Supported by 日本財団 THE NIPPON FOUNDATION

2013 年度

アセアン地域における HNS 事故対応体制の強化支援報告書

2014 年 3 月

公益社団法人　日本海難防止協会

はじめに

本事業は日本財団の支援を受け、アセアン諸国を対象として、HNS（Hazardous and Noxious Substances：有害危険物質）緊急時計画策定のための支援を行うことで HNS 流出事故時における組織的な対応体制を確立し、もってアセアン地域全体の海上防災体制のさらなる強化に資することを目的とする。

近年のアジア地域における工業化及び経済発展に伴い、今後ますます HNS の同域内における海上輸送量増加が予想され、また、地球温暖化に関する意識が高まり、バイオ燃料などアルコール類を原料とする燃料の輸送需要も見込まれる。

こうした背景から、当協会では 2009 年度まで「アセアン地域における海洋汚染防止体制の強化」を、さらに 2010 年度からの 3 年間において「アセアン地域における HNS 事故対応体制強化」を目的とした事業を行い、アセアン諸国に対する HNS 流出事故対応に必要な知識の普及と、組織的な対応体制構築のための緊急時計画策定支援に取り組んできた。

本事業では 2012 年度までの事業により動き始めた各国の対応を、継続し発展させるため更に 1 年延長することとしたものであり、2013 年 11 月に各国の海洋汚染防止担当者をフィリピン・マニラへ招聘し、専門家による講義を中心としたワークショップを行うとともに、フィリピンコーストガードによる HNS 防除訓練の展示により HNS 緊急時計画の更なる策定支援を行った。

本書はこれらの業務の実施概要及び成果を取り纏めたものである。

2014 年 3 月

公益社団法人　日本海難防止協会

目　　次

Ⅰ　アセアン各国における実態調査

アセアン各国における実態調査

１　目的

HNS緊急時計画策定を支援するとともにHNS事故対応体制の強化支援に焦点をあてた本事業では、2013年11月にマニラにおいてアセアン各国のHNS緊急時計画策定担当者を対象としたHNSワークショップを開催することとし、このワークショプを円滑に進めるため2013年7月から11月にかけて、アセアン各国を訪問し、担当者と面談を行って調整を実施した。

この機会にあわせ、各国におけるHNS緊急時計画策定の進捗状況やその他関心の高い事項等について聞き取り調査を行った。

２　アセアン各国における実態調査概要

(1)ブルネイ（担当部局：通信省海事局）

ブルネイではHNS対応緊急時計画への取組みを2012年に開始し、同年、既存の油対応緊急時計画にHNS対応を織り込む形で、国家流出事故対応計画の改正案を策定した。しかしながら、承認機関である国家危機管理委員会において、油とHNSを分けるべきとの意見が多勢を占めたため、両者を分離して策定することとなり、関係省庁間で協議しつつ作業を進めている段階である。

HNS対応については既存の対応計画がある。これは、消防や救難の担当部局において、それぞれ扱う範囲は狭いが、対応マニュアルを策定し運用しているものであり、これを生かす方向で考えているが、どこまで内容を拡張するべきか、方針が定まっていない。その意味で、今回のワークショップは他国の緊急時計画を参考にできる良い機会であり、特に、日本のHNS対応緊急時計画の説明に期待している。

現在、中国資本の化学薬品製造工場の建設が進んでおり、これが稼働開始すれば、緊急時計画の必要性が高まることになり、この点でも策定は急務であると認識している。一方で、現状において大手石油会社（ブルネイシェル他）においては、個々に対応マニュアルを策定し運用しており、前述した建設中の工場においても同様に策定中と聞いている。よって万一漏洩等が発生した場合の初度対応には問題ないと認識している。

HNS緊急時計画の目的は、各国が必要な活動を定め、補償、戦略、資材、訓練などの枠組みを構築することと考える。ブルネイにおいては、メタノールやLNGが主な取扱品であり、これらを対象とした計画を立案することになる。このような現状、仕組み及び組織の重要性を検討し、HNS事故対応に関わるべき機関を定める作業を進めている。今後の見込みとして、2014年には本格的に緊急時計画策定への取組みを再開し、以前に作成したHNS対応マニュアル案から踏み出した法律の制定を目指している。

