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Overview of U.S. Pipeline Safety Program

Presented to Ghana Delegation

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Director, Technical Standards

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OPS Mission

To ensure the **safe** **reliable** and **environmentally sound** operation of the Nation's pipeline transportation system

- Hazardous Liquid Pipelines
  186,000 miles
- Natural Gas Transmission
  306,000 miles
- Gas Distribution Pipelines
  1.2 million miles
- Liquefied Natural Gas (LNG)
  101 Facilities

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OPS Statutory Charge

- Natural Gas Pipeline Safety Act of 1968, as amended (*49 U.S.C. App. §1671 et seq.*)
- Hazardous Liquid Pipeline Safety Act of 1979, as amended (*49 U.S.C. App. § 2001 et seq.*)
- Oil Pollution Act of 1990, as amended, sharpened environmental focus (*33 U.S.C. § 2701 et seq.*),
- TEA-21: Damage Prevention/Control Act, placed significant focus on excavation damage prevention
- Pipeline Safety Improvement Act of 2002, strengthened the Department's pipeline safety program

Regulatory Initiatives

- Integrity Management
  - Hazardous Liquid Pipelines (2000)
  - Natural Gas Transmission Pipelines (2003)
- Operator Qualification
- Pipeline Repair Permit Streamlining
- Distribution Integrity Management
- Pipeline Operator Public Awareness Programs

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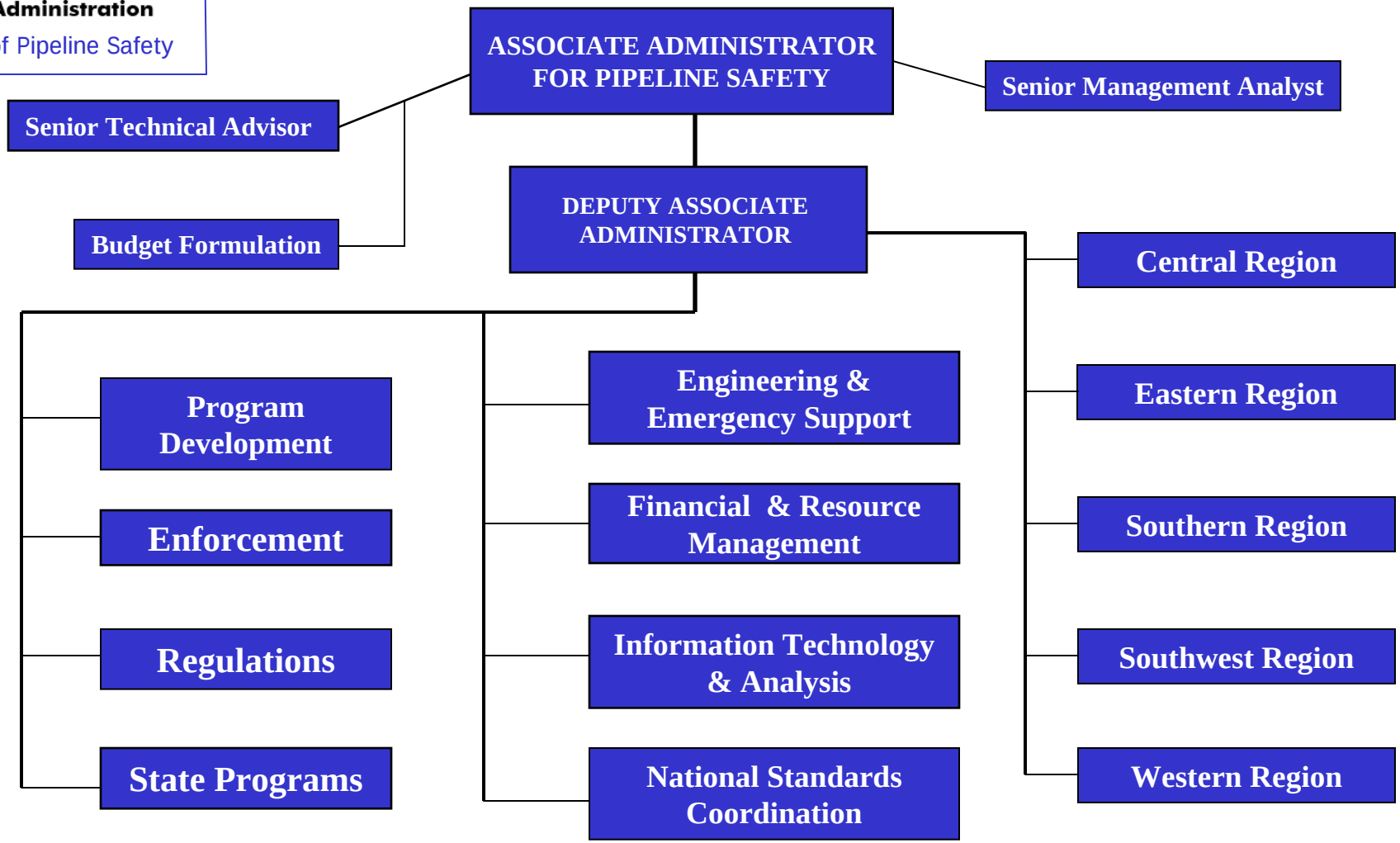
ORGANIZATION



