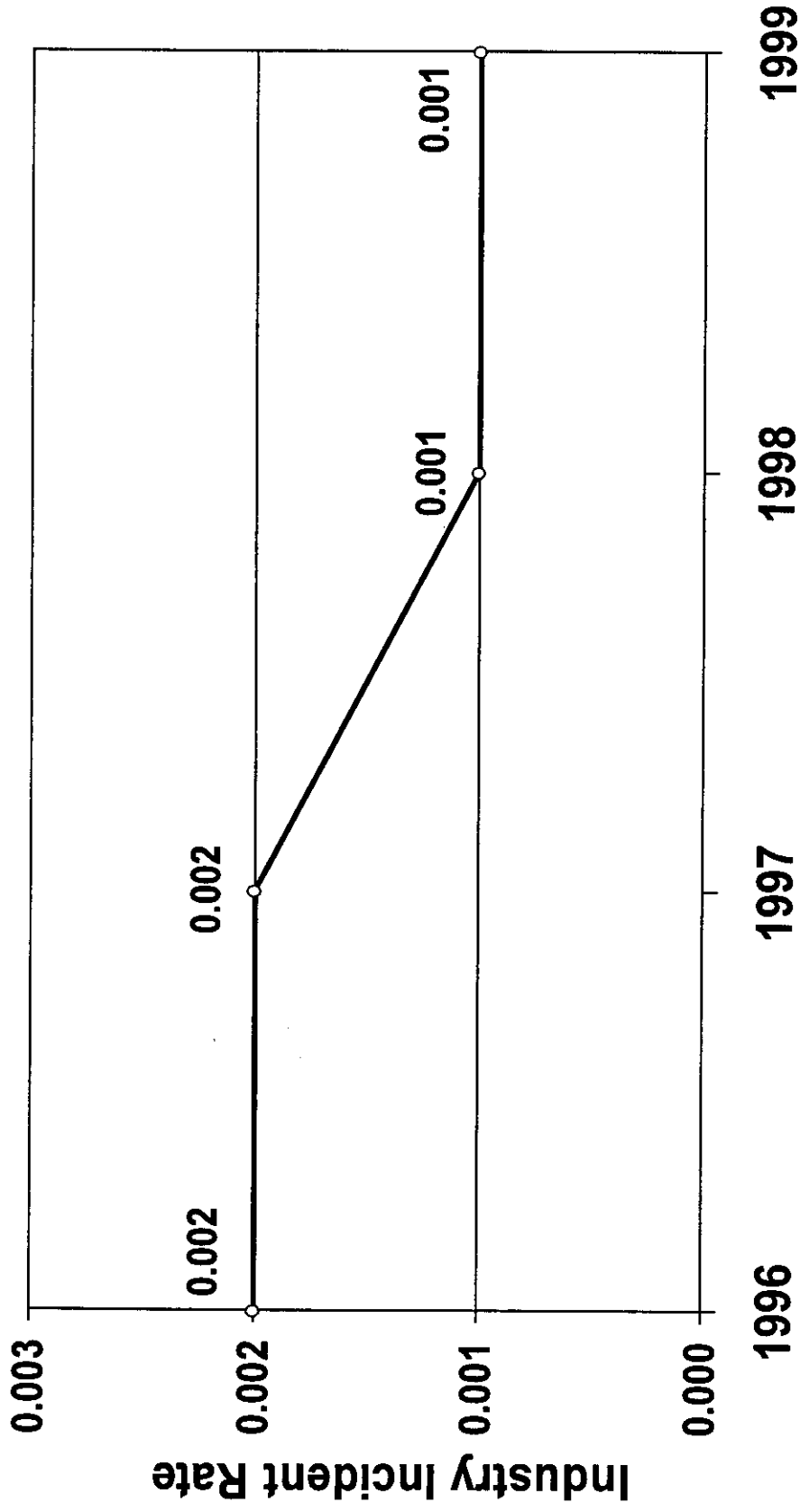
Oil Spill Number Incident Rate

spills ≥ 1 to < 10 bbl



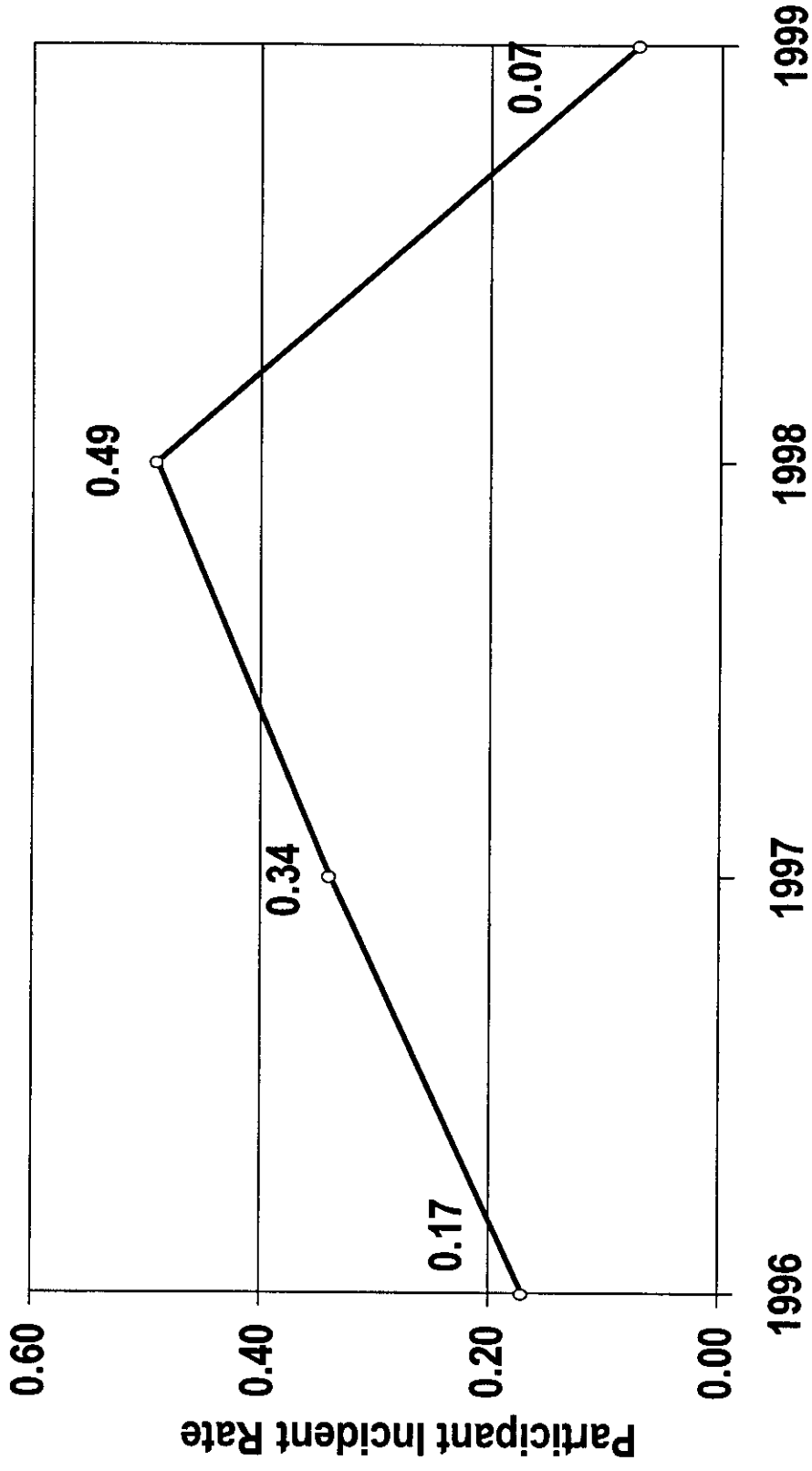
OCS Safety and Environmental Management Program

Oil Spill Number Incident Rate spills ≥ 10 bbl



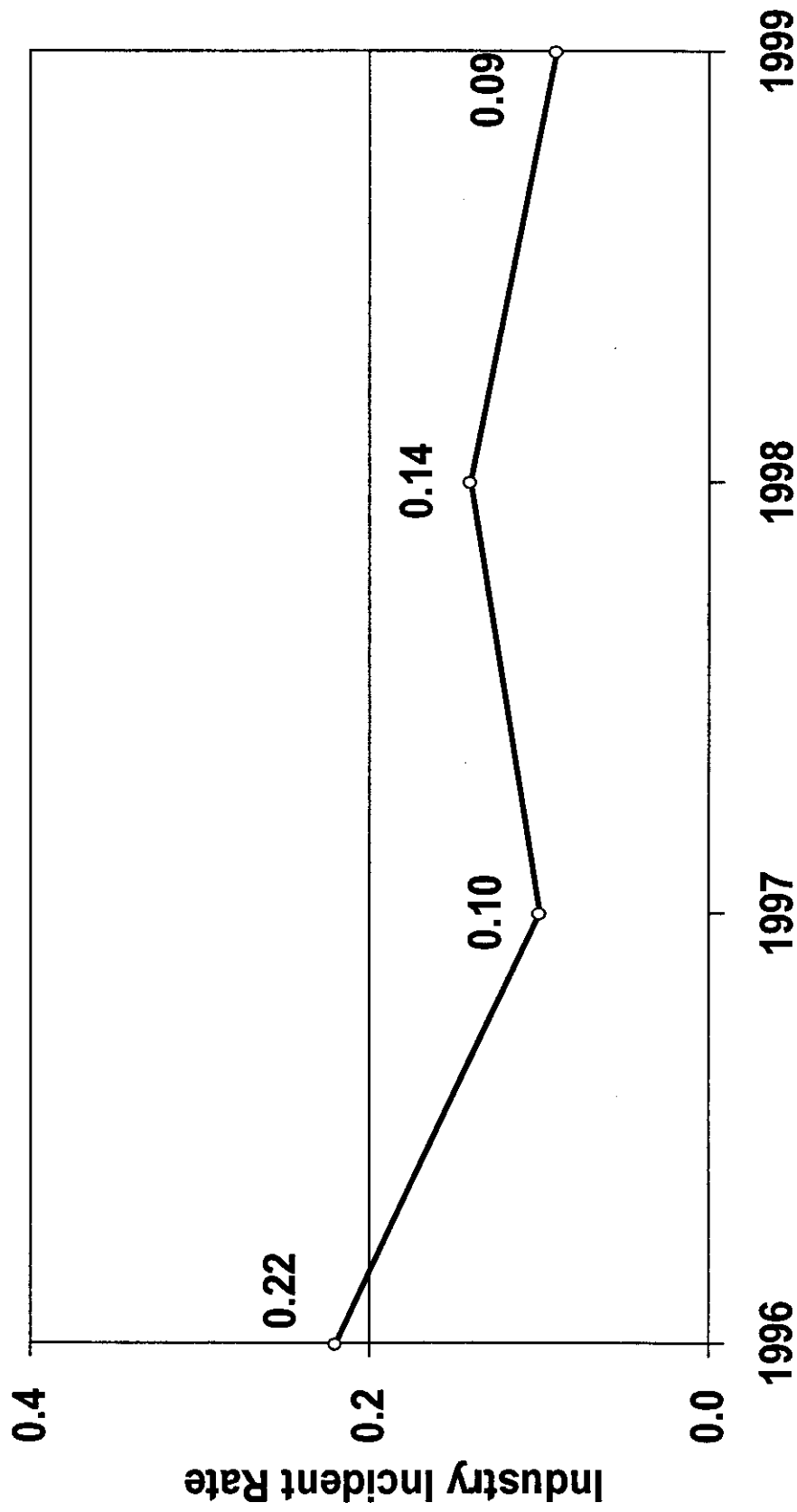
OCS Safety and Environmental Management Program

Oil Spill Volume Incident Rate spills <1 bbl



OCS Safety and Environmental Management Program

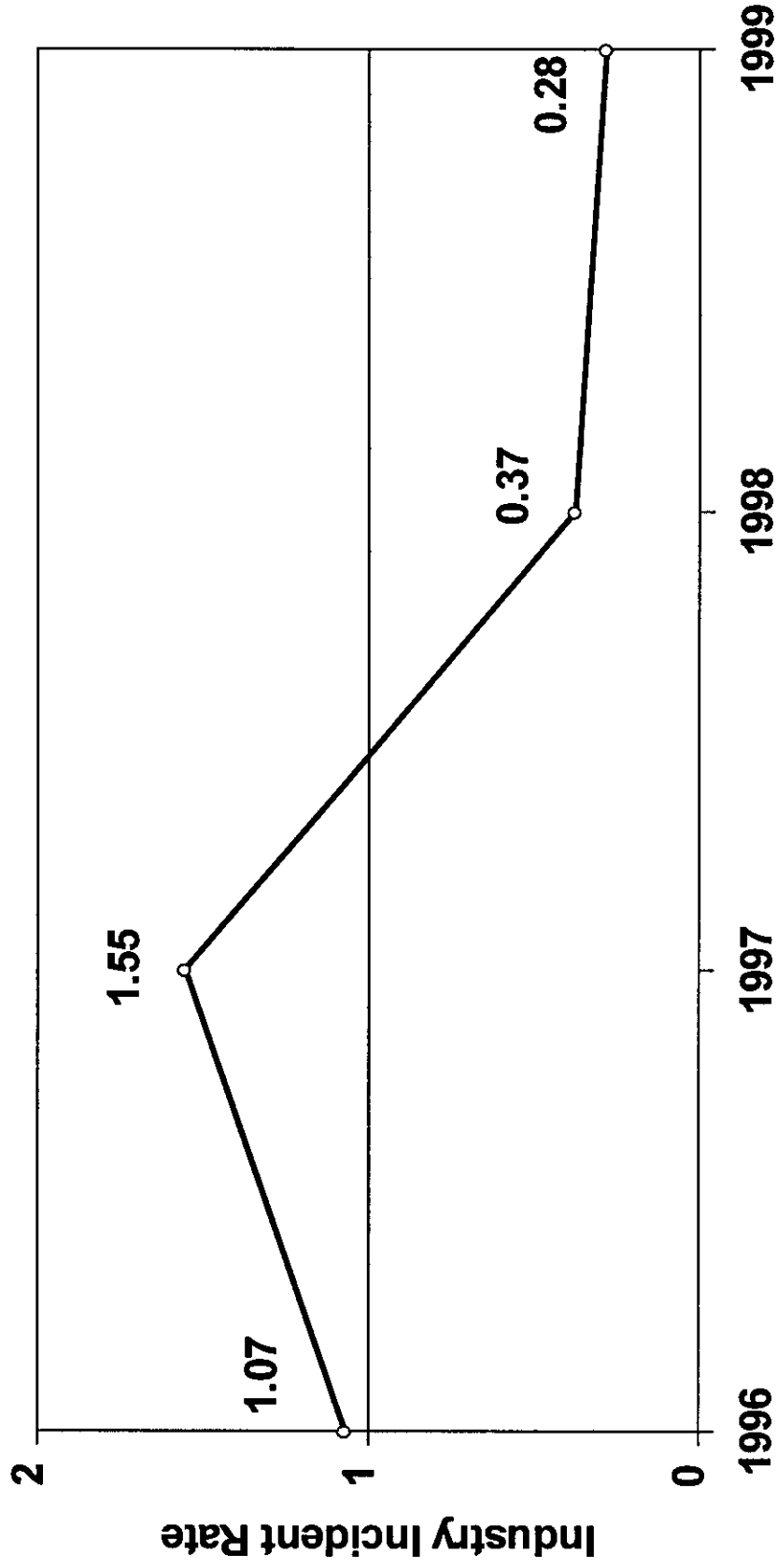
Oil Spill Volume Incident Rate spills ≥ 1 to < 10 bbl



OCS Safety and Environmental Management Program

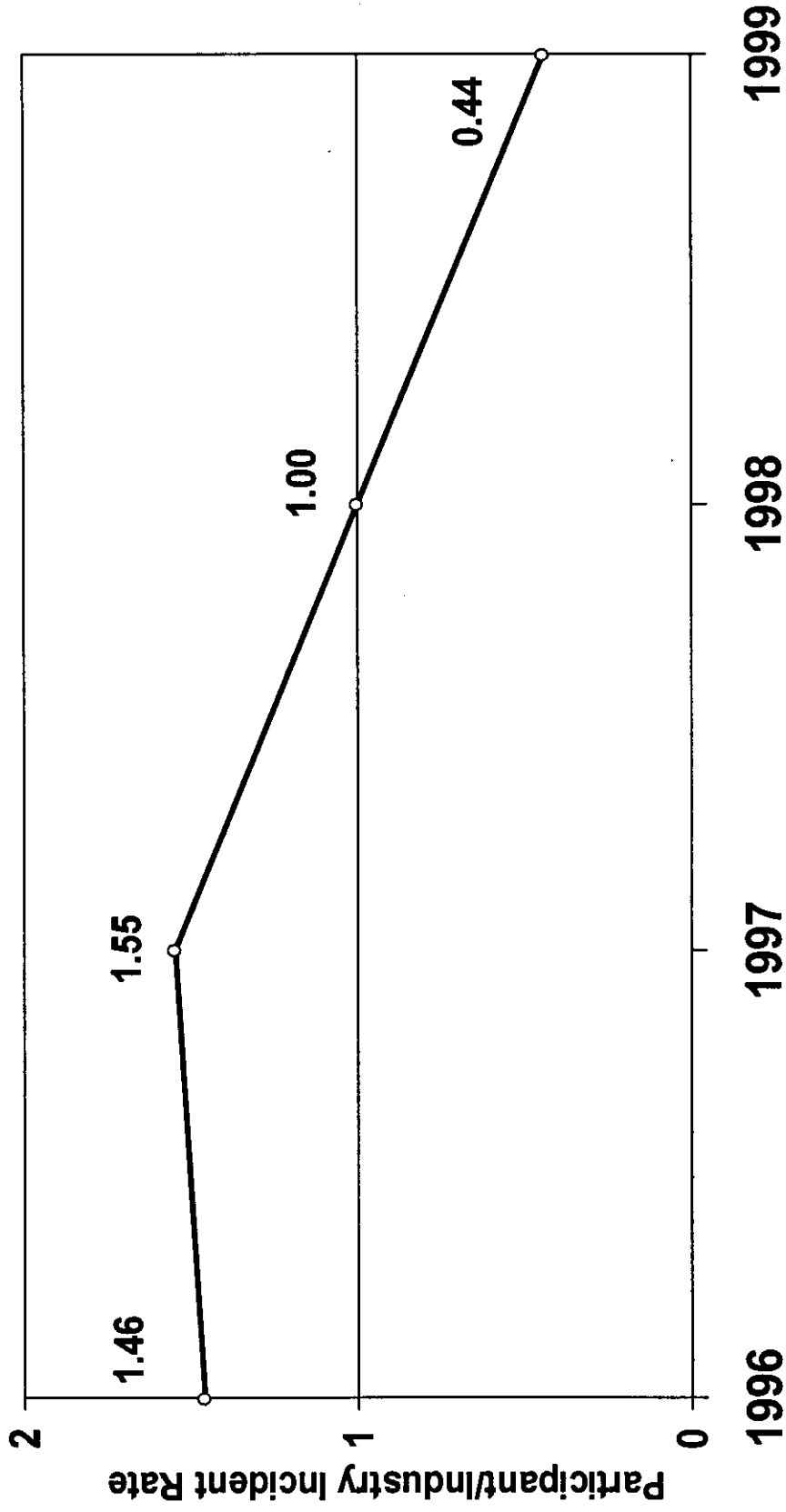
Oil Spill Volume Incident Rate

spills ≥ 10 bbl



OCS Safety and Environmental Management Program

Oil Spill Volume Incident Rate Combined Spills



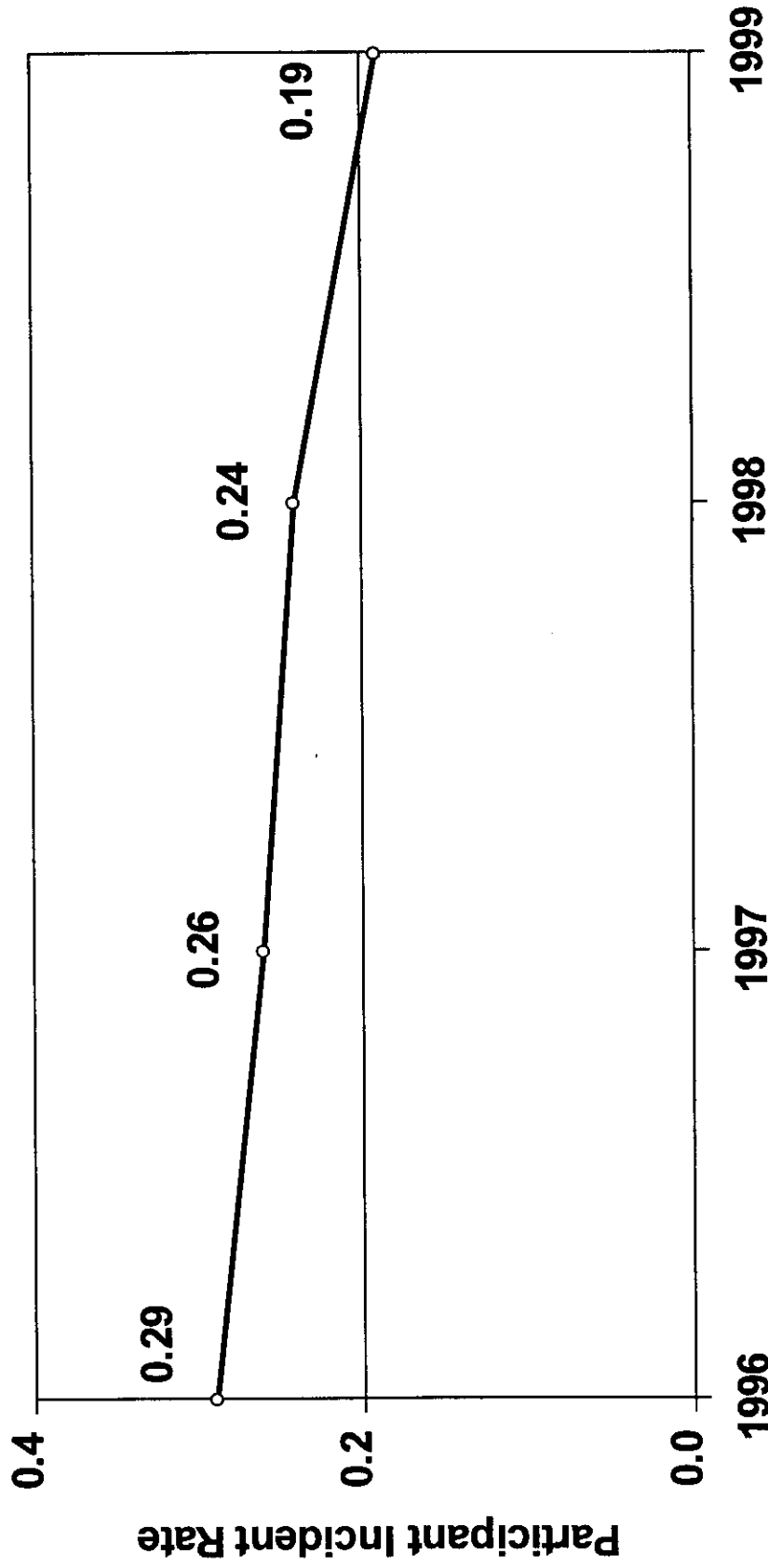
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Environmental - Pollutant Discharges