今回のワークショップにおいて、すでにHNS緊急時計画を策定した国における政府

内手続きや計画の具体的内容についての説明を受け、それらを基に自国での HNS 緊急時計画策定に取り組みたい。

(2)カンボジア（担当部局：公共労働運輸省商船部）

現在、油流出時の緊急時計画案がまとまり、審議・承認待ちの状況であるが、時期は未定である。手続きについては、首相直轄の組織であり、各省庁から副大臣クラスが委員に任命されている国家災害管理委員会において審議・承認される。同計画には多くの利害関係者と省庁が関わっており、今後の見通しとしては、それらの調整が完了後、原案を議会に提出し、上院が承認して国王が署名する運びとなる。我が国では例えば「商船法」の制定に、すでに 10 年間以上要していることから、油対応緊急時計画についても、非常に長い道のりが予想される。

カンボジアは東アジア海域環境管理パートナーシップ（PEMSEA)の加盟国であり、海洋環境保全に積極的に取り組んでいる。また、タイ湾の環境保全に関するタイ、ベトナムとの三カ国協定に 2006 年に署名しており、三国間での油防除に関する実働、机上の両訓練を定期的に実施している。

HNS 対応については、油対応緊急時計画が完成した後の話となり、現時点では将来的な課題である。また、HNS 対応緊急時計画の策定を主導する機関について、現時点では決まっていないが、基本的には油防除緊急時計画の草案作成を行っている公共労働運輸省であるべきと認識している。

(3)インドネシア（担当部局：運輸省海運総局警備救難局）

HNS 対応緊急時計画の策定に関し、具体的な目処はたっていないものの、既存の油対応緊急時計画とは別個に策定する方向で検討している。なお、現在は、OPRC 条約の批准へ向けて準備を進めている状況である。

今回のワークショップでは HNS 緊急時計画完成国から同計画についての解説、できれば日本の緊急時計画の英訳版を基に、日本の海上保安庁あるいは関係機関の専門家による講義を望む。また、座学も重要であるが、実働的なトレーニング、特に油及び HNS による火災の消火作業について指導を受けることができれば、より有効なものになると考えている。

(4)ラオス（担当部局：公共事業運輸省水路局）

（ラオスは海岸線を有さないことから、海洋汚染防止に主眼を置く本事業の対象国としていなかったところ、2012 年度の事業実施時、カンボジア及びベトナムから「メコン川を通じて周辺流域国への汚染の影響が懸念されるラオスも参加させるべき」との意見があった。このため、本年度の事業説明においてベトナムの担当者に再度確認し

たところ意向は変わらず、同人からラオスの担当部局である公共事業運輸省水路局水路運輸部の担当部長の紹介を受け、調整の結果、参加させることとなったもの。）

HNS 対応に関し、ラオスにおいて化学薬品工場は存在するが、この原料を川を介して輸送することは認められておらず、専ら陸送で運んでいる。

所管省庁としては環境省あるいは公共事業運輸省内の道路局が関係するが、ラオスは油の輸入基点としてベトナムに港を確保しており、水路運輸部が所管することから今回の事業に参加させて頂くものである。

油汚染防除に関しては、メコン川流域の四ヶ国で地域緊急時計画を策定・締結しているが、海洋汚染や海事に関する活動は何ら行っていないのが実状である。しかしながら、周辺国との HNS 対応に関する情報共有は必要と認識しており、今回の HNS ワークショップはアセアン各国の油・HNS 対応についての取組みを知ることができ、それによって自国の政策に反映することができる貴重な機会である。

(5)マレーシア（担当部局：運輸省海事局）

マレーシアにおいては、HNS 国家緊急時計画を策定済みであり、同計画の策定を定めた OPRC-HNS 議定書(OPRC/HNS 2000)の批准を 2013 年内に行うべく、現在、政府内において最終調整が進められている。また、HNS 議定書についても 2015 年までの批准を目指している。(→OPRC-HNS 議定書については、2013 年 11 月 28 日批准)

また、マラッカ・シンガポール海峡における HNS 流出事案への緊急時対応計画を沿岸国間で策定すべく調整中であり、この草案をワークショップにおいて発表したいと考えている。なお、本作業手順書の策定にあたり、近い将来にはインドネシア及びシンガポールとの間で合同訓練の実施を計画している。

(6)ミャンマー（担当部局：運輸省海事局）

ミャンマーにおいては、