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PHMSA OPS Budget

$ (000) in Thousands

	FY 2005 Enacted	FY 2006 Request
Personnel Compensation and Benefits (PC&B)	$17,285	$18,622
Administrative Expenses	6,663	8,979
Contract Programs	14,521	14,653
Implementing the Oil Pollution Act	2,296	2,317
Research & Development	8,986	9,067
Grants	19,169	19,527
TOTAL	$68,920	$73,165

OPS Strategic Focus

- Improve the safety of the Nation's pipelines
  - Reduce the number of incidents
  - Reduce the likelihood of major incidents
  - Mitigate the consequences of incidents
- Provide the basis for increased public confidence in pipeline safety

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Three Major Pillars of the OPS Strategy

- Risk and Integrity Management
- Shared Knowledge and Responsibility
- Improving our Stewardship in a Changing World - Energy, Environment and Security

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Pillar 1 - Risk and Integrity Management

- Pipeline Safety Regulation Inspection and Enforcement
- Incident Trends
- Integrity Management Programs
- Operator Qualification
- National Pipeline Mapping System
- Oil Spill Response Planning

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Risk and Integrity Management

Pipeline Safety Regulation Inspection and Enforcement

- Five OPS Regional Offices
- 67 Inspectors and Engineers
- Interstate Natural Gas Transmission Pipelines
- Interstate Hazardous Liquid Pipelines
- LNG Facilities tied to Interstate Pipelines

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Risk and Integrity Management

Pipeline Safety Regulation Inspection and Enforcement

- State Partners assume Safety jurisdiction for Intrastate Pipelines and LNG Facilities
- National Association of Pipeline Safety Representatives (NAPSR) facilitates communication among States and with OPS
- OPS distributes Grants to partially fund State Programs
- State jurisdiction varies based on State Law