- ✓ **Non-compliance with NPDES permit**
- ✓ **Recorded on DMR**
- ✓ **Voluntarily reported to MMS**
- ✓ **Non-compliance rate =
non-compliances ÷ (platforms + wells spudded)**

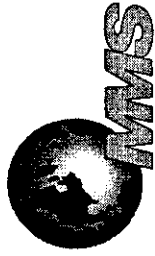


NPDES Non-compliance Incident Rate

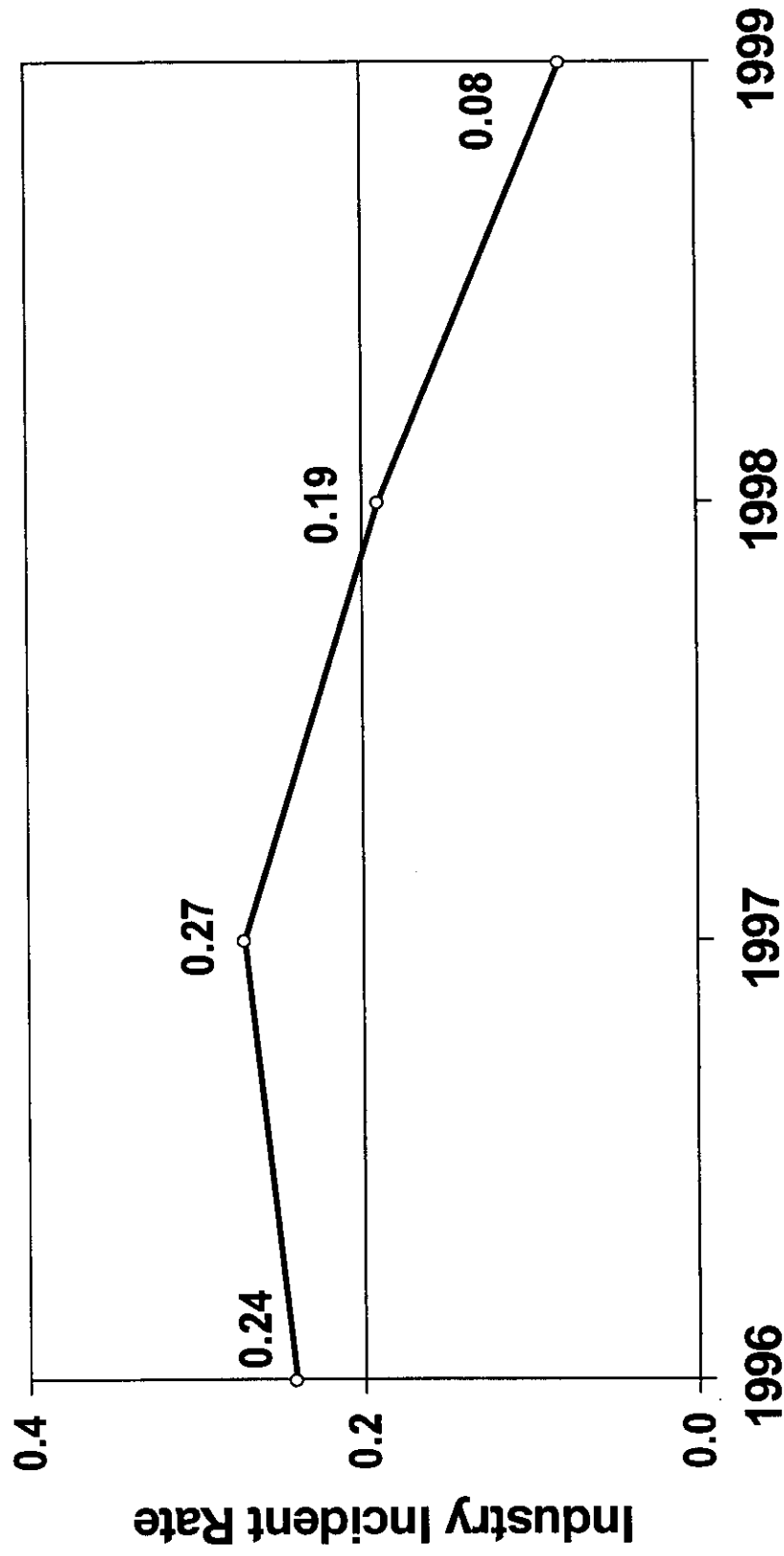


Compliance - MMS INCs

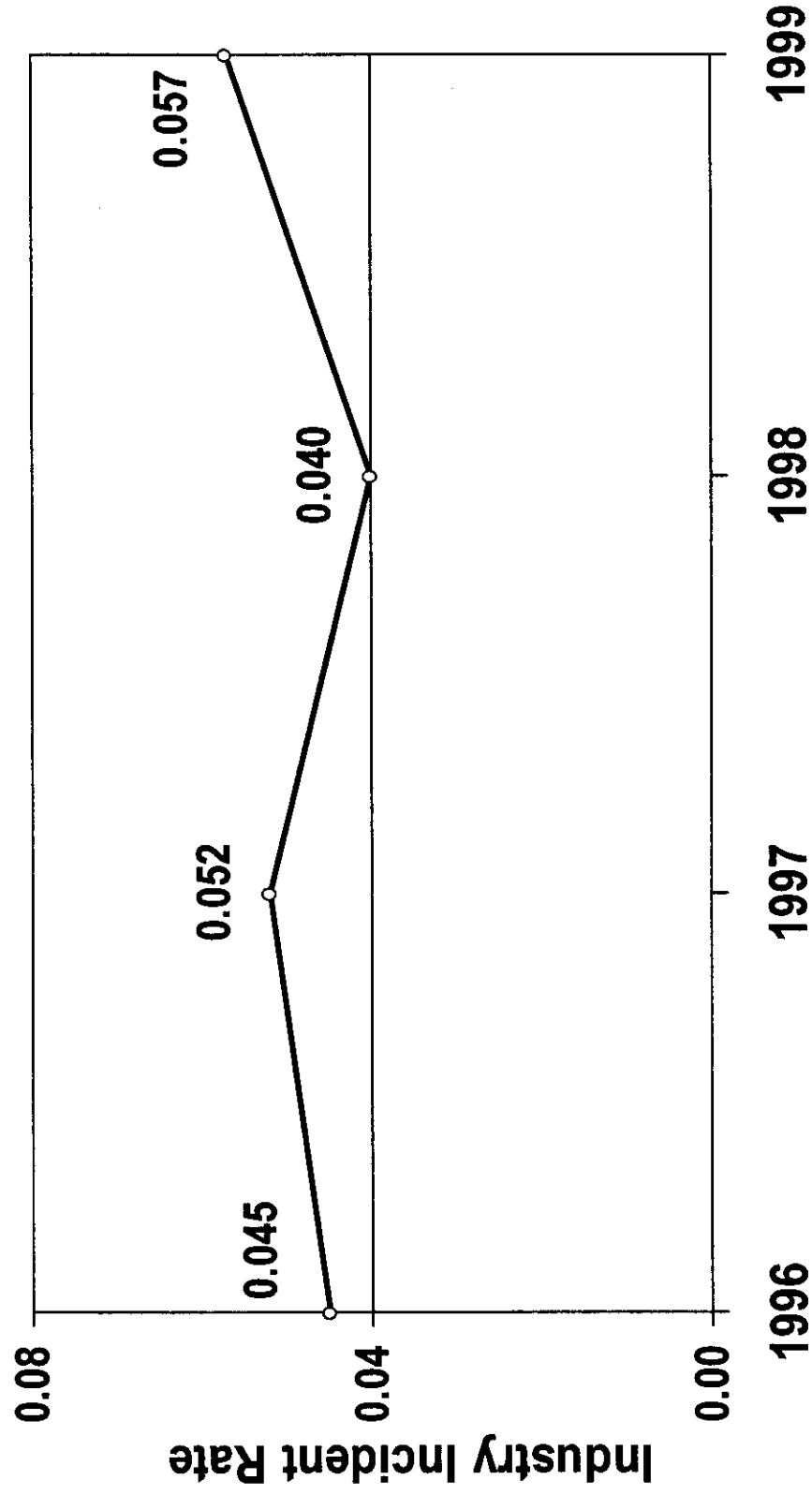
- ✓ **MMS inspection data**
- ✓ **Drilling/workover INC rate =
drilling INCs ÷ drilling rig inspections**
- ✓ **Production INC rate =
production INCs ÷ components inspected**



Drilling/Workover INC Incident Rate



Production INC Incident Rate



OCS Safety and Environmental Management Program

More Information

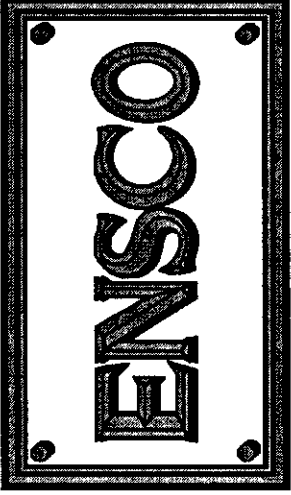
- ✓ **MMS web site**
 - **Safety page - performance measures**
 - **www.mms.gov/offshoresafety**
- ✓ **Ray Beittel**
 - **raymond.beittel@mms.gov**
 - **703-787-1669**



OCS Safety and Environmental Management Program

9:45 a.m. Review of OCS Incidents

Don Howard, MMS



ENSCO OFFSHORE

(North America Drilling Business Unit)
Incident Investigation

MMS OCS Best Practices Workshop: BETTER HAZARD MANAGEMENT THROUGH IMPROVED INCIDENT ANALYSIS

Houston, November 2000



HAZARDS - WHAT ARE THEY?

- Driving
- Welding
- Ignition Sources
- Unsafe Acts
- Unsafe Conditions
- Fire
- Explosions
- Working at Height
- Dropped Objects
- Confined Spaces
- Hot Work
- Slippery Surfaces
- Inadequate Training
- Crane Operations
- Chemical Handling
- Oxygen Deficiency
- Inadequate PPE
- Inadequate work procedures
- Rotating Machinery
- Pressurized Systems
- Rotting Equipment
- Electricity
- Disabled Safety Systems
- Lock Out Tag Out
- Inadequate Tools



HAZARD DEFINITION

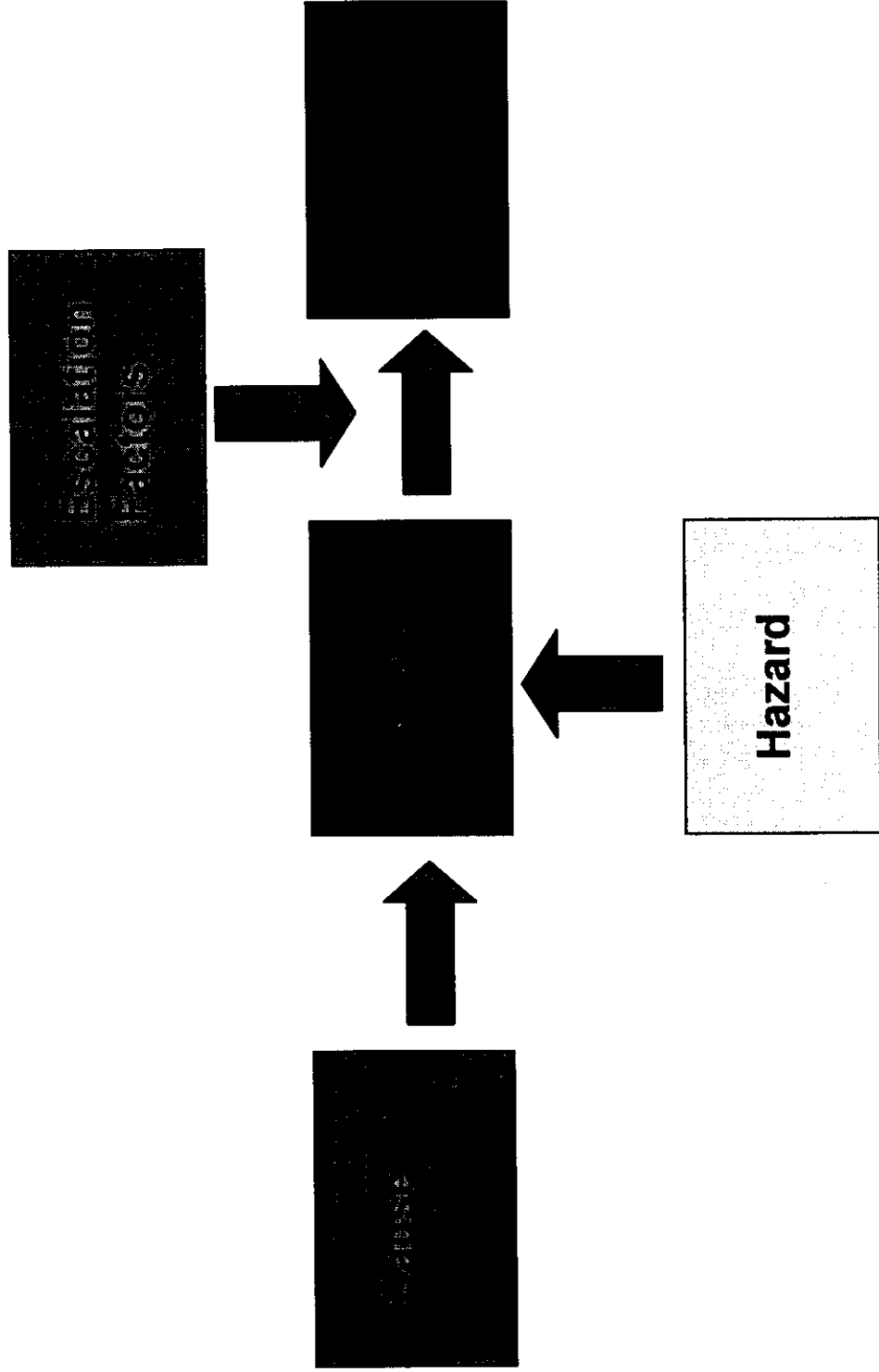
- **What is a Hazard? A Hazard is a release of energy**

Energy Types

- **Kinetic Energy (Moving Energy)**
- **Potential Energy (Stored Energy)**
- **Electricity**
- **Biological / Chemical (Interactions with body)**
- **Pressure**
- **Thermal**
- **Acoustic (Noise)**
- **Natural (Wind, Sea State)**

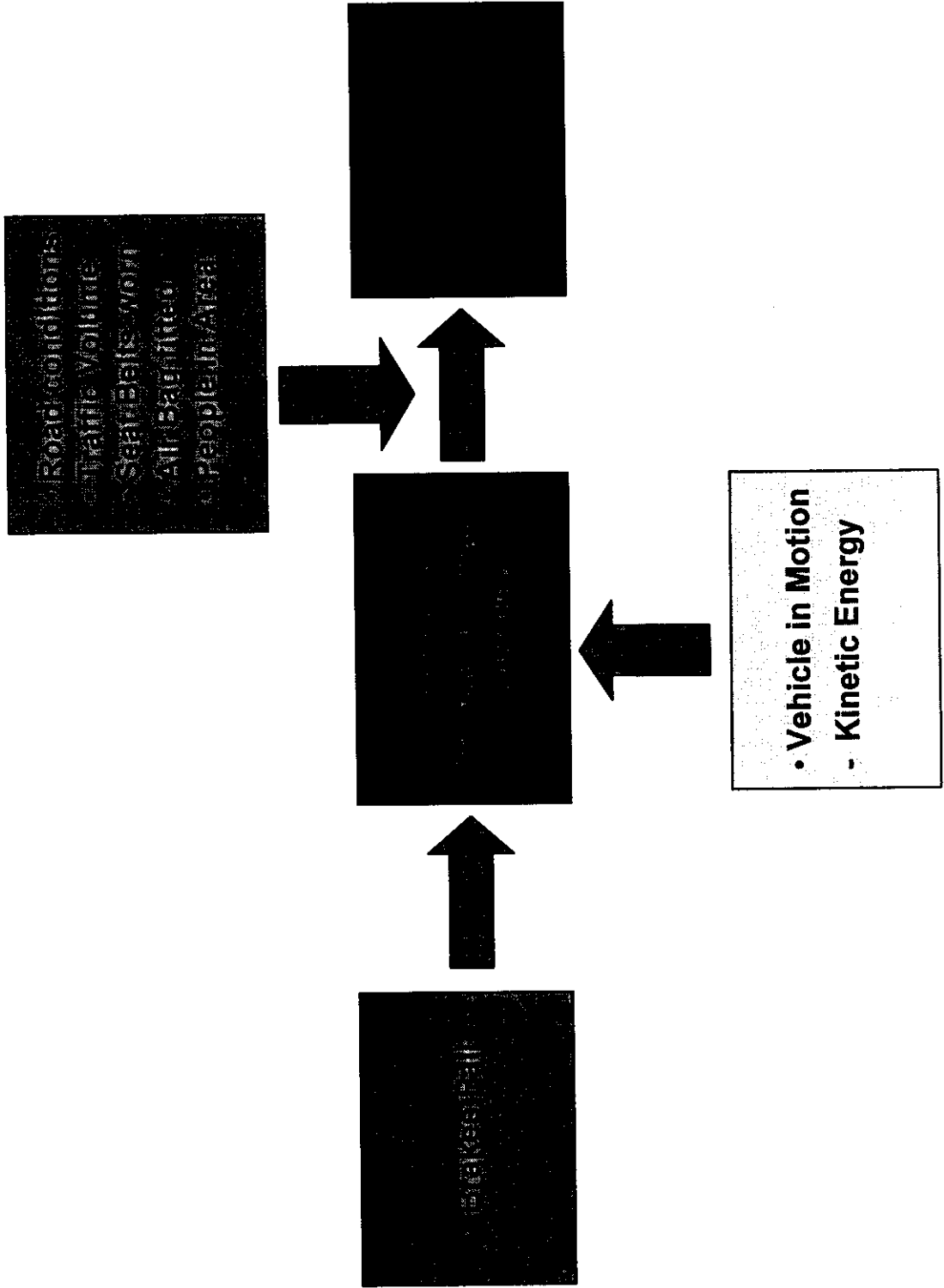


ENSCO'S INCIDENT MODEL



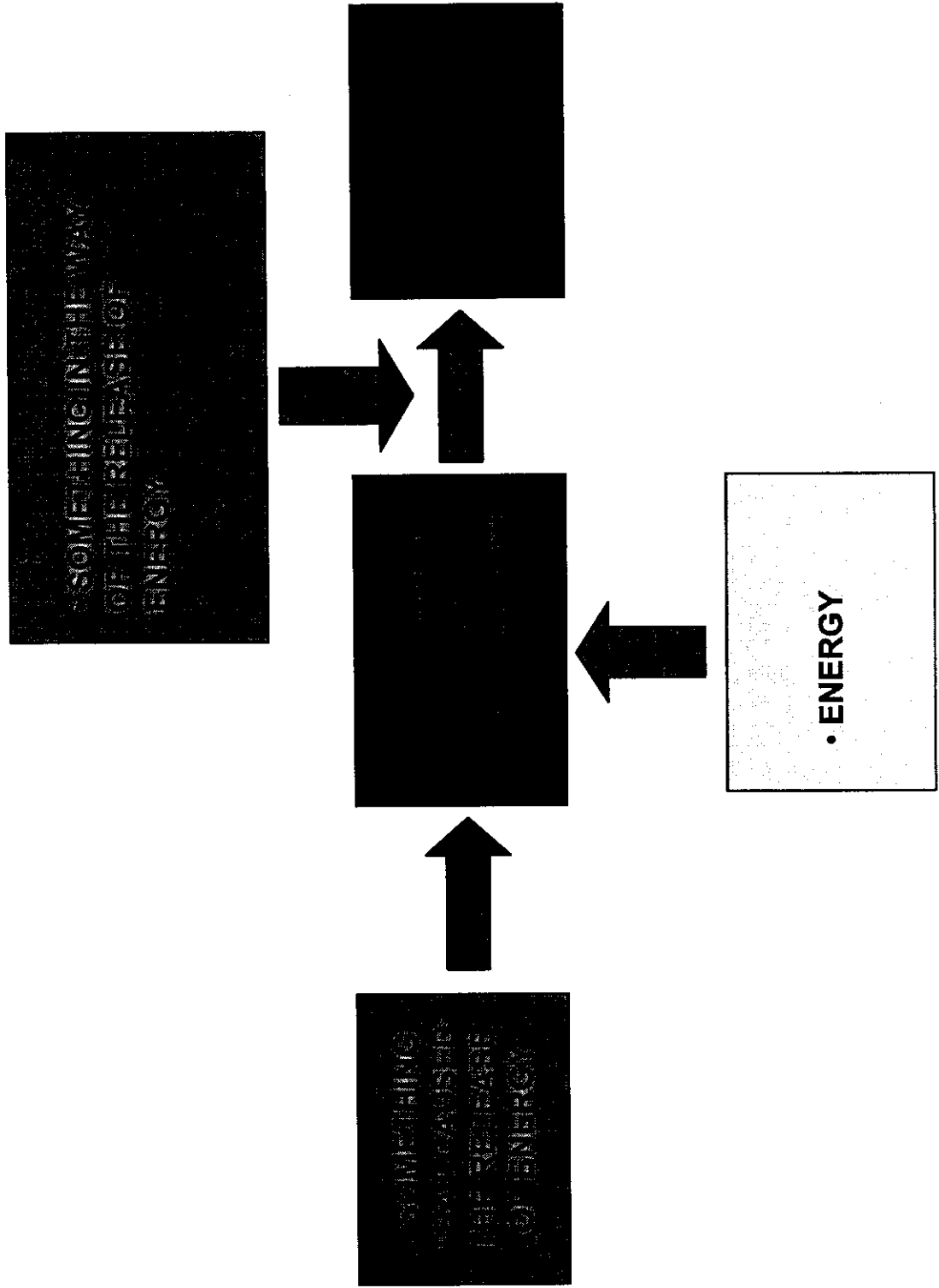


INCIDENT MODEL - Explanation (1)





