

Excellence in Environmental, Industrial
& Emergency Solutions

Working in Partnership for Emergency Response



What We Do - NRC

Excellence in Environmental, Industrial & Emergency Solutions



OIL SPILL RESPONSE



HAZARDOUS MATERIAL
RESPONSE



FIREFIGHTING &
RESCUE



ENVIRONMENTAL &
INDUSTRIAL SERVICES



ENVIRONMENTAL
PRODUCTS



TRAINING &
CONSULTANCY

- NRC is a global provider of environmental, industrial and emergency solutions
- Established in 1992 following the Exxon Valdez oil spill and the introduction of the Oil Pollution Act (1990)
- Worldwide facilities and relationships enable us to provide a localized service with global strength
- Operating with 1200+ personnel, offices worldwide, and operating bases in 10+ countries



What We Do – PAE Thailand

- Established in 1964, PAE Thailand is known as a pioneer in the oil and gas and petrochemical development in Thailand
- PAE Thailand is a leading solution provider in process designs, engineering, fabrication, erection, and operation & maintenance in the oil & gas industry
- Well trained and highly qualified manpower for onshore / offshore oil and gas industry
- Operating with over 500 personnel, from 4 locations in Thailand



Tiered Response Structure

Onshore & Offshore Tier 1 Support

- We provide bespoke equipment packages with careful consideration of the following:
 - Operational requirements
 - Environmental characteristics and influences
 - Local infrastructure
 - Logistical concerns
- Equipment packages for rent with training and maintenance support



Tiered Response Structure

Tier 2 – Long-term Delivery on the Ground

- Global leader in provision of in-country Tier 2 services
- Many Tier 2 clients are also members of the oil industry OSR co-operatives.
- Designed, established and operated Tier 2 services in Kazakhstan, Georgia, Turkey, Egypt, Mexico, N. Iraq, USA, UK, Caribbean, etc
- Different commercial models:
 - Dedicated service model
 - Shared services model
 - Hybrid service model
 - Client-owned vs Contractor-owned equipment/bases
- Services delivered in local partnership, with strong focus on nationalization.



Tiered Response Structure

Tier 2 – Dedicated Services Model

Georgia & Turkey – BTC Pipeline

- 1,800kms, 34-46” crude pipeline transporting 1.0 mill bbls per day
- Establishment of OSR capability during construction phase prior to first oil
- Provision of oil spill services with 8 x Tier 2 bases
- 140 dedicated response personnel
- Equipment maintenance & operational support
- Additional Services:
 - Fire Fighting
 - Waste Management
 - Procurement
 - Training & consultancy



Tiered Response Structure

Tier 2 – Shares Services Model

Mexico

- OSR support to 3 x Offshore E&P operators
- Fully Established & Incorporated in Mexico
- Tier 2 NRC-owned In-Country Resources and Capabilities
- Tier 3 Augmentation Support from NRC's US Gulf of Mexico & Global Response Bases
- Access to NRC's specialized Aircraft for Dispersant Application
- Support to client exercises, training & regulatory meetings
- Service Fee divided by the number of operators – more E&P clients reduces the cost to all.



Tiered Response Structure

Tier 2 – Hybrid Services Model

Northern Iraq

- Oil spill risk consisted predominantly of:
 - On-land exploration drilling – short term and unpredictable
 - Road transportation of crude
- Establishment of a Technical Committee consisting of the concerned operators - established a baseline Tier 2 response requirement common to all operators
- Individual operators with additional independent resources dependent on their risk profile for additional cost.
- Tier 2 service delivered out costs spread over 7 initial oil company clients
- Additional industrial cleaning & waste management services

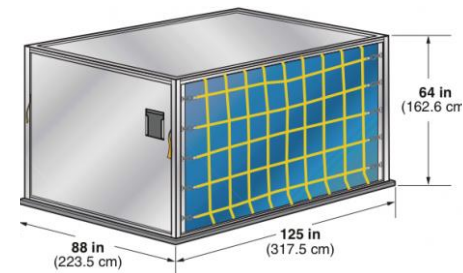
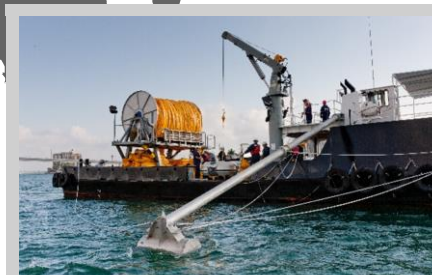