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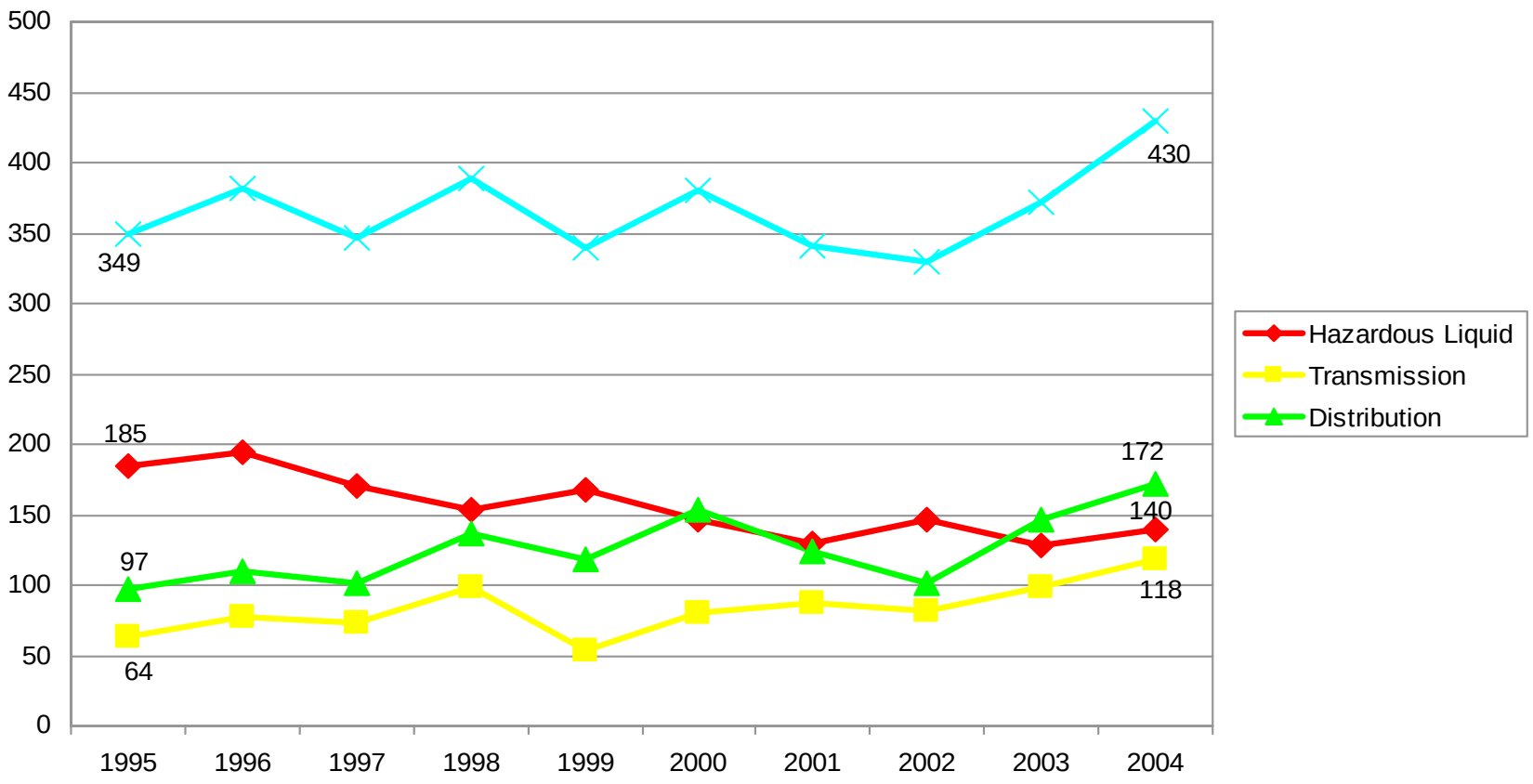
Risk and Integrity Management

Pipeline Incident Frequency



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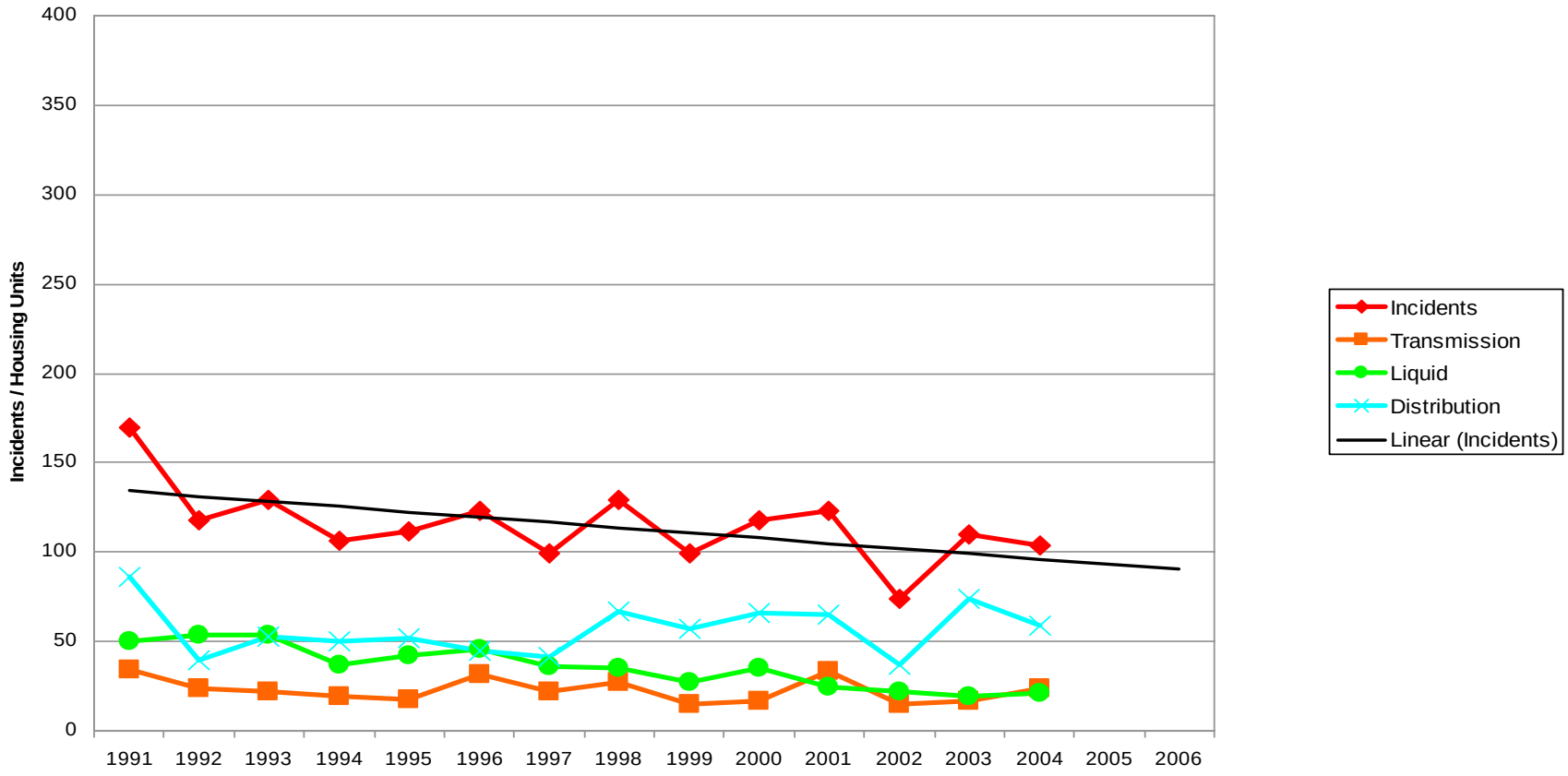
Risk and Integrity Management