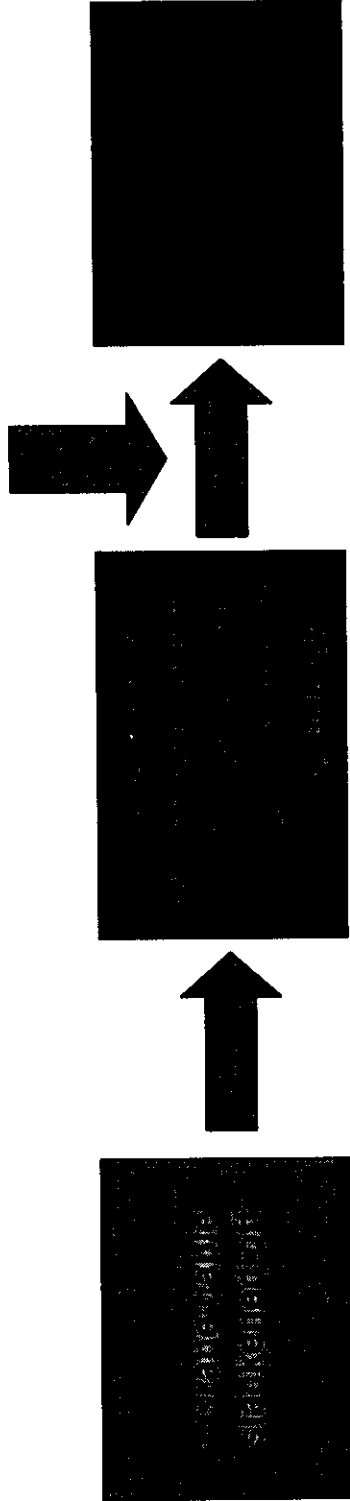
INCIDENT MODEL - Explanation (2)





Installation of Flame Arrestor INCIDENT INVESTIGATION USING MODEL

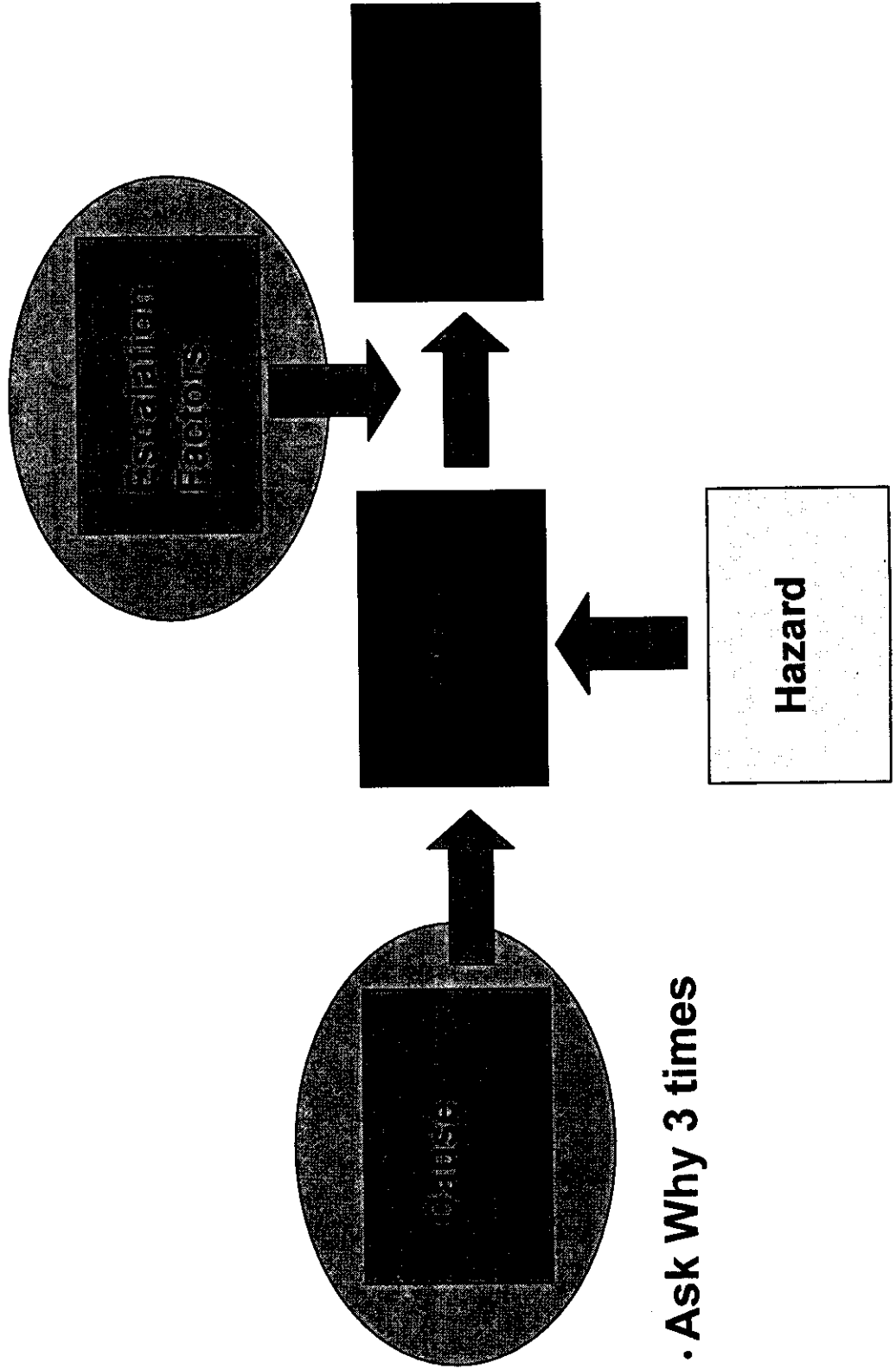
Flame Arrestor
Installation
Investigation
Model



• Stored Energy
(from position and
center of gravity -
kept in balance by
crane and air hoist)



HAZARD MANAGEMENT - CONTROL THE CONTROLLABLE!

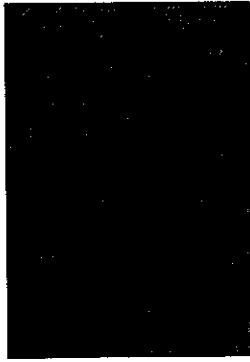


• Ask Why 3 times

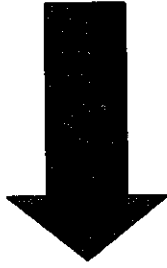
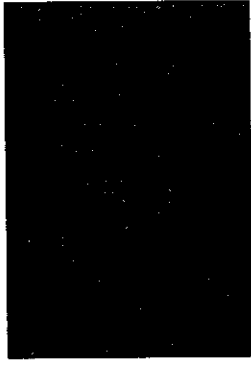


INCIDENT INVESTIGATION APPROACH

System Failures



Threats

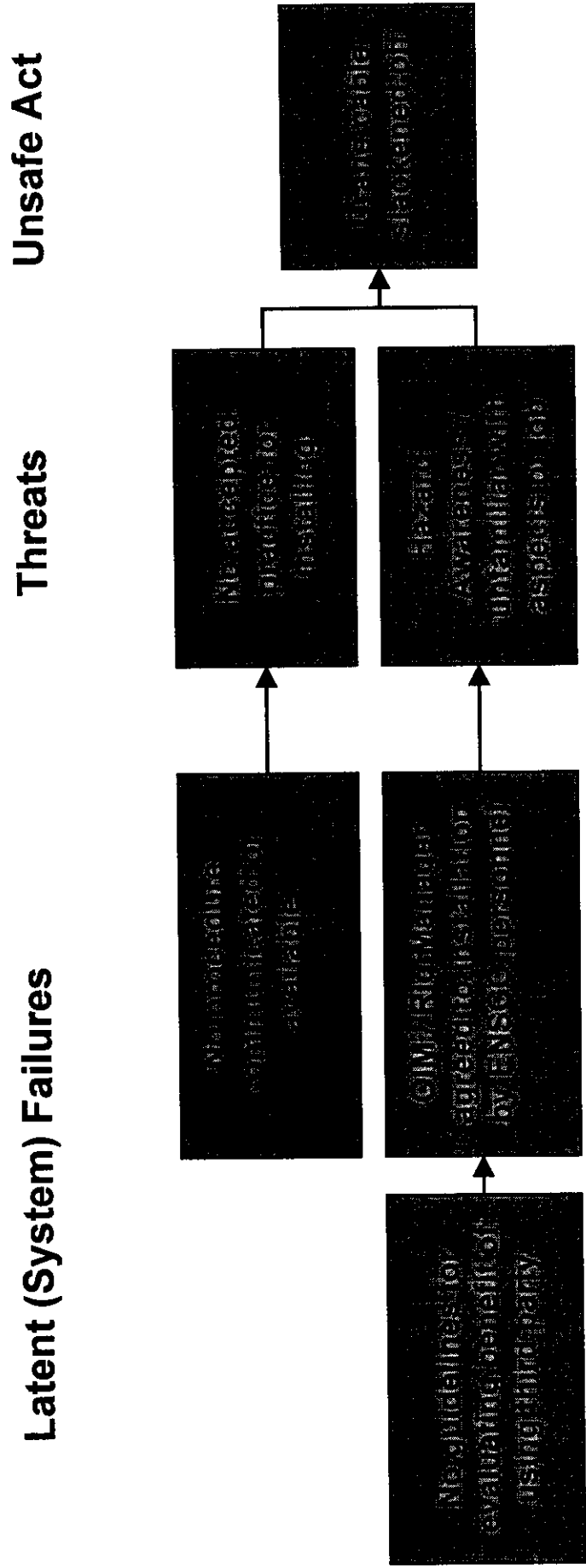


Unsafe Act





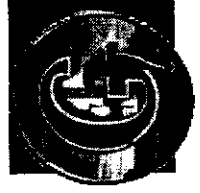
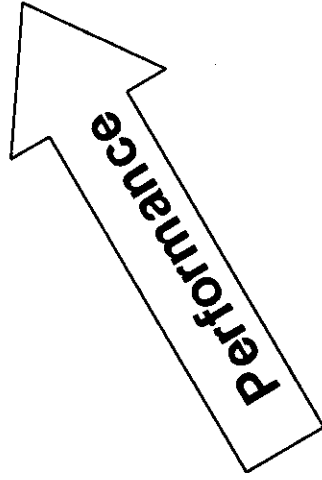
Installation of Spark Arrestor SYSTEM FAILURES (ROOT CAUSES)



Global Marine

Rick McClaine

FOCUS ON SAFETY



Global Marine Vision

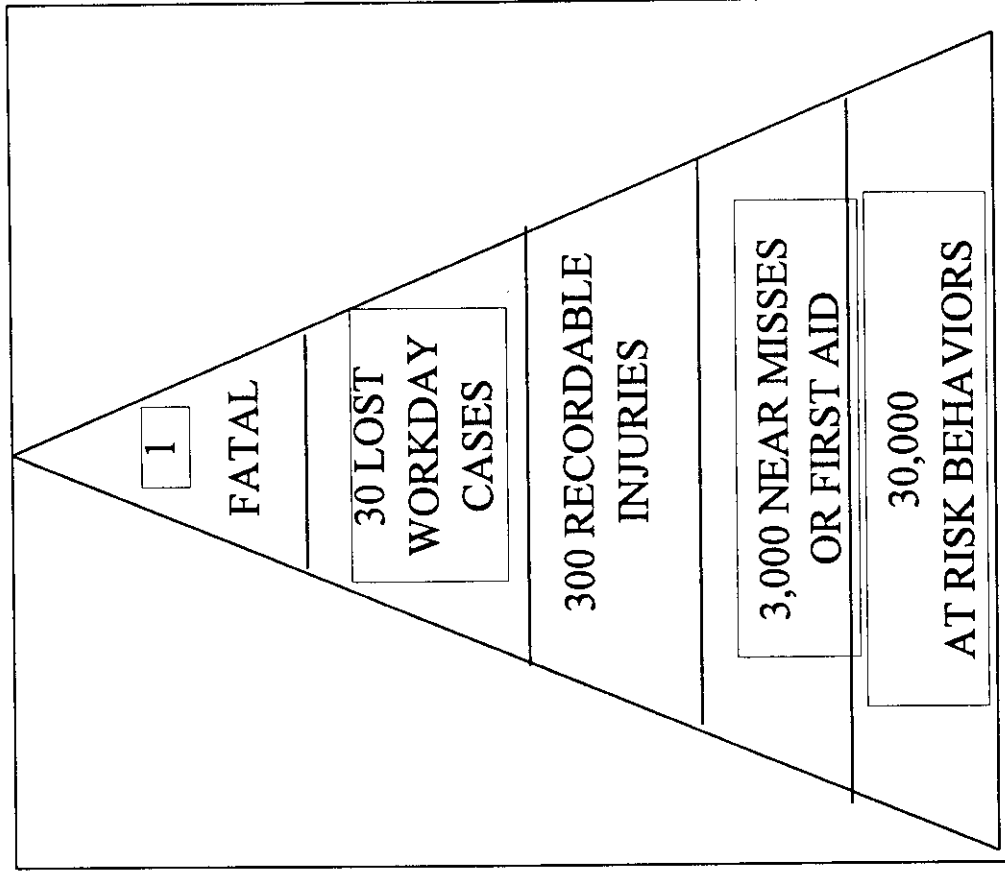
Our goal is to continuously improve the safety and environmental performance of Global Marine operations through the observation, identification and reduction of at-risk behaviors and the elimination of incidents. All levels of management will pursue the promotion, development and maintenance of a positive health and safety culture.

Employees have a responsibility to themselves and others to identify risks, prevent incidents and cooperate with the company by complying with all instructions and arrangements for health and safety. Employee teamwork, cooperation, participation and support are vital if the aims and objectives of this policy are to be achieved.



Injuries: A Matter of Probabilities

Roughneck falls into cellar hitting head on BOP ram, breaking his neck.
Roughneck falls 20 feet. Breaks leg and injures back. 6 - 8 week recovery
Roughneck falls 10 feet. Lands on feet and sprains his ankle. Medical attention required.
Roughneck slips on scaffolding, but does not fall.
Roughneck fails to put on safety harness prior to climbing on BOP scaffolding.

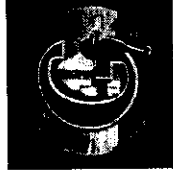


**An
Ounce
of
Prevention
Is
Equal
To
A
Pound
Of
Cure**



Behavioral Safety Process

- **97% of All Injuries Are Caused by the Inappropriate Behavior of Individuals**
- **Rigs Don't Hurt People, People Do**
- **Human Beings Aren't Perfect**
- **Safety is Not a Chance, it's a Choice**
- **The Power of Waterfall is but a lot of Little Drips Working Together**



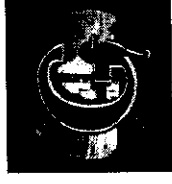
Behavioral Safety Failures

- **Outsourced “Canned” and “Off the Shelf” Purchasing of Safety**
- **Inconsistent Training**
- **Lack of Training**
- **Improper choice and use of process champions and coaches**
- **Premature abandonment**



New Safety Process **(Achieving Step Change)**

- **Advanced Safety Auditing -
Approximately 500 Trained**
- **Rig Management Safety Development
- 18 Trained**
- **Behavioral Based Safety (FOCUS I &
II) - Approximately 2500 Trained**
- **ISM (FOCUS III)**



Advanced Safety Auditing

WHY?

- **Auditing Hardware is NOT Enough**
- **Policy Enforcement is NOT Enough**

HOW?