Tiered Response Structure

Tier 3 Augmentation Support



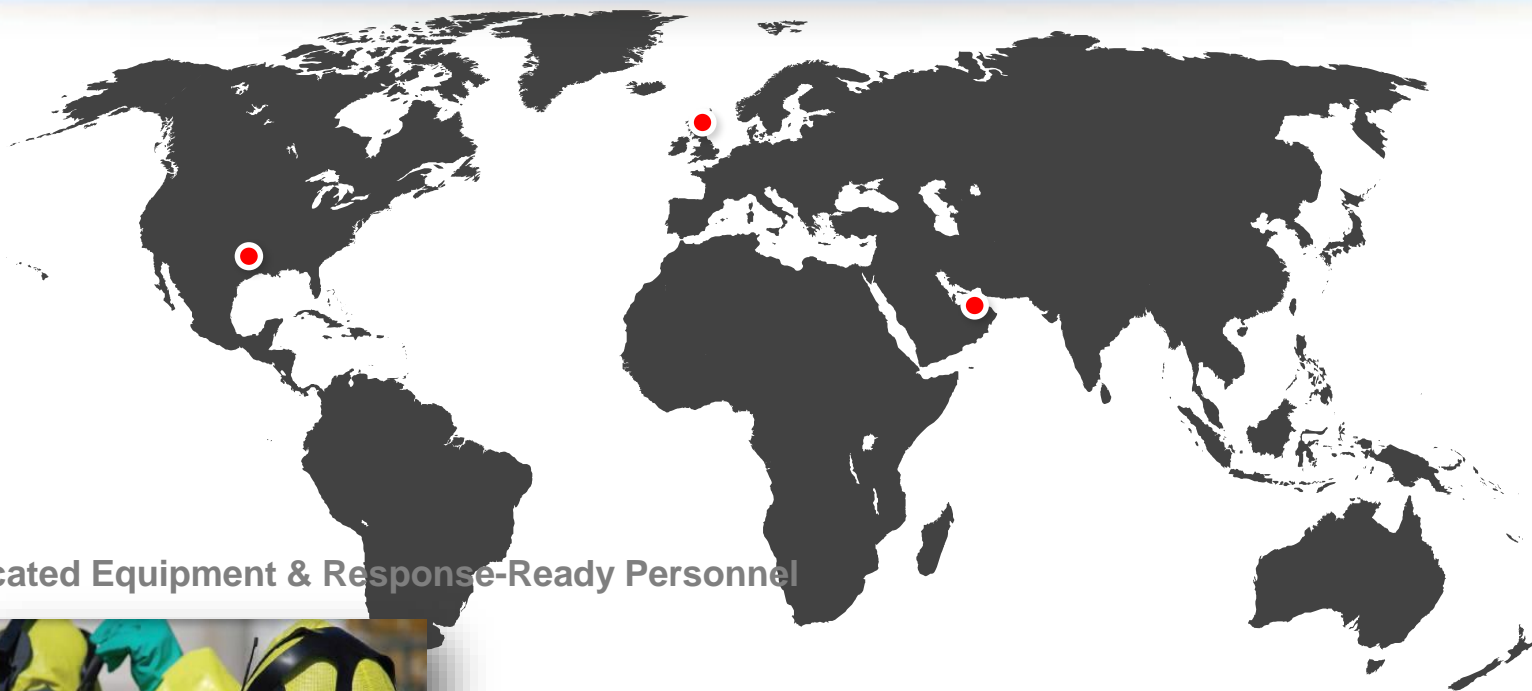
- GRS Equipment, Dispersant & Personnel Bases
- Aircraft



Item	US	UK	UAE
Equipment (Pre-packaged Flight-ready)			
Offshore	✓	✓	✓
Shoreline	✓	✓	✓
HVLP	✓	✓	✓
Dispersant	Finasol – 50 tonnes Corexit - 100 tonnes	Finasol – 50 tonnes Slickgone- 50 tonnes	25 tonnes
Personnel			
Initial Strike Team	15	12	3
Support Team	29	24	4
TOTAL*	44	36	7

*subject to change

Global Response Service – HNS/HAZMAT



Dedicated Equipment & Response-Ready Personnel



**** 6 x Response Team ****

Supported by Senior Response Manager

- Chemical Response Manager
- Chemical Response Supervisor
- Qty 4 x Chemical Response Technician

Base Training:

- 40hr HAZWOPER
- BA Training
- Confined Space
- BOSIET
- First Aid



Training and Consultancy

- NRC / PAE Thailand provide a full range of prevention, preparedness and emergency response consultancy and training courses including those accredited by the UK Maritime and Coastguard Agency (MCA) and the Nautical Institute
- Our training courses include:
 - Oil Spill Preparedness & Response (IMO & MCA Levels)
 - Hazardous Materials & HNS Response
 - Incident Command System (100-700)
 - Fire Fighting – NFPA levels
 - Technical Rescue Training
 - Industrial Services



NRC / PAE in Thailand

- NRC and PAE Thailand, working in partnership to provide cost-effective local services compliant with international best practice.
- In-country workforce of over 20 Oil Spill Response personnel trained to IMO 1 standard
- Response personnel in both Rayong and Songkhla trained by NRC specialists.
- Equipment stockpile in Rayong with additional resources available for immediate air-freight from the UAE.



Harbor boom



Hi-sprint boom



Oil skimmer



Equipment in Thailand

- 2 x Hi-Sprint Boom (Vikoma 1500) 250m. – 10' ISO Container
- 1 x Hi-Sprint Boom (Vikoma 1500) 150m. – 10' ISO Container
- 2 x Sweep Boom 60m. – 10' ISO Container
- 1 x Harbour Boom 300m. – 10' ISO Container
- 1 x Helix Skimmer (Desmi Helix) Recovery container - 10' ISO Container
- 1 x Brush Skimmer (Lamor Minimax 60) Recovery container - 10' ISO Container
- 3 x Weir Skimmer (Desmi Termite) Recovery container - 10' ISO Container
- Absorbent Boom/ Sheet





Oil Spill Response Training

28-31 March 2016

ผู้เข้าร่วมอบรมเป็นพนักงานจากหน่วยงาน ระยอง จำนวน 15 คน หน่วยงาน สงขลา 4 คน และสำนักงานใหญ่ 2 คน ขอขอบคุณทุกท่านที่ตั้งใจ และให้ความร่วมมือในการอบรมนะคะ



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