Incidents Caused by Excavation



Risk and Integrity Management

Integrity Management Programs

- Assessment of pipeline integrity in high consequence areas
- Integration of risk and knowledge
- Allocate resources to focus on the highest risks
- Operators developing their own performance measures and performance monitoring programs
- Written integrity programs are living document to drive continuous improvement

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Risk and Integrity Management

Pipeline Integrity Management Programs

- Hazardous Liquid Pipelines (2000)
  - Baseline Assessments complete by 2008
- Natural Gas Transmission Pipelines (2003)
  - Baseline Assessments complete by 2012
- Gas Distribution Pipelines
  - Under Development

Risk and Integrity Management

Impetus for a Distribution Integrity Management Program

- Concern about Trends in Distribution Incidents
- Visibility of Major Incidents
- Pressures for Solutions, e.g. EFVs
- Guidance from the DOT Inspector General
- Stakeholder Confidence in Integrity Management

Risk and Integrity Management

Operator Qualification

- Pipeline Employees and Contractors must be Qualified to perform Covered Tasks
- Personnel must be Trained and Evaluated to ensure:
  - Safe and Proper Performance of Covered Task
  - Recognize and React to Abnormal Operating Conditions
- Consensus Standard under development - ASME Standard B31Q

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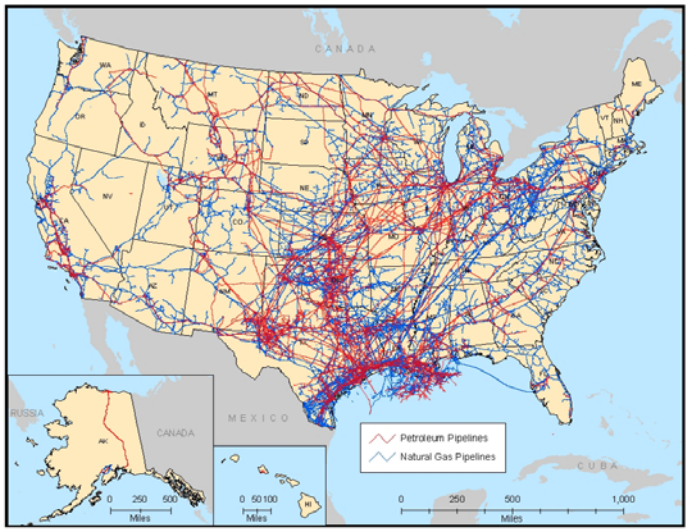
Risk and Integrity Management

National Pipeline Mapping System (NPMS)

- Layered Geographic Information System (GIS)
- Includes hazardous liquid & gas transmission pipelines, breakout tanks, and LNG facilities
- Password-protected access to federal, state, and local government agencies
- Public access to identify pipeline operators by County or Postal Code



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Risk and Integrity Management