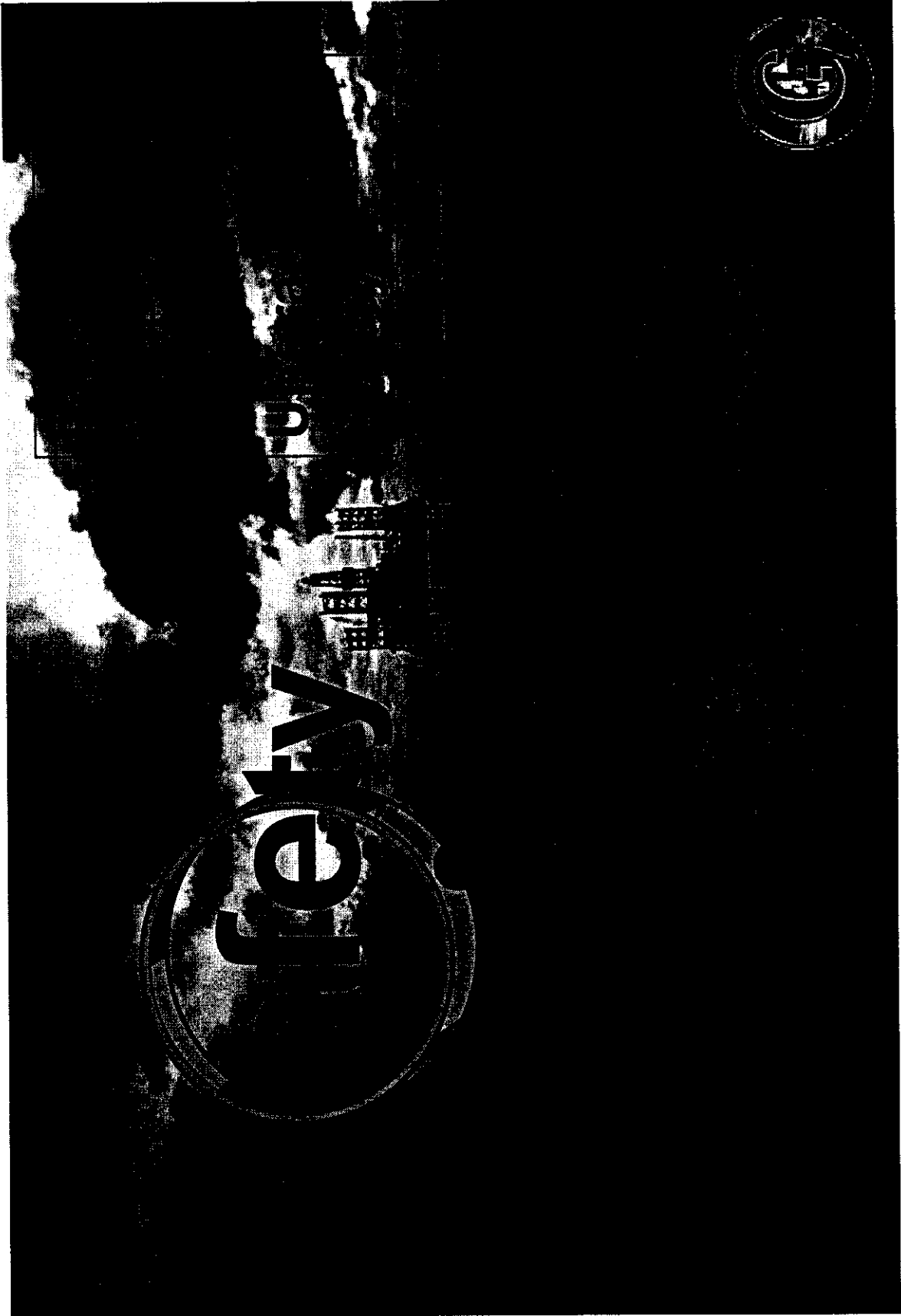
- **Test Verify and Correct as Appropriate**
- **Communications and Understanding of Organizational Visions and Expectations**
- **Monitor Support Levels Throughout Organization**
- **Understanding of Employee Values and Beliefs**
- **Auditing of Knowledge, Understanding, and Effectiveness of Management Systems**
- **Feelings**



Rig Management Safety Development

- **Best and brightest from fleet**
- **Management potential**
- **6 months in Houston S T & E**
- **Return to Operations**





Jewelry

D



International Safety Management

- **We say what we do**
- **We do what we say**
- **We prove it**
- **If Safety FOCUS is behavioral based safety for the individual, ISM is behavioral based safety for the organization.**



Fatalities

LTA

Recordable

Near-Miss

Unsafe Acts

BEHAVIOR

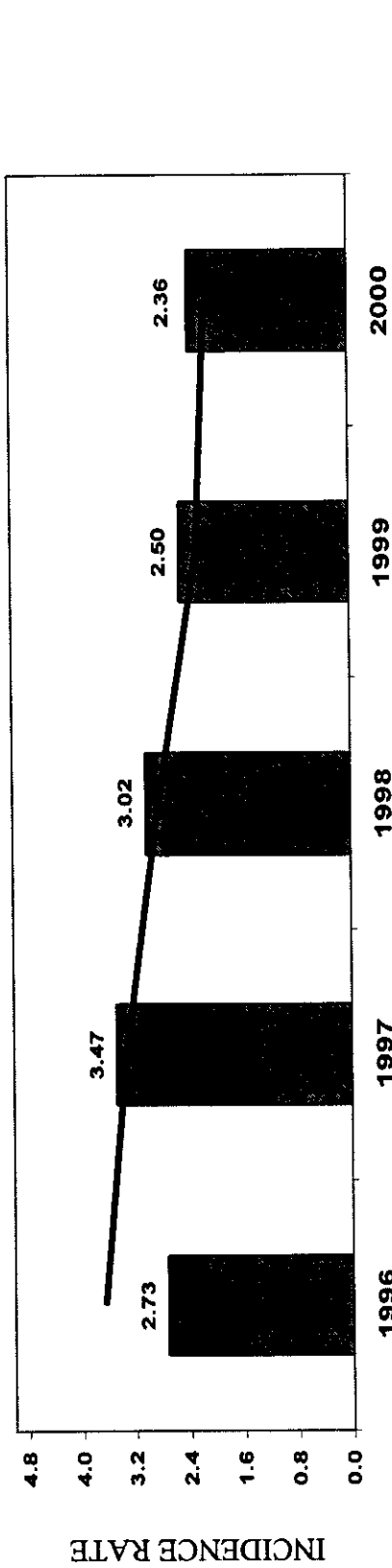
MANAGEMENT



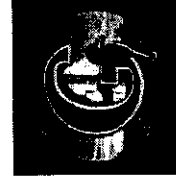
IADC/GMDC RECORDABLE INCIDENT RATE COMPARISON

INT'L WATERS		EUROPEAN WATERS		U.S. WATERS		COMBINED WATERS	
IADC	GMDC	IADC	GMDC	IADC	GMDC	IADC	GMDC
2.54	1.61	4.25	3.25	4.70	3.49	3.65	2.73
1.82	2.23	4.19	2.53	4.71	4.67	3.33	3.47
1.68	2.22	3.13	4.71	4.01	3.08	2.83	3.02
1.52	2.55	2.70	3.02	2.86	2.32	2.26	2.50
1.57	1.55	2.21	1.70	2.67	2.85	2.12	2.36

IADC/GMDC RECORDABLE INCIDENT RATE
COMBINED WATERS



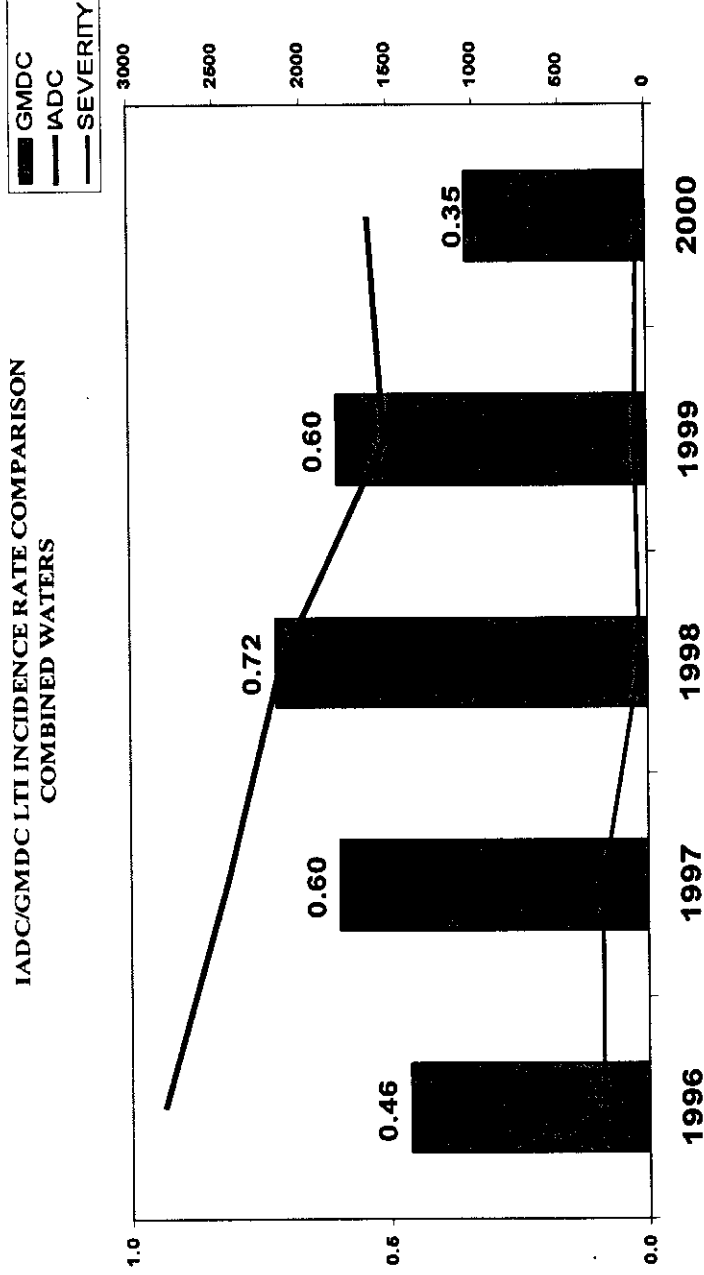
Note: 1996 - 1999 ARE YEAR END NUMBERS; 2000 GMDC NUMBERS ARE THROUGH SEPTEMBER, IADC NUMBERS ARE THROUGH JUNE 2000.
INCIDENT RATE = (RECORDABLES X 200000/MAN HOURS WORKED)
IADC/GMDC INCIDENT RATE COMPARISONS INCLUDE ALL HEADQUARTERS/SHOREBASE ADMINISTRATION HOURS.



IADC/GMDC LTI INCIDENCE RATE COMPARISON

YEAR	INTL WATERS		EUROPEAN WATERS		U.S. WATERS		COMBINED WATERS		SEVERITY RATE (GMDC)	
	IADC	GMDC	IADC	GMDC	IADC	GMDC	IADC	GMDC	IADC	GMDC
1996	0.63	0.20	1.38	1.02	1.01	0.45	0.93	0.46	260	260
1997	0.55	0.54	1.50	0.32	0.75	0.71	0.81	0.60	260	260
1998	0.60	0.61	0.98	1.22	0.68	0.62	0.71	0.72	47	47
1999	0.52	1.20	0.84	0.94	0.30	0.24	0.51	0.60	67	67
2000	0.44	0.14	0.77	0.68	0.53	0.38	0.54	0.35	53	53

IADC/GMDC LTI INCIDENCE RATE COMPARISON
COMBINED WATERS



Note: 1996 - 1999 ARE YEAR END NUMBERS; 2000 GMDC NUMBERS ARE THROUGH SEPTEMBER, IADC NUMBERS ARE THROUGH JUNE 2000.

INCIDENCE RATE = (LTIs X 200000/MAN HOURS WORKED)

IADC/GMDC INCIDENT RATE COMPARISONS INCLUDE ALL HEADQUARTERS/SHOREBASE ADMINISTRATION HOURS.



Anadarko Petroleum Corporation

Tommy Ward



**MMS Performance Measures and
Best Practices Workshop**

**NPDES Noncompliance and
Oil Spills**

**David K. Barbin
Texaco New Orleans Business Unit
Gulf of Mexico Operations**

November 14, 2000

Texaco-A World of Energy Environmental Commitments

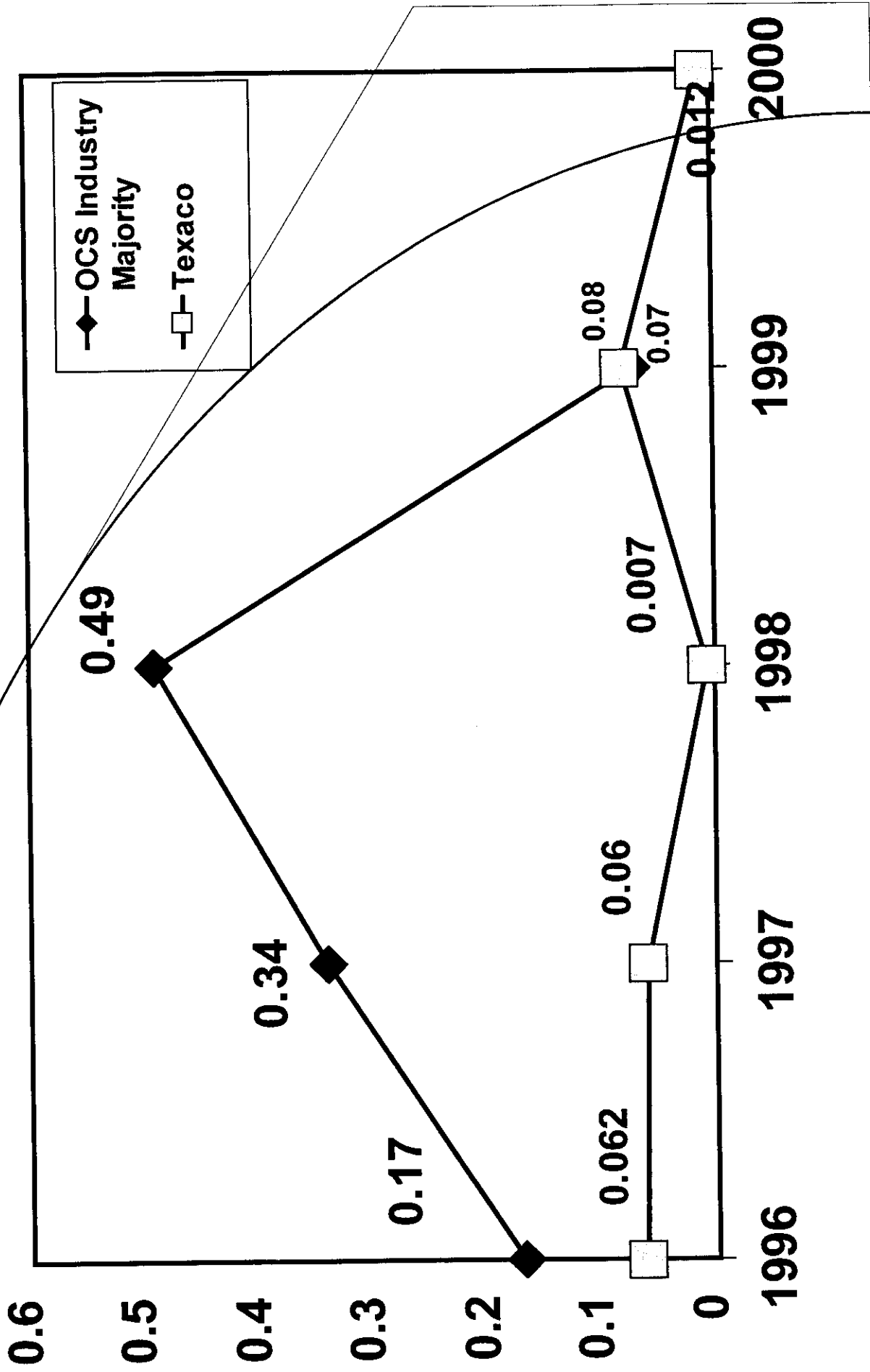
“Commitment to SH&E excellence is ingrained in Texaco’s corporate culture, not as an isolated phenomenon, but as an essential component of the way we do business.”

“Texaco has achieved continuous improvement in virtually every measurable area of SH&E performance.”

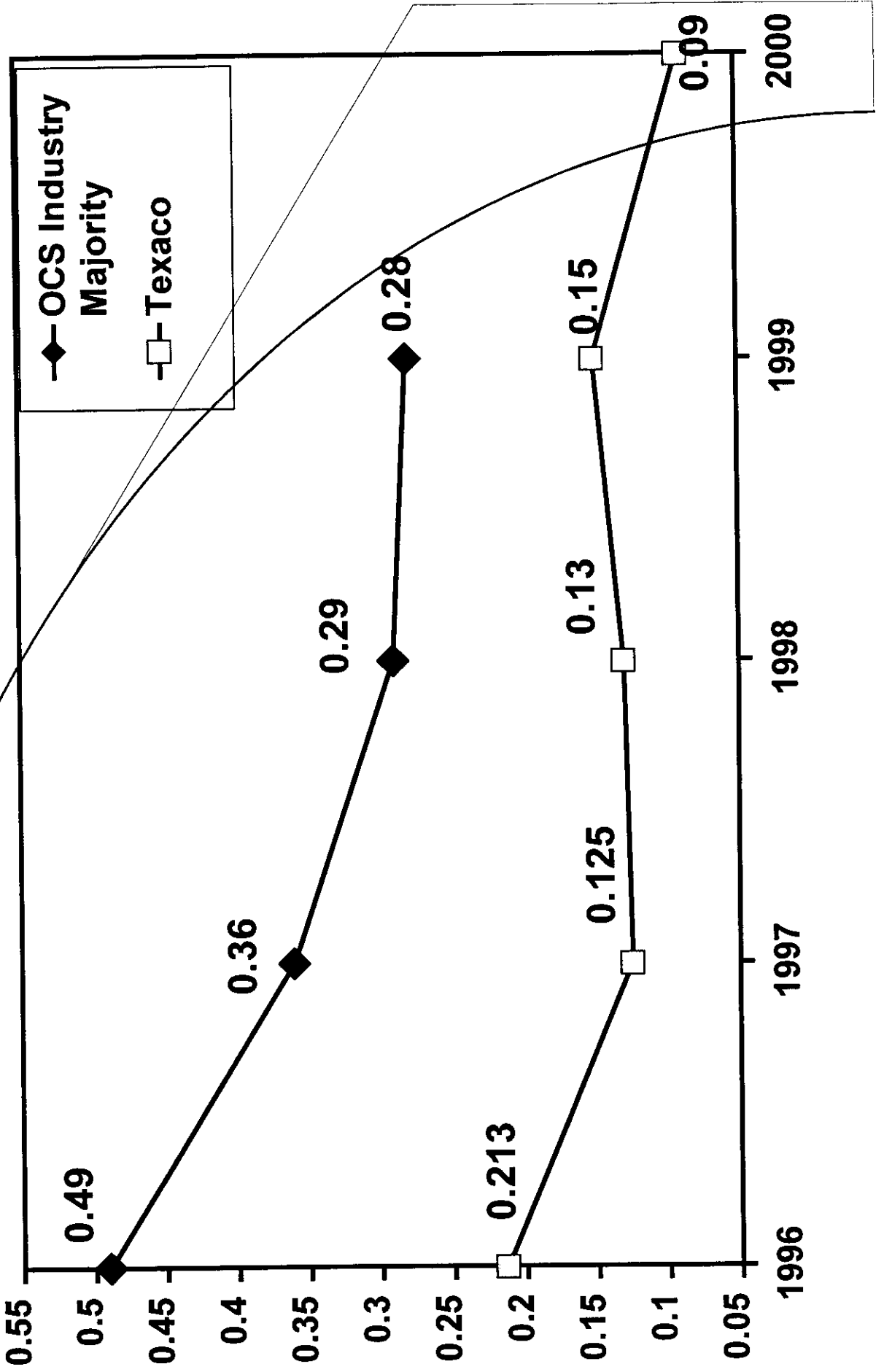
“And we have adopted management initiatives that reinforce the importance of safety for all our employees and contractors. We will pursue these initiatives with unrelenting zeal and attention.”

↪ **Excerpts from “The Texaco Commitment” by Texaco CEO Peter Bijur**

NPDES Noncompliance Oil Spill Volume < 1BBL.



NPDES Noncompliance Oil Spill Volume



NPDES Noncompliance Specialty Chemicals

Texaco chemical training manual provided to all personnel

- ↪ **Chemical pumps**
- ↪ **Calculating chemical injection rates**
- ↪ **Demulsifier, water clarifier and all specialty chemical training and practical knowledge**

Chemical pump monitoring by platform Operators, including initialization of check

Daily monitoring of chemical stock & ordering replacement chemical when remaining stock equals 30 days.

Oil Spill Reduction

- Oil Spills are generally associated with a flowline or pipeline failure, resulting from internal or external corrosion.
- Platform Piping Leaks
- Flowlines from shallow water satellite wells
- Analyzing pipeline and flowline design, applications, installation and monitoring erosion/corrosion surveys and chemical programs became top priority.

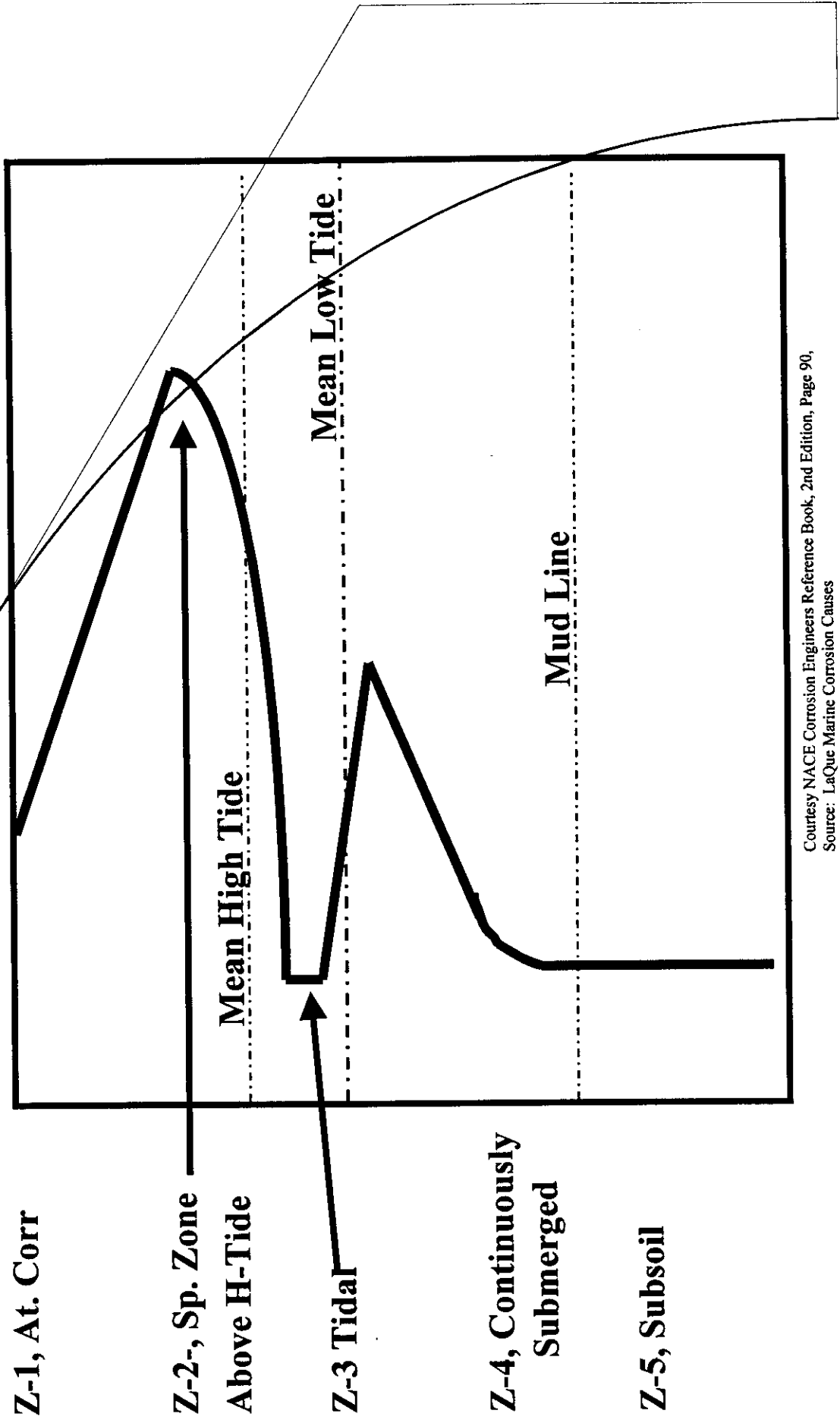
Oil Spill Reduction External Pipeline and Flowline Corrosion

↪ **External pipeline and flowline corrosion is the number one cause of failures in OCS waters according to Alex Alvarado's MMS Study.**

↪ **External flowline and pipeline corrosion is minimal for Texaco operations due to RCFA evaluation and incorporating offsetting corrosion mitigation measures into Texaco SOP regarding external pipe.**

Oil Spill Reduction External Riser Corrosion

The 5-Zones



Oil Spill Reduction

External Corrosion and Riser Protection Coating SOP

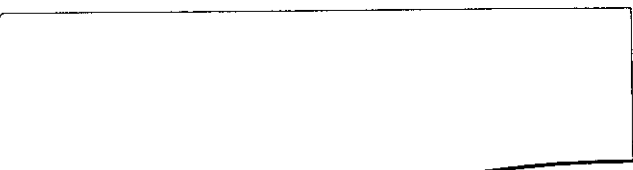
- **Every flowline is externally coated with thick film (50 mils) coating-primer, 25 mils elastomer, 25 mils polyolefin.**
- **Pipeline connection areas are covered with butyl-rubber shrink sleeves.**
- **Risers are also coated with Synergy, but in addition are supplemented with 250 mils of Splashtron external wrap.**

Oil Spill Reduction

External Corrosion and Riser Protection Coating SOP

→ **20-year cathodic protection designs installed at time of installation**

→ **Protective pilings are installed to protect flowline and pipeline riser from service, field and shrimp boats**



Oil Spill Reduction

Internal Pipeline and Flowline Corrosion

Reliability Engineering Tools Implemented

- **Researched failure records across the board**
- **Identified wells with previous failures**
- **Comprehensive selection review of present production characteristics for each well**
- **Potential wells for corrosion inhibition further reduced**
- **Likely candidates determined**
- **CO₂ gas content and water analysis determined for each well**

Oil Spill Reduction

Internal Pipeline/Flowline Corrosion Mitigation RCFA

Carbon Dioxide Failure Mechanism

- CO₂ produced in most GOM wells
- 0.5-2.0% CO₂
- $\text{CO}_2 + \text{H}_2\text{O} = \text{H}_2\text{CO}_3$

Water Wet Environment

- High Percentage of gas wells make 100% water and low volumes
- pH decreases, water travels at 6 o'clock position
- Pitting type corrosion failures

Oil Spill Reduction

Corrosion Inhibitor Mitigation Program

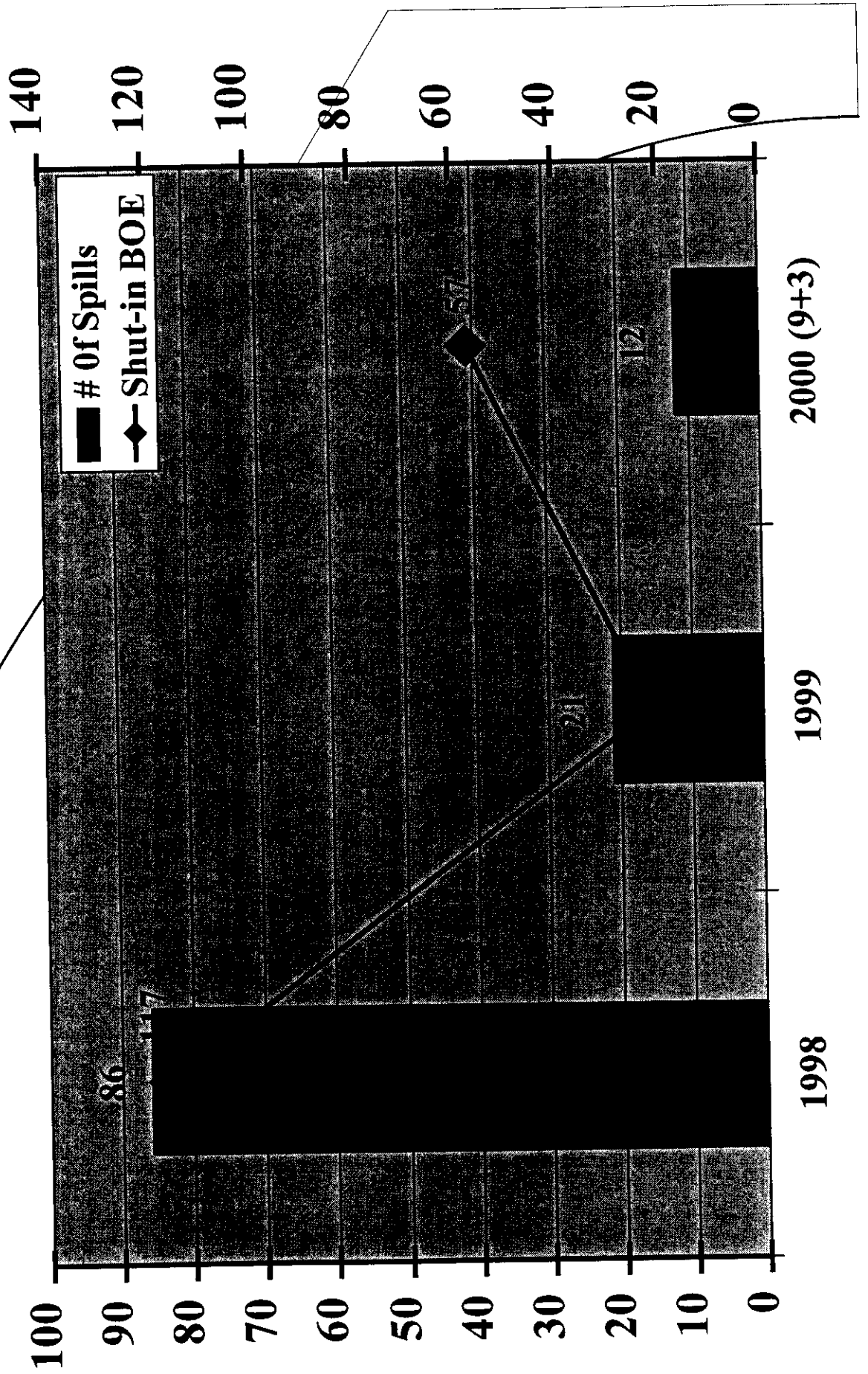
- Flowline length and internal diameter used to determine corrosion inhibitor volume for each well, 4 Mils film
- Each well is batch treated once per month
- Implemented continuous failure tracking
- Additional wells are added as warranted

Oil Spill Reduction

Corrosion Inhibitor Description

- **Oil Soluble, slightly water dispersible inhibitor designed for use in gas/oil condensate wells and flowlines/pipelines.**
- **This product will be replaced for certain wells where the standardized corrosion inhibitor was not effective**
- **Tenacious film former**
- **Good cold weather handling properties**
- **Non-emulsifying formulation that does not aggravate the production handling system**

Flowline Failures Shallow Water Operations



Oil Spill Reduction

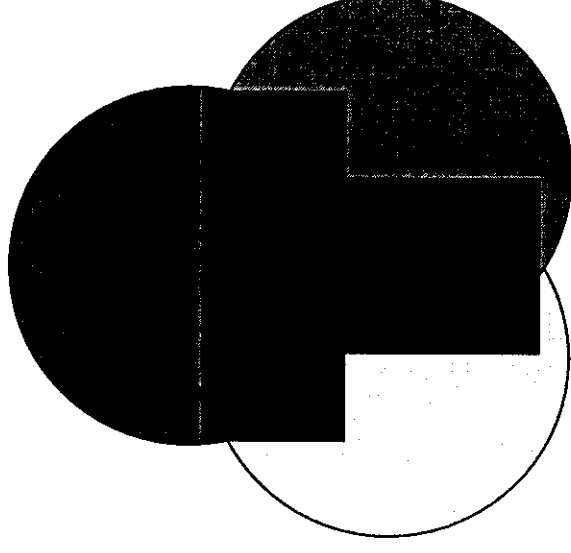
Where Do We Go From Here?

- ↪ **Continue with existing program; its effective and efficient**
- ↪ **Continue to monitor and track flowline failures and conduct RCFA's**
- ↪ **Stay abreast of new technologies and best practices**
- ↪ **Share our best practices**
- ↪ **Maintain communication with MMS and peers in the industry, NACE-International, ULL and NAIT**

A Risk Based Operating
Program for Safe and
Environmentally Sound
Operations

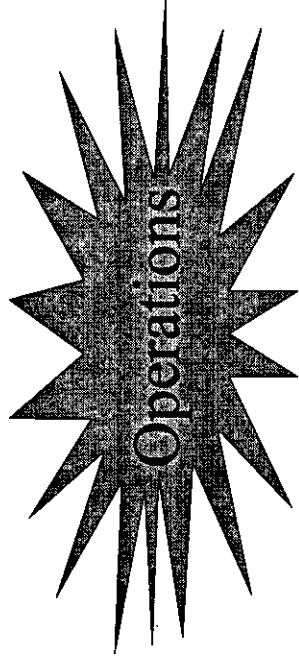
Corporate Absolutes

- Health and safety of personnel.
- Protection of the environment.
- Protection of client and company assets.



Risk Based Operations Management

IOC GOALS



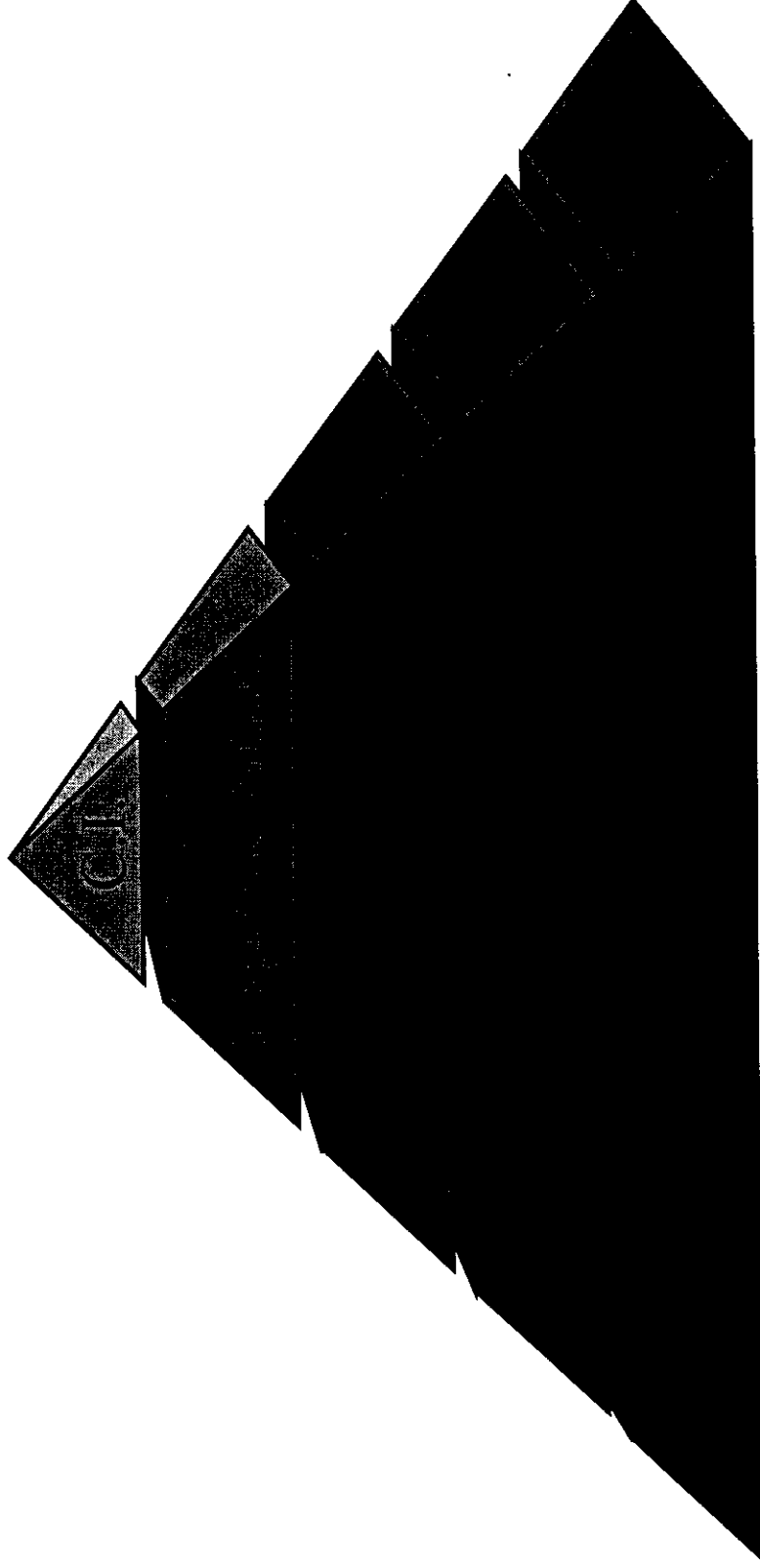
**REGULATORY
COMPLIANCE**

**CLIENT
GOALS**

Company Philosophy

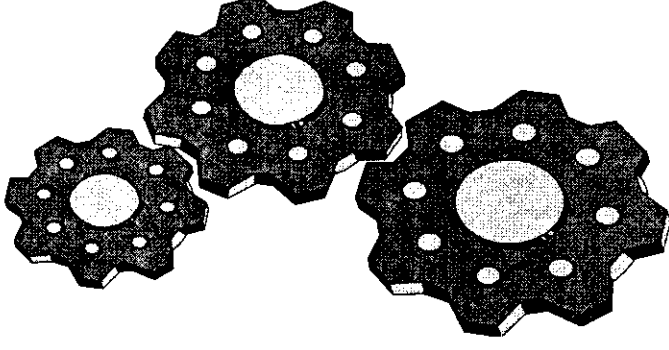
Operate our client's facilities in such a manner that we perform our job safely, and in full regulatory compliance, with less duplicated effort and without the undesirable operational hardships associated with accidents, regulatory violations and cost overruns.

IOC Program Development Process



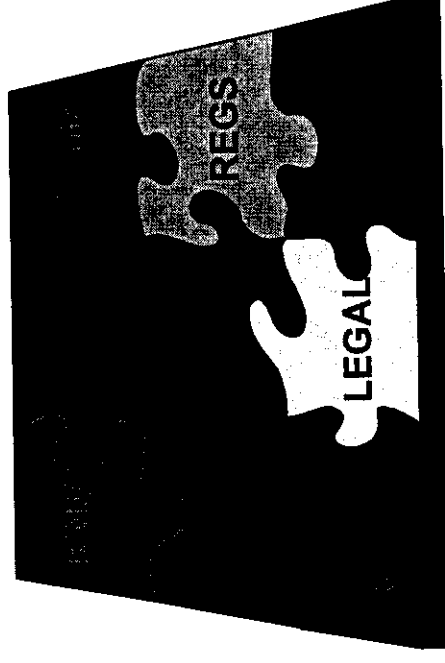
Client – Contractor Goals

- Implement an operating program that:
 - Partners in the economic benefit of the asset.
 - Provides current and long term benefits.
- Manages risk equally.

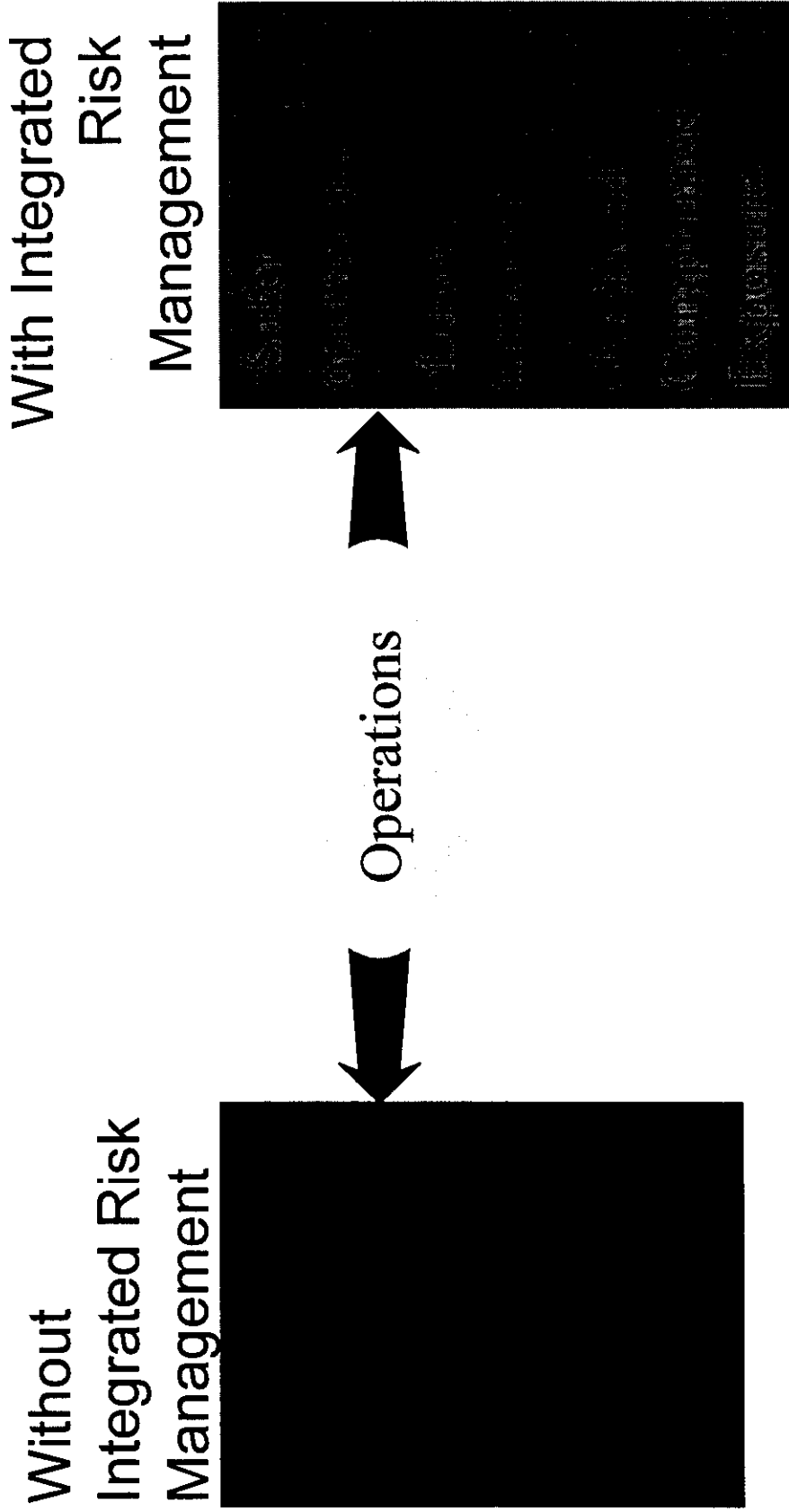


Operating Risk Identification

- Employee Risk.
- Regulatory Risk.
- Client's Operating Risk.
- IOC Operating Risk.

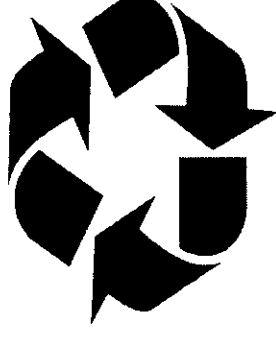


Universal Employee Risk



Regulatory Risk

- Recognize the shift from prescriptive to performance based regulatory requirements.
- Understand the relationship between requirements and voluntary programs.
- Execute regulatory compliance from within the job.



Regulatory Risk

Performance based regulatory compliance programs allow each operator the freedom to establish effective safety, health and environmental programs that support operations.