Oil Spill Response Planning

- Operators submit Oil Spill Response Plans to OPS for review

- Operators conduct drills and revise Plans based on Lessons Learned

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Pillar 2 - Shared Knowledge and Responsibility

- Pipeline Safety Partnerships
- Stakeholder Communications
- Pipeline Permit Repair Streamlining
- Public Awareness Programs
- Data Integration

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Shared Knowledge and Responsibility

Pipeline Safety Partnerships

- National Association of State Fire Marshals (NASFM)
  - Fire Fighter Training
  - LNG Education
  - Excess Flow Valves
  - Public Awareness
- Common Ground Alliance (CGA)
  - Stakeholder approval of Best Practices for Underground Facility Damage Prevention
  - Stakeholder Education and Advertising
  - Damage Information Collection

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Shared Knowledge and Responsibility

Stakeholder Communications

- Public Meetings & Workshops during development of new initiatives
- Technical Advisory Committees, required by law, composed of various Stakeholder Groups
- Stakeholder Communications Web Site
  - User selects Stakeholder type from main menu
  - Portal for data collected from operators
  - http://primis.phmsa.dot.gov/comm/

Shared Knowledge and Responsibility

Pipeline Repair Permit Streamlining

- Integrity Assessments may find Defects in Environmentally Sensitive Areas
- 2004 MOU among Federal Permitting Agencies to Streamline Repair Permit Process
- Concurrent Permit Application Review
- Web-based System Under Development
- State and Local Permitting Agencies Next Step

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Shared Knowledge and Responsibility

Public Awareness Programs

- In June 2005, Regulations revised to require all operators to comply with API Recommended Practice 1162
- Communications Plans tailored to Stakeholder Audience
  - Residents along ROW, General Public, Local Public Officials, Emergency Responders
- Must Evaluate Effectiveness to drive Continuous Improvement

Shared Knowledge and Responsibility

Data Analysis & Trending

- Recent revisions to operator reporting formats creates more relevant information
- Increased availability of information through OPS web site
- Information driving the direction of Distribution Integrity Management
- Long-term project to improve integration of data sources to further enhance information quality

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Pillar 3 - Stewardship In a Changing World

- Transmission Pipelines and Land Use
- Research & Development Program
- LNG Siting and Safety
- Community Assistance & Technical Services
- Alaska Gas Pipeline
- DHS Transportation Security Administration

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Stewardship In a Changing World

Transmission Pipelines and Land Use

- Residential and Commercial Development occurring in once-rural areas with Transmission Pipelines
- Transportation Research Board Special Report 281 made recommendations for OPS action
  - Risk-informed land use planning guidance
  - Industry best practices for rights-of-way
- Task Team forming in fall 2005 – federal agencies, associations of local governments, planning & development associations, pipeline industry associations

Stewardship In a Changing World

Research & Development

- Identify technology that improves pipeline safety for timely transfer to industry
- Maximize return on investment and foster cooperation by requiring co-funding
- Research contributes to OPS initiatives, especially Excavation Damage Prevention and Integrity Management
- R&D Management Information System allows paperless administration of contracts

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Stewardship In a Changing World

LNG Safety and Siting

- OPS working with the National Fire Protection Association (NFPA) to revise LNG consensus standard

- Increased LNG Import capability needed for gas supply adequacy
- OPS participates in FERC and MARAD siting processes

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Stewardship In a Changing World

Community Assistance & Technical Services

- New OPS Program to improve Communications with variety of Pipeline Safety Stakeholders
- Serve on CGA Committees to improve Damage Prevention Practices, Education, & Data Collection
- Work with State Partners to assess and strengthen State Damage Prevention programs
- Provide Pipeline Safety information during FERC Hearings for new gas pipelines and LNG facilities
- Leading Pipeline Repair Permit Streamlining efforts

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Stewardship In a Changing World

Alaska Gas Pipeline

- Alaska Natural Gas transportation to the “Lower 48” needed for gas supply adequacy
- OPS working to identify design issues not currently within the scope of regulations:
  - Increased Valve Spacing
  - High Strength, Thin Walled Pipe susceptibility to Buckling and Cracking
  - Effects of Direct Burial in Permafrost
  - In-Line Inspection equipment for large diameter pipe

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Raising the Bar on Safety

- Long-Term Focus on Integrity Management
- Performance Measurement
- Inspection Integration
- Special Inspections / Task Forces on Poor Performing Pipeline Operators
- Focus on Prevention and Mitigation of High Consequence Accidents
- Cooperative Efforts with Stakeholders

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