*More responsive
to real time needs*

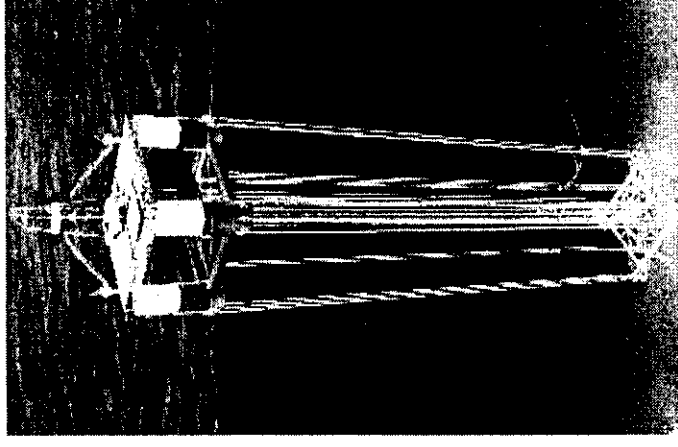
*Manages
operating risk*

Client's Operating Risk

- Without fully integrating Risk Management Practices into the work force:
 - Being in compliance would not guarantee a safe work environment.
 - Losses will begin to rise as a result a lack of a qualified work force to support the increased business activity.

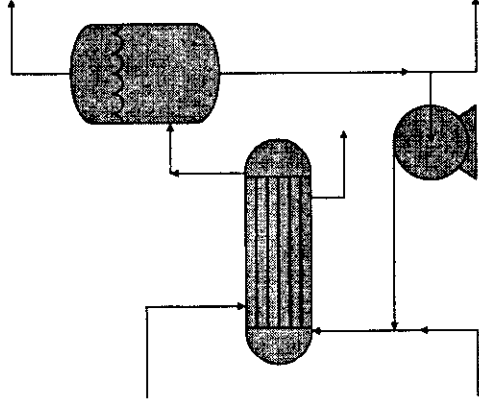
Clients Operating Risk

- Define the operating practices of the company.
- Manage the operating risk:
 - Health and Safety.
 - Environmental.
 - Operations.



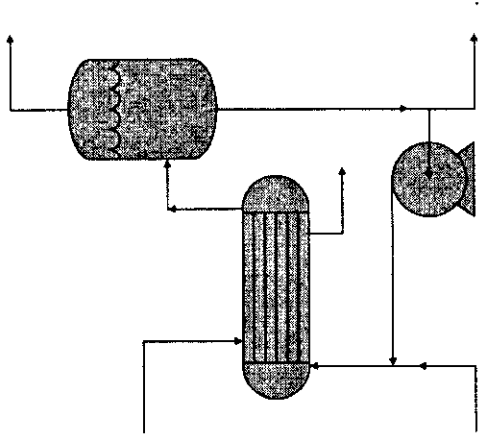
IOC's Operating Risk

- Tight labor market.
- Disconnect between operations and compliance requirements.



IOC's Operating Risk

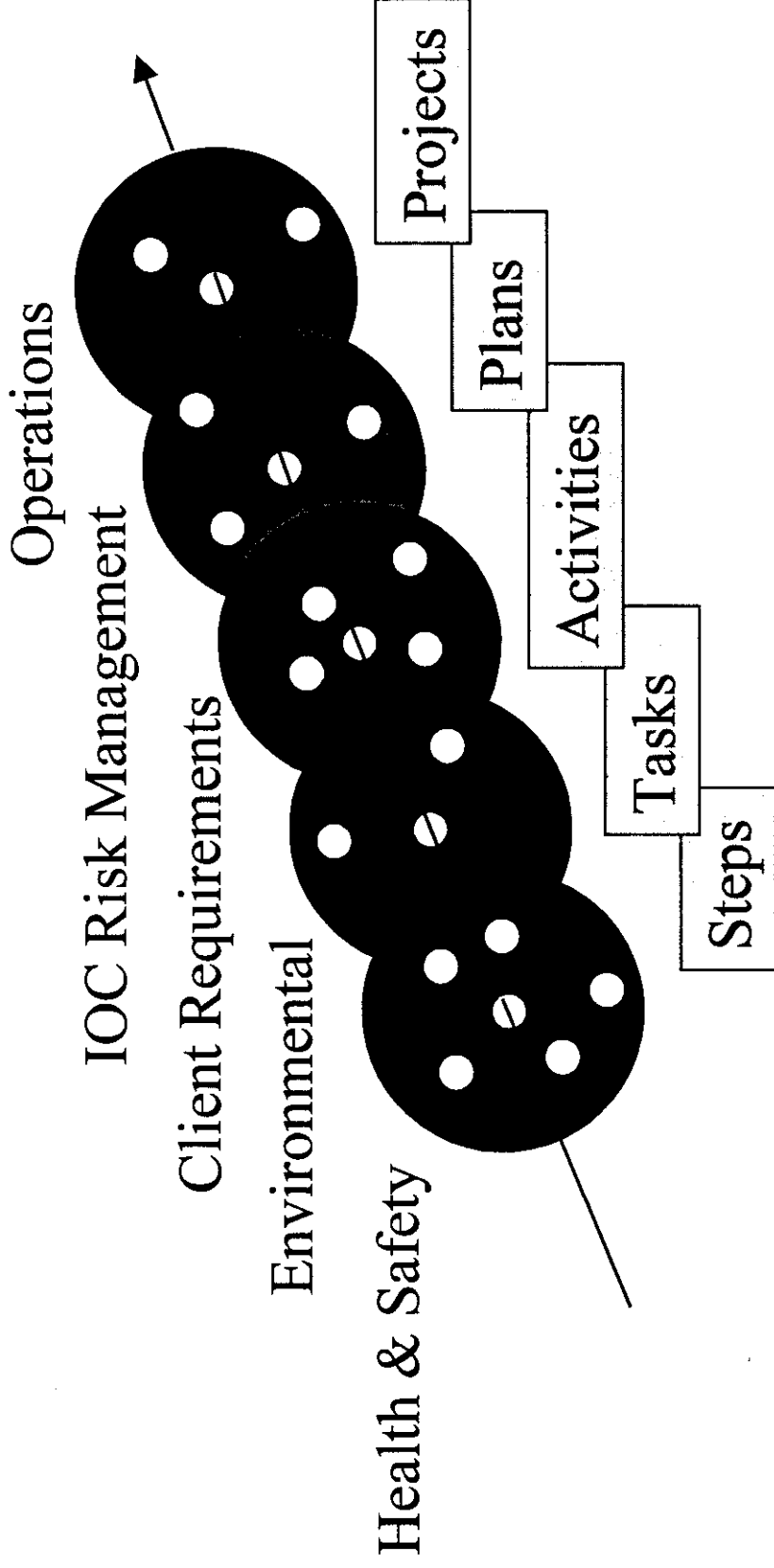
- Integrate client needs with compliance requirements.
- Develop and implement a field level operations program to manage the risk.



IOC's Operations Based Risk Management Program Design

- Protect life.
- Establish and maintain a safe work place.
- Meet or exceed compliance requirements.
- Promote good citizenship.
- Provide environmental stewardship.
- Embrace continuous improvement.
- Support a consistent management system.

IOC's Operations Based Risk Management Program Design



Benefits of IOC's Risk Based Operations Program

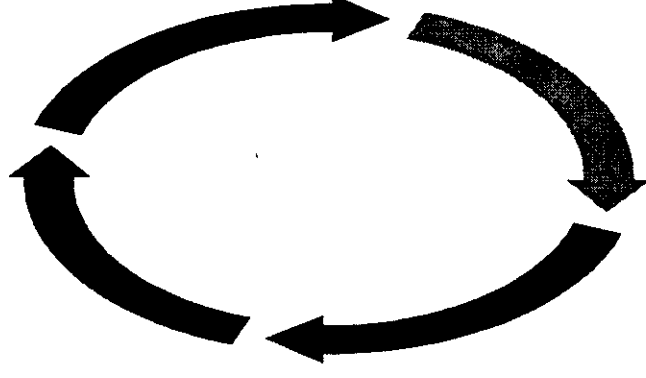
- Establishes the playing field and rules of the road.
- Enhances employees skills, knowledge, and abilities.
- Produces a better educated work force for integrating compliance into the work place on a real time basis.

Benefits of IOC's Risk Based Operations Program

- Reinforces the company's operating practices by integrating client requirements with compliance requirements.
- Establishes a point source risk management program that is used to manage risk where the risk is generated.

Program Implementation

- Educate Operations Management.
- Shift the daily operations risk management responsibility directly to the field management and supervisory team.



Program Implementation

If an employee discovers a situation, such as but not limited to the following:

- Safety equipment in by-pass.
- “Pencil whipped” paperwork.
- Unsafe operating conditions.
- Conditions that could violate government rules or regulations.
- Conditions that have the ability to pollute the environment.

Program Implementation

- Then a supervisor must be notified immediately so that an investigation can be conducted to establish a corrective action program.
- If it is found that an employee participated in such actions, strict disciplinary action will be taken immediately.

Program Benefits

- Personnel have become our greatest resource.
 - Low turnover.
 - Professional and technically competent.
 - Dedicated and performance driven.
 - Extensive oil and gas experience pool in operations, mechanical, electrical, regulatory, health, safety and environmental disciplines.

Program Benefits

- A company culture that works:
 - Continuous improvement through teamwork.
 - Focused on the management of change.
 - Dedicated to doing the job right the first time:
 - Use Safety and Health to accomplish the goal.
 - Exercise strong Environmental Management while doing the job.
 - Maintaining adequate records.
 - Communicating support needs to company.

The Result

Safety + Compliance = Production

- Protection of life, the environment and physical assets is how we work.
- Our continued success in the reduction of accidents, incidences of non-compliance and down time.



getting to **THE FUTURE** first

MMS / OOC

2000 Best Practices Workshops

November 14 & 16, 2000

Houston, TX and Lafayette, LA



Vision



To be recognized around the world as a truly great, integrated, international energy company that gets to the future first.

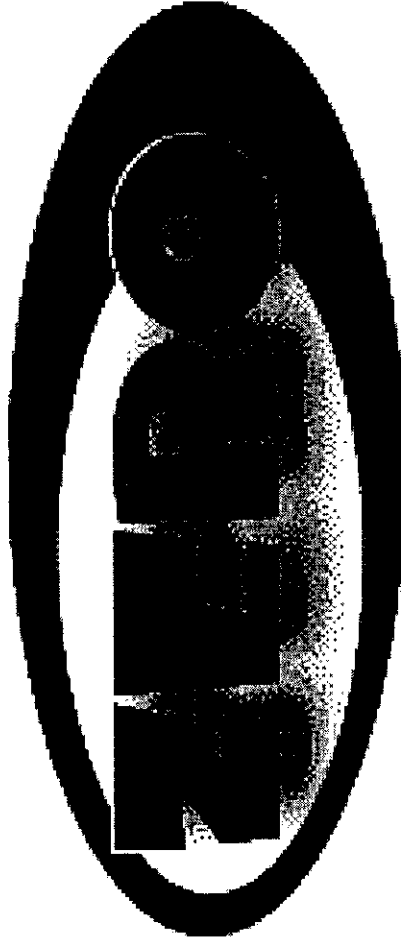
"Great" is measured by our financial performance goals...

...and by our adherence to Conoco's core values:

- Safety
- Environmental responsibility
- Respect for people
- High ethical standards

Vision

The Goal is...

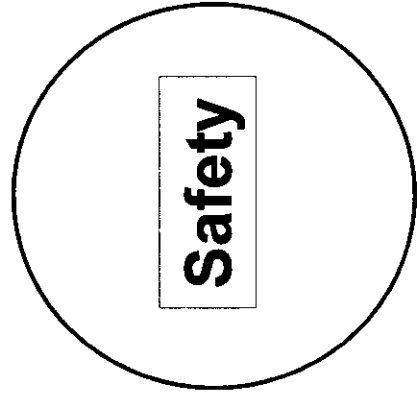
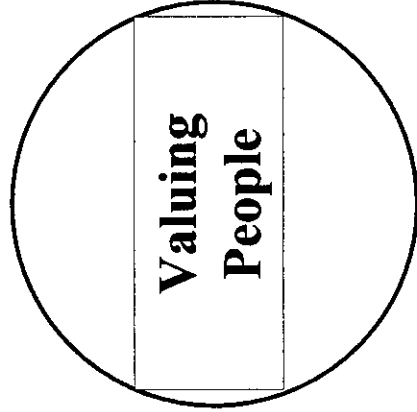
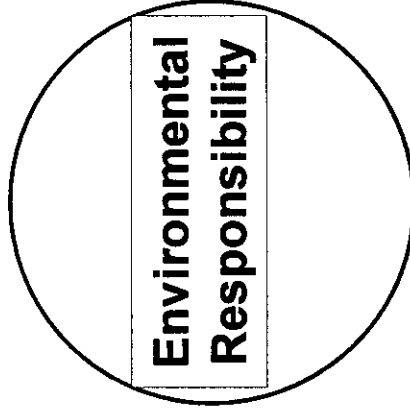
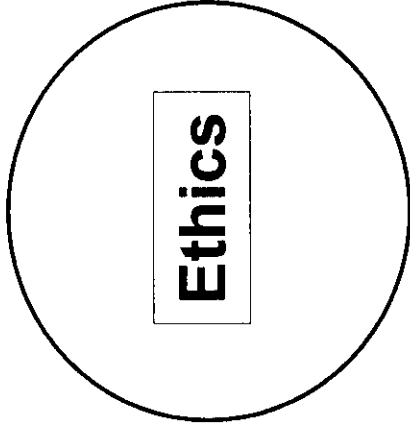


...Injuries

Illnesses

Incidents

Core Values



Core Values

Our work is never
so urgent or
important that we
cannot take time
to do it safely.



Michael J. Smith
President

John

John

John

John

John

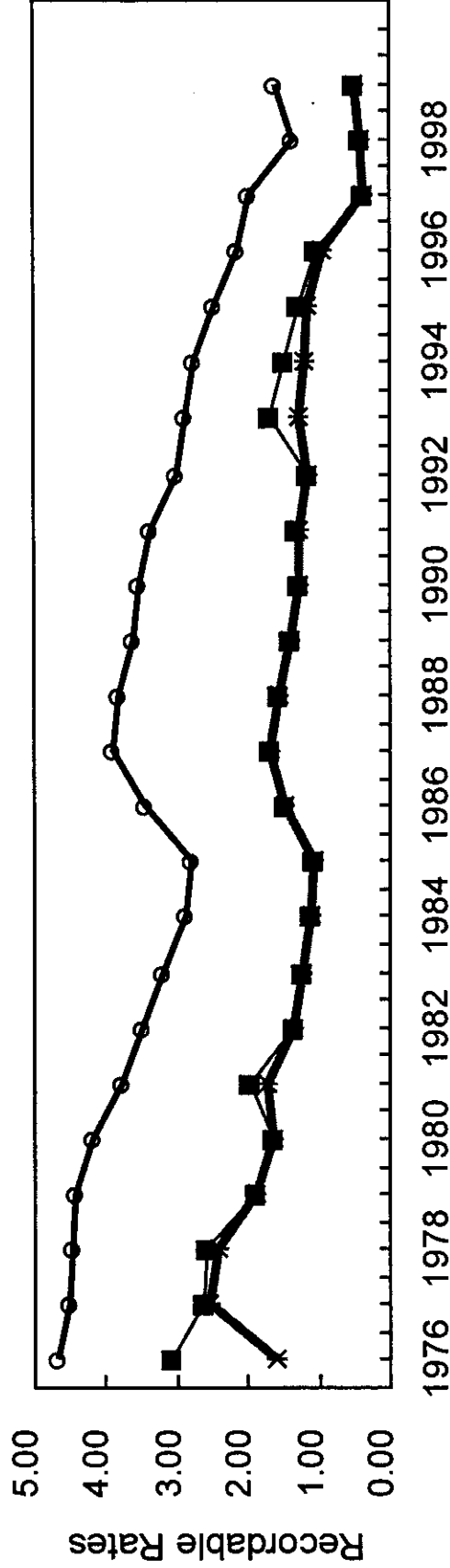
John



Core Values

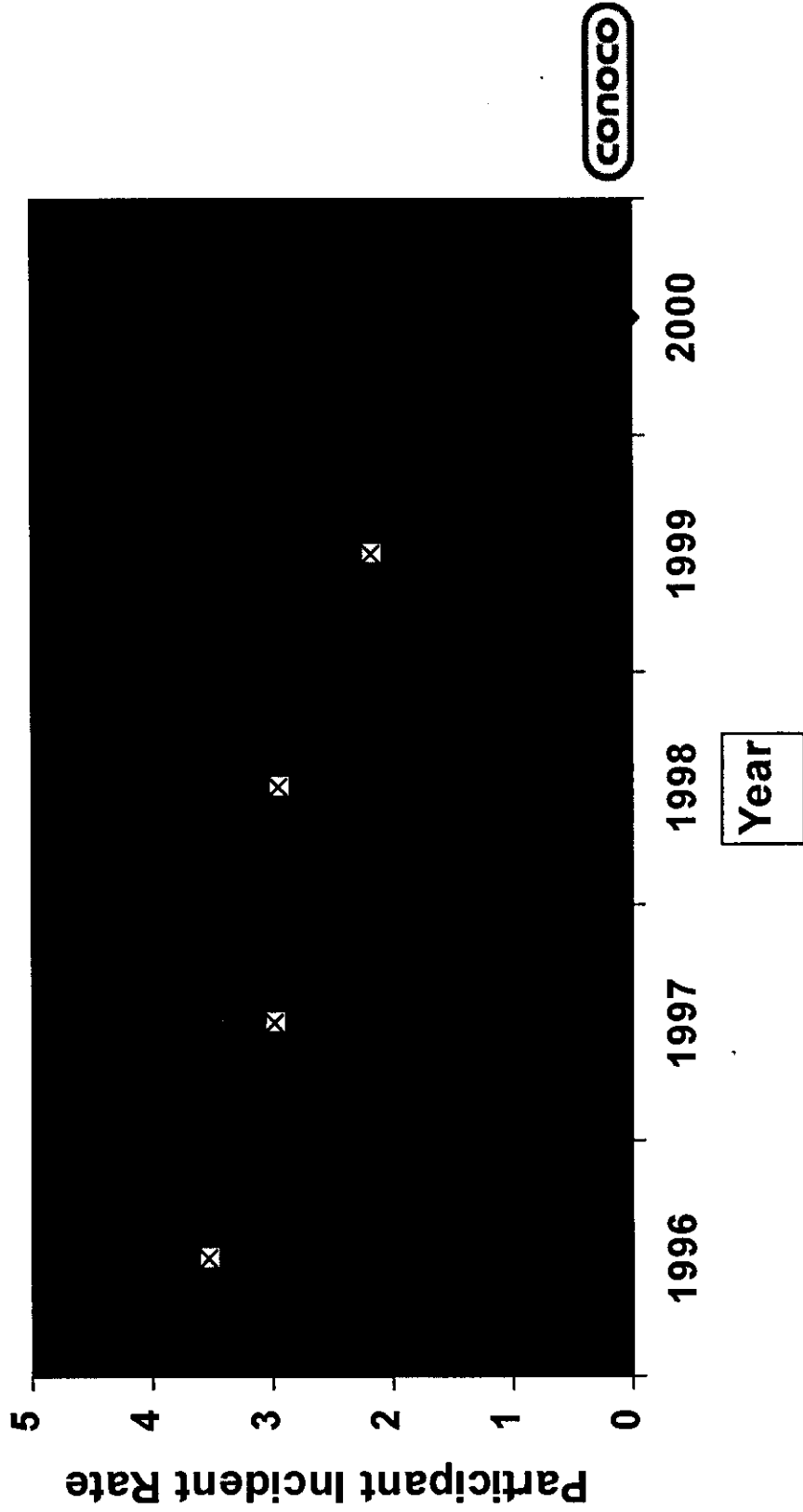
API Comparison 1976 - 1999 Total Recordable Rates

Rates



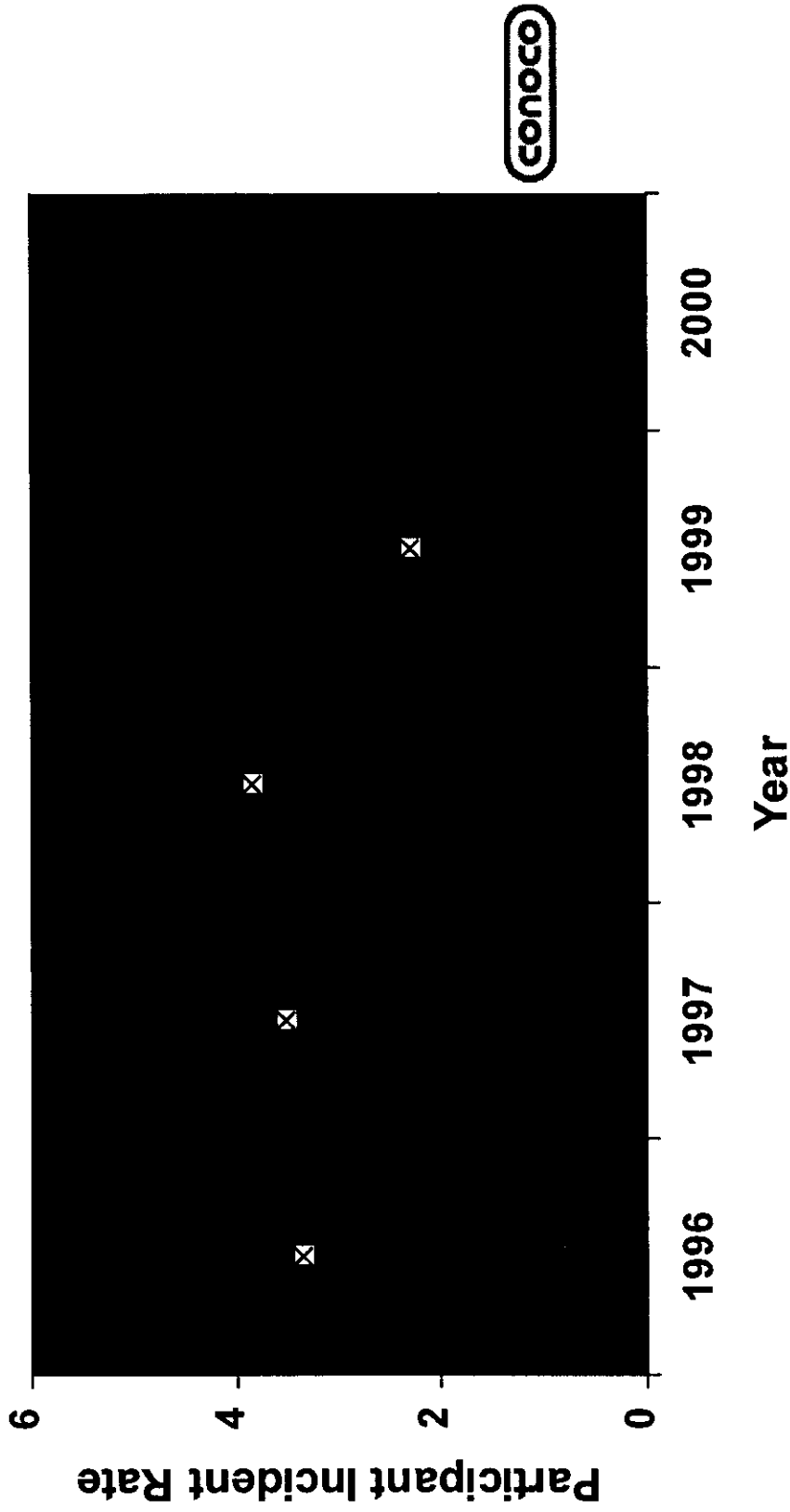
—○— API AVG. —*— API-LO —■— CONOCO

MMS Performance Measures Production Operations Employees' Recordable Incident Rate*



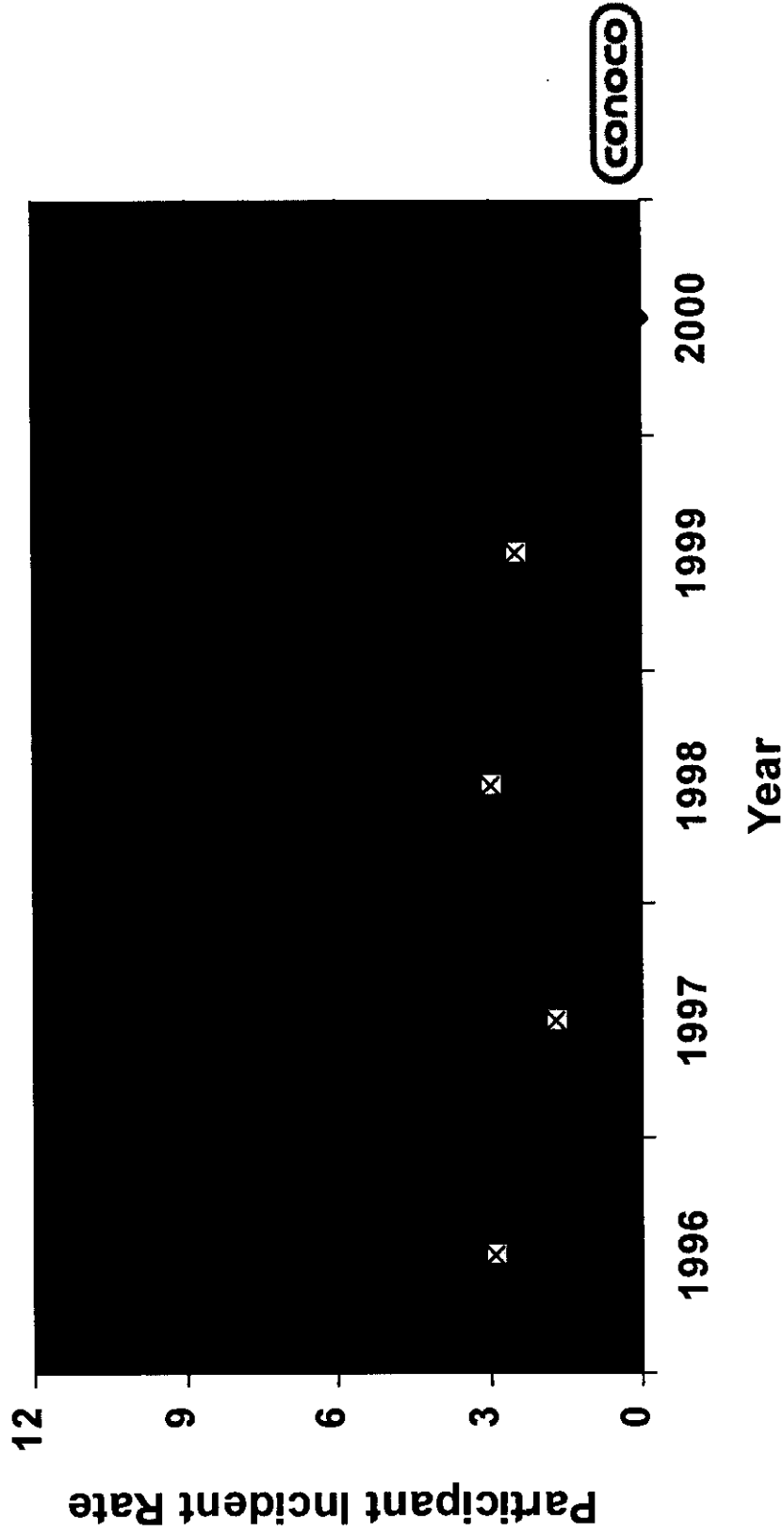
*[(Annual number of production operations employees' OSHA recordable injuries/illnesses) / (Annual total number of production operations employee hours worked)] x 200,000

MMS Performance Measures Drilling, Workover, & Allied Services Employees' Recordable Incident Rate*



*[(Annual number of drilling, workover & allied services employees' OSHA recordable injuries/illnesses) / (Annual total number of drilling, workover & allied services employee hours worked)] x 200,000

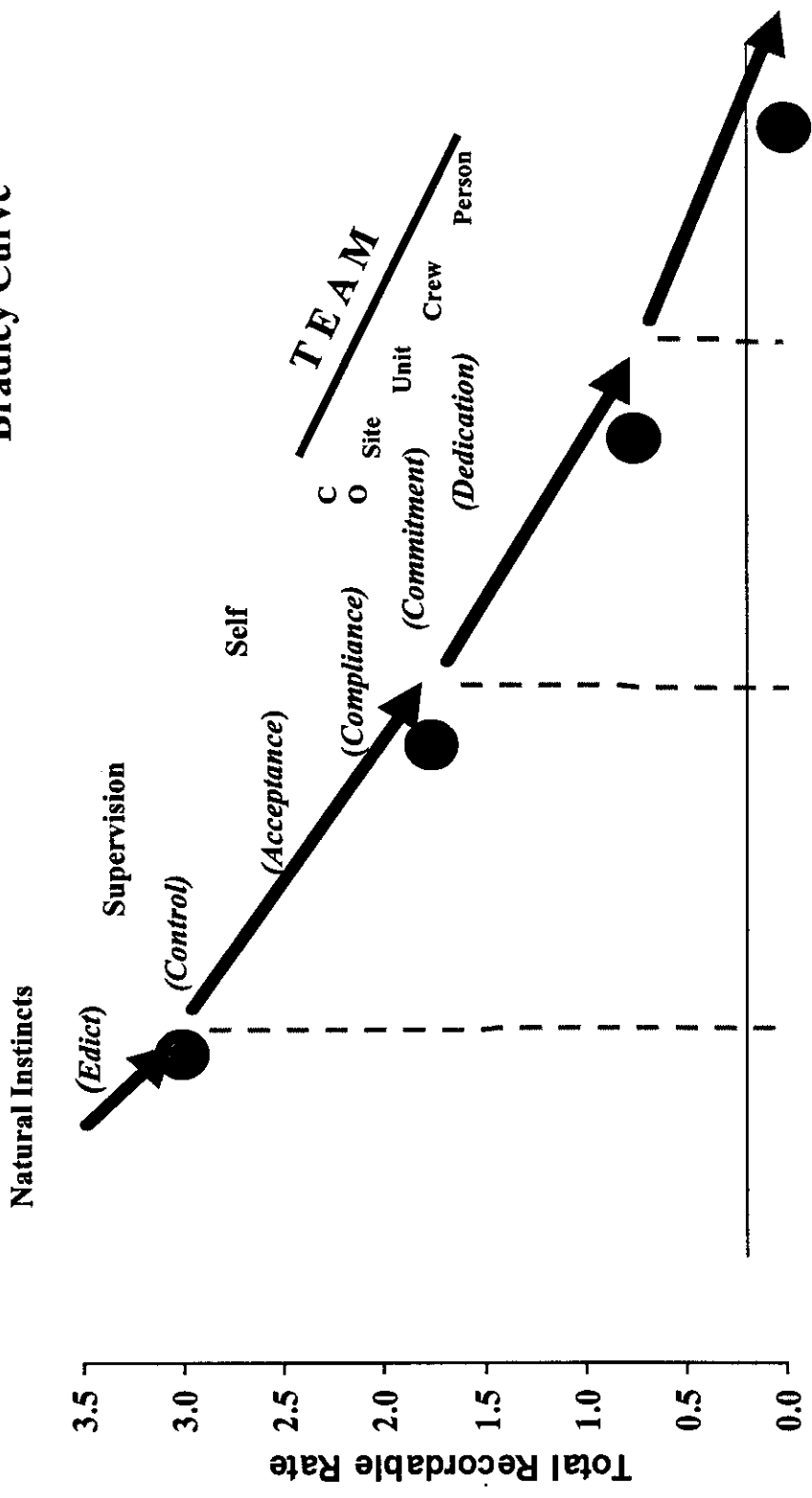
MMS Performance Measures Construction Operations Employees' Recordable Incident Rate*



*[(Annual number of construction operations employees' OSHA recordable injuries/illnesses)/
(Annual total number of construction operations employee hours worked)] x 200,000

INJURY PREVENTION

Bradley Curve



DEPENDENT INDEPENDENT INTERDEPENDENT

Management
Commitment

Personal
Commitment

Team
Commitment

Integration Integration

Legal Req.
& Op. Std.

Programs,
Procedures

Structure,
Resp.

Objectives,
Goals

Document

Training,
Education

Communi-
cations

Risk
Assessment

Emergency
Prep.

Operations
Integrity

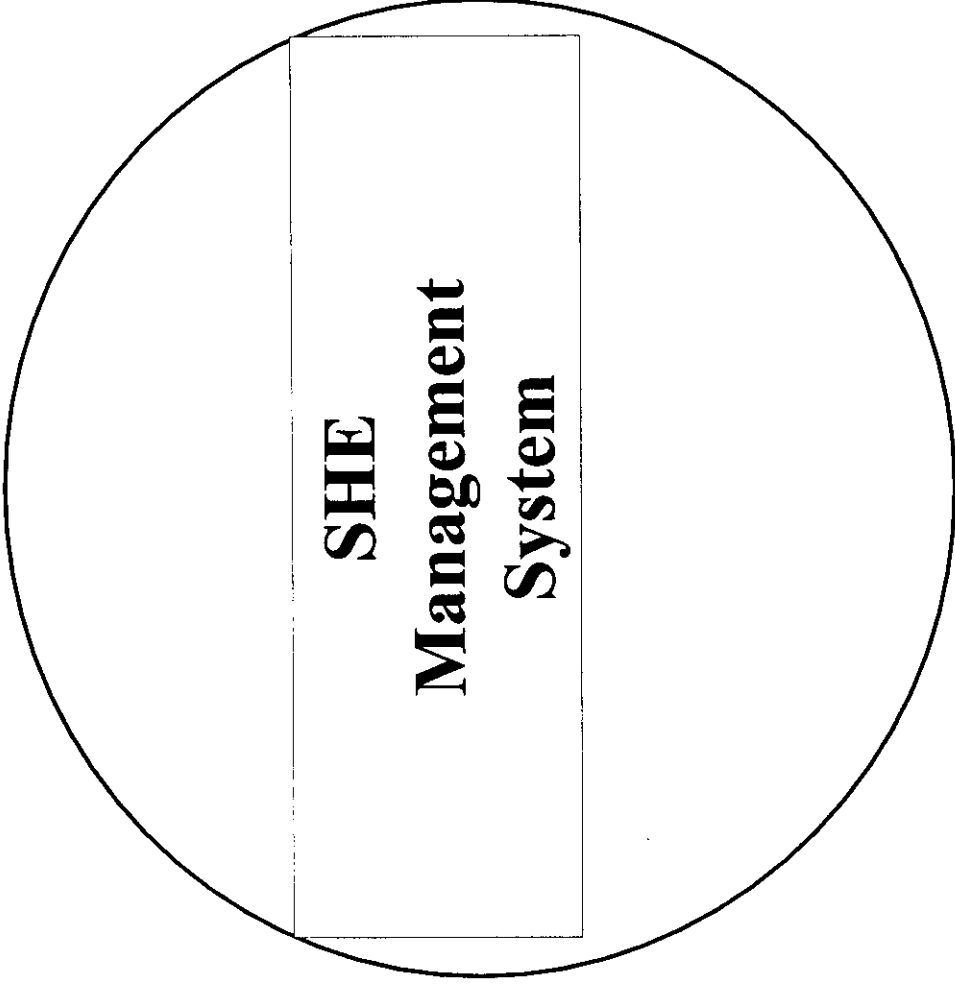
Strategies

Audits

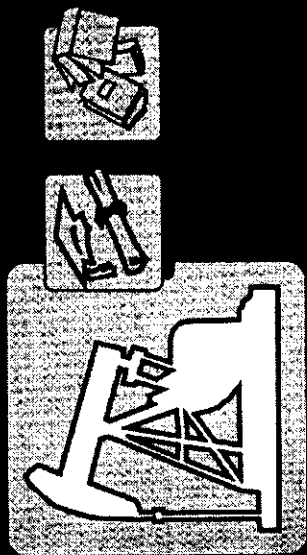
Management
Review

Performance
Measures

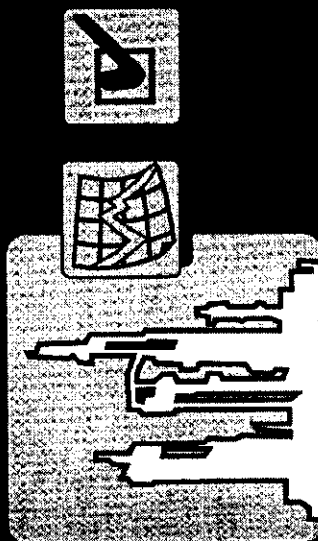
Integration Integration



Integration Integration



Process for Continuous Safety Improvement



CONOCO

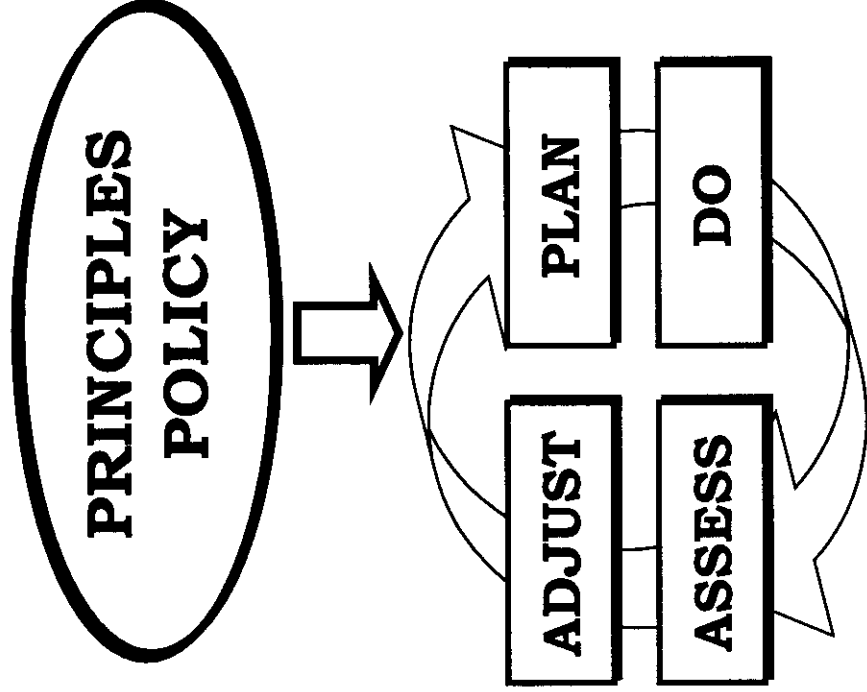
Integration

Leadership and Commitment

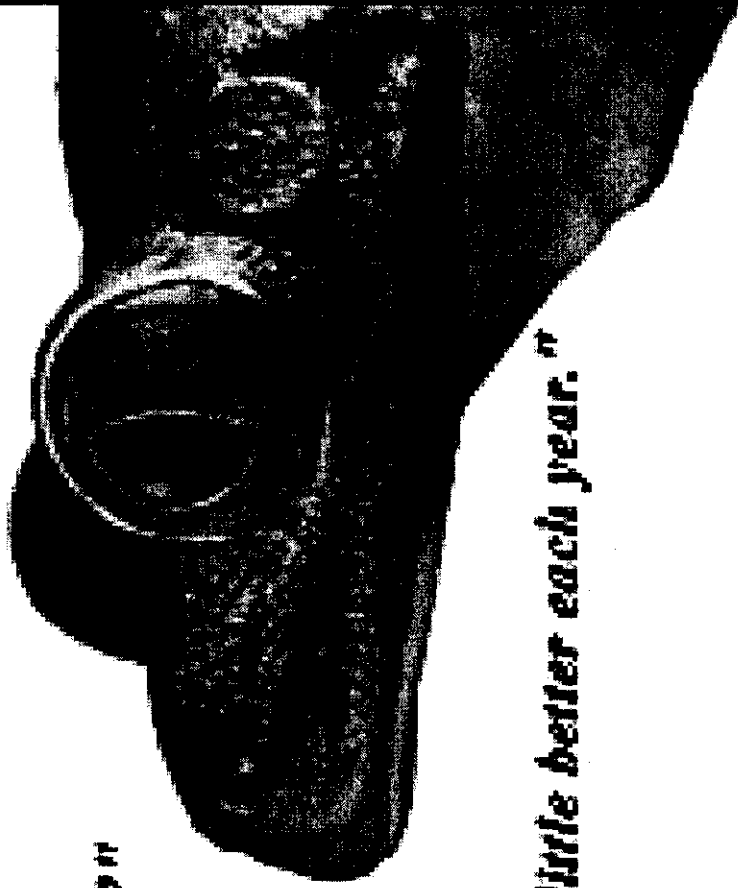
<p>5</p> <ul style="list-style-type: none">• Management Team drives the process for safety excellence• Employees own safety process• Employees believe the organization is committed to safety	<p>Continuously Improving</p>
<p>4</p> <ul style="list-style-type: none">• Management Team participate in internal safety reviews and initiatives• Managers are champions of the H & S process• Staff are assuming leadership roles for safety• Staff believe safety is a core value• Managers are enabling and empowering staff, championing selected issues and leading the development of company goals	<p>Management System in Place</p>
<p>3</p> <ul style="list-style-type: none">• Management Team set safety objectives and regularly monitor them• Managers are actively participating in safety meetings, audits, training, etc.• Managers communicate safety expectations to staff• Support and empowerment is given for frontline supervision to take the safety leadership role• Staff concerns are identified and addressed	<p>Implementing</p>
<p>2</p> <ul style="list-style-type: none">• Management Team are informed of major safety incidents and review them• Managers drive the development of strategies and plans improving H & S performance• H & S goals and objectives are focused on LWC and MTC• Managers have discussions with direct report employees concerning safety• Staff are not convinced that safety is a core value accountability• Accountability for safety is primarily discussed during performance appraising and post incidents discussed	<p>Program Development</p>
<p>1</p> <ul style="list-style-type: none">• Management Team are not involved in H & S• Managers are reactive and focus on trailing metrics (LWC, MTC)• Goals and objectives are not based on documented plans for improvement• Managers are not visible in the safety management system process• Unsafe acts and conditions are ignored by managers	<p>Awareness Building</p>

Integration Integration

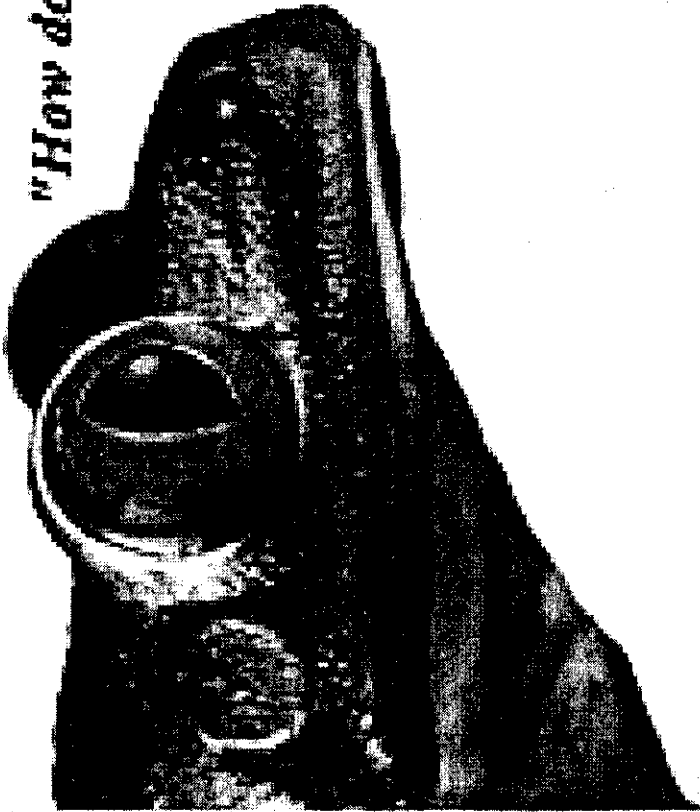
Management System Framework



"How do I look?"



"A little better each year."



CONOCO

Vision
VISION

Integration
Integration

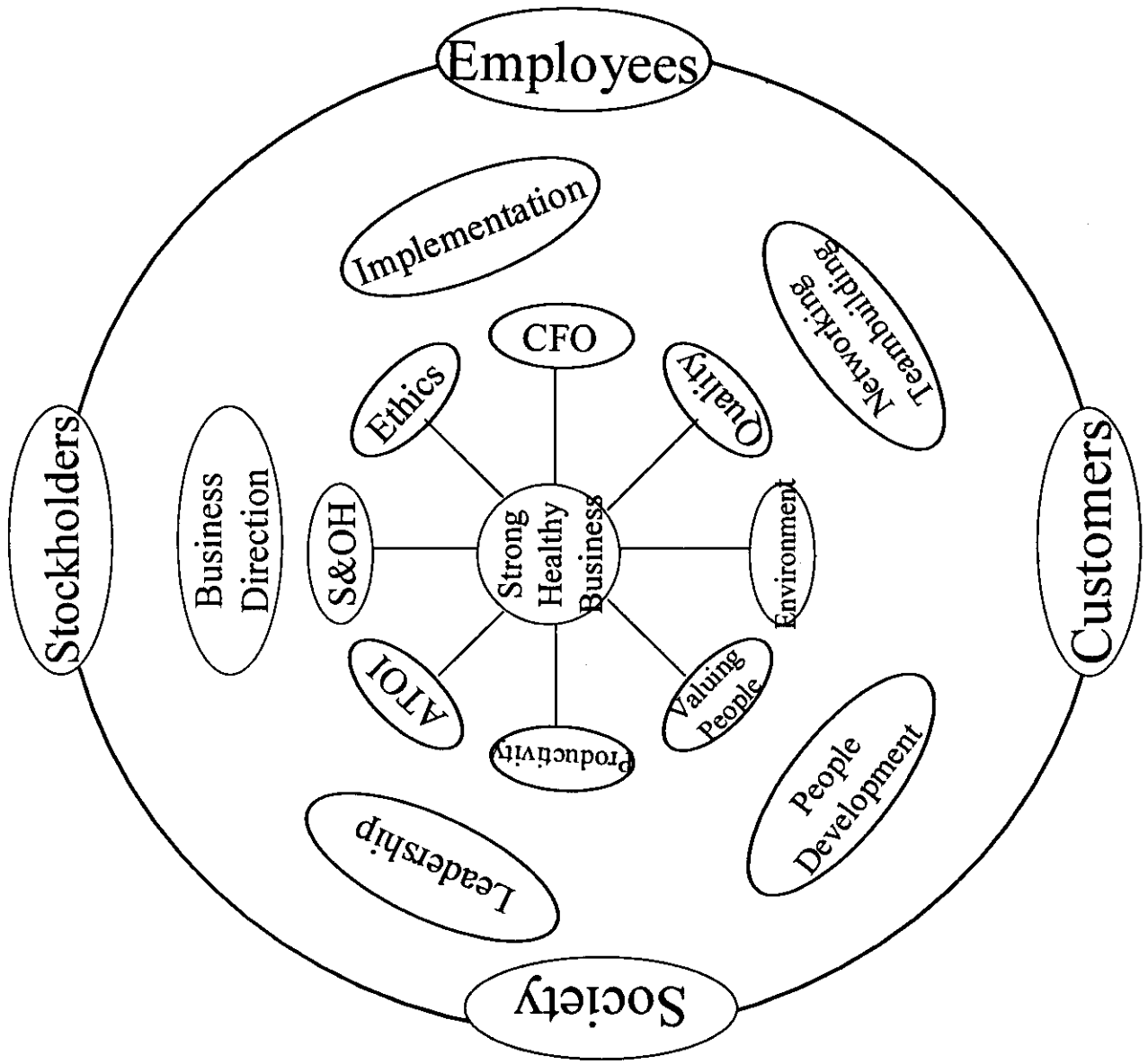
Core Values
Core Values

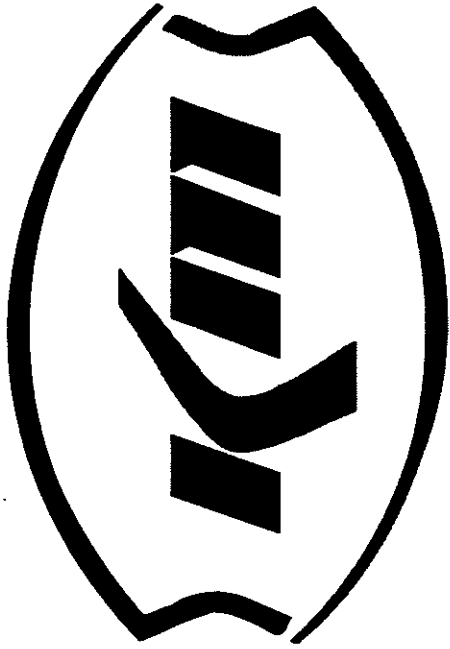


End of Presentation



Integration Integration





OCS

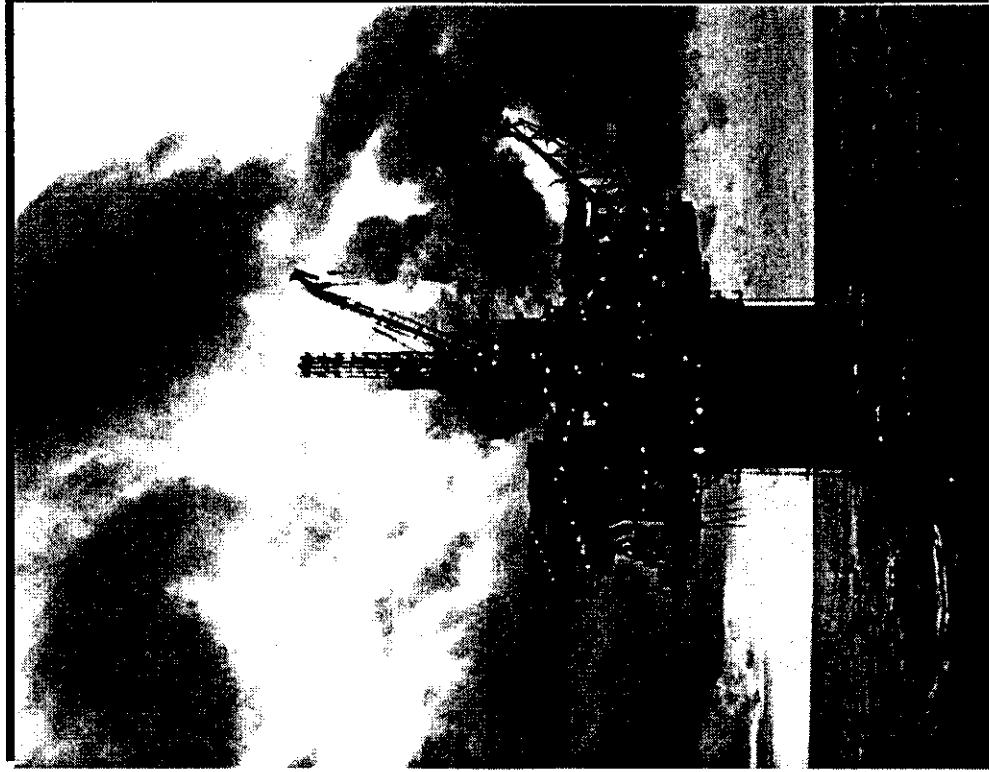
Best Practices

Workshop

November 2000



Safety Performance Success Drivers



- Management vision, direction, involvement & support
- Dedicated & proactive field personnel
- Open, collaborative communications
- Incident reporting, investigation & resolution process
- Effective contractor safety partnerships
- Commitment to SEMP



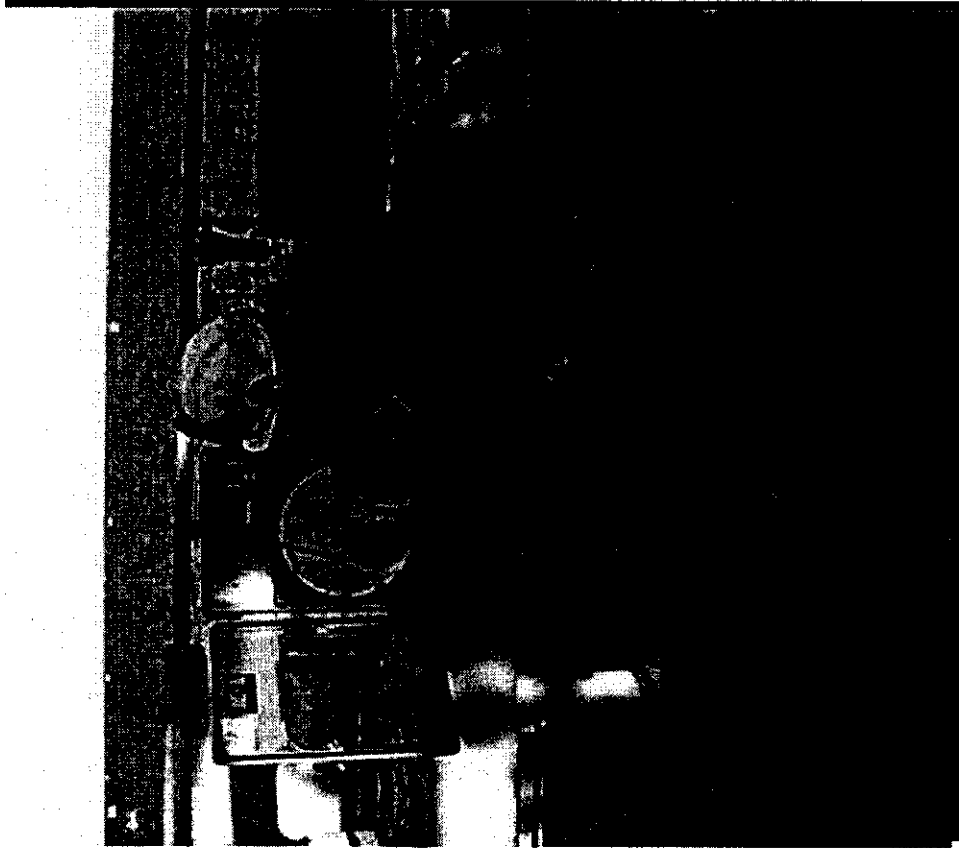
Management Commitment to Excellence

- Setting pacesetter level performance goals
- Paying attention to non-incident indicators
- Monitoring performance trends
- Providing resources to support the processes
- Practicing what is preached





People Make It Happen...



- Organizational culture fosters safety & compliance excellence
- Highly motivated & focused personnel
- Field driven support processes
- Operating safely is in harmony with the way we do business
- Dedicated to continuous improvement
- 24/7 cooperation on issues



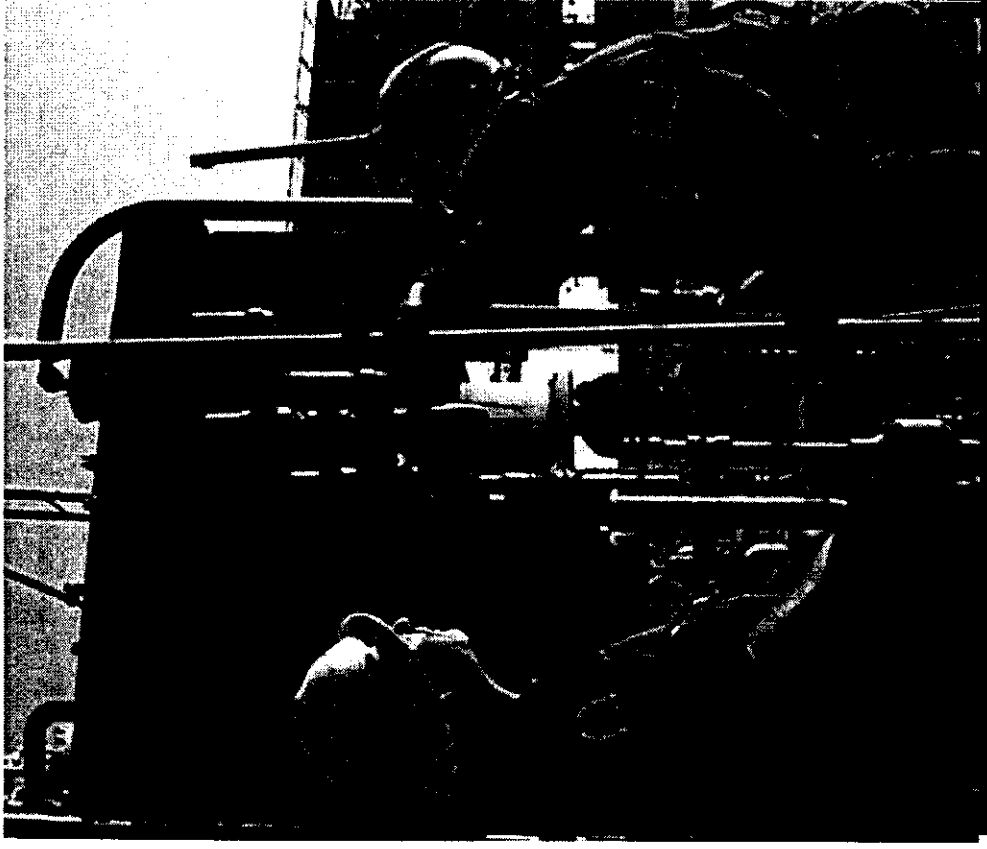
Effective Support Processes

- Contractor Safety
 - Screening for performance excellence
 - Aligning safety philosophies
 - Ensuring effective internal processes
- Incident Reporting & Investigation
 - Committing to reporting & follow-up
 - Providing positive feedback system
 - Responding to near-incidents



SEMP

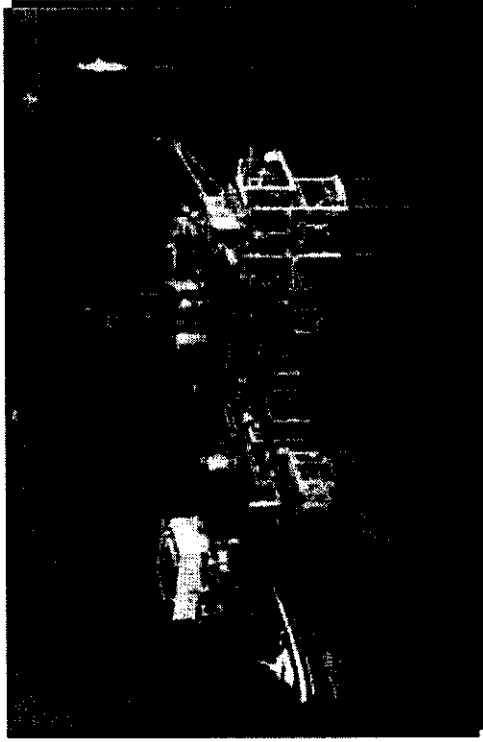
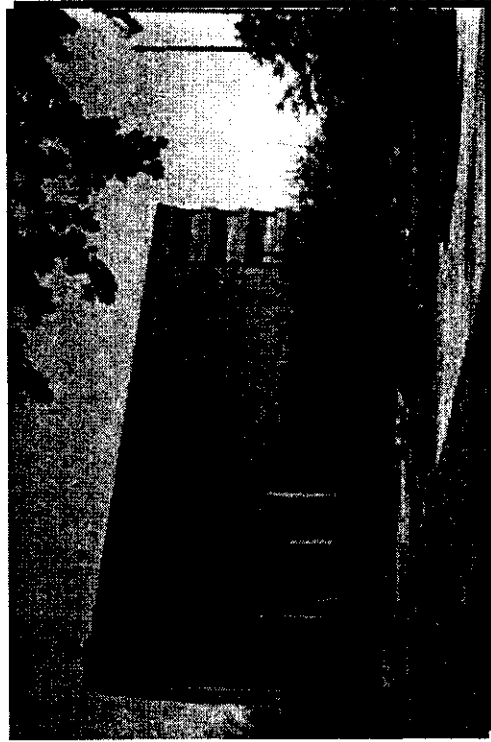
- The way we do business...
- Integrated into business practices
- Systematic risk management on a day to day basis
- Field ownership of processes





KERR-McGEE OIL & GAS CORPORATION

Houston, Texas



**Performance Excellence
for
The New Millennium**

Operator-Contractor Coordination

Danny Young, BP (Houston)

Bruce Adams, Schlumberger (Lafayette)

**WHAT ARE OUR MAIN
OBSTACLES?**

As an industry, our safety performance is not where we would like it to be. Below are just a few of the key issues preventing us from moving to the next level.

- Lack of uniform expectations in safety practice.
- Lack of acceptable processes for the implementation of industry wide safety practices.
- Fragmented improvement effort currently exists, thereby minimizing impact.
- Limited technical human resources to support organizations that routinely meet to address critical health, safety, and environmental issues.
- The industry's cycles impact human resources, experience, competency, and performance levels.
- Multiple interpretations of acceptable performance measurement.
- Lack of a forum for transmission of performance, pertinent and critical information.

MISSION STATEMENT

Mission

This body has been set up to provide a common ground for all sectors of our industry to actively work through industry-wide safety, health, and environmental issues by providing an open forum for all stakeholders to bring forward, work through, and implement changes within the industry as one proactive body in the effort to reduce industry-wide incidents by maximizing the industry's strengths and resources.

**HOW WILL WE ACHIEVE
OUR MISSION?**

Achieving the Mission

- Senior Executive leadership and involvement.
- Extensive participation from existing industry groups
- Coordination of the cross industry cooperation in the sharing of good practices and in learning from experience.
- Development and implementation of common practices.

EXECUTIVE COMMITTEE

Executive Committee

- Composed of senior executives in the operator and contractor community.
- Review and approve recommendations from the Technical Steering Committee.
- Provide strategic direction to the Technical Steering Committee.
- Play an active and visible role in gaining acceptance of approved practices across the industry.

Executive Committees Roles & Responsibilities

- Proactive leadership
- Provide resources & influence industry culture
- Remove barriers
- Provide strategic direction & support
- Review trends, external influences, Technical Committee input - prioritize where time & effort to be spent
- Disseminate & promote results and influence acceptance
- First action: set limits, determine membership & size

**TECHNICAL STEERING
COMMITTEE**

Technical Steering Committee

- Composed of representatives of industry stakeholders
- The TSC will work to coordinate cross-industry safety, health, and environmental issues with effort to eliminate redundancy and improve efficiency.
- Will manage the feedback process to industry stakeholders for work in progress.
- Will manage end proposals to the Executive Committee.
- Will manage the dissemination of the end product to industry stakeholders.

STAKEHOLDERS

Stakeholders







- Composed of industry organization and groups with a vested interest in safety, health, and environmental issues.
- Actively work together in the development of common practices.
- Provide technical support as needed.
- Actively promote the implementation of approved common practices within their organization.

Offshore Operators Committee Safety Work Team

Executive Committee

Operators VP	Operators VP	Operators VP	Chairman VP	Contractor VP	Contractor VP	Contractor VP
-----------------	-----------------	-----------------	----------------	------------------	------------------	------------------

Technical Steering Committee

			Chairman			
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Association of
Diving Contractors
International

Contractor
Development
Team

Contractor
Steering Team

Gulf Coast
Safety Association

Global Drilling Safety
Leadership Initiative

Operators
Development
Team

International
Association of
Drilling Contractors

International
Geophysical
Contractors

Gulf Coast Env.
Affairs Group

Association of Energy
Service Companies

International
Independent
Operators

Growth -
New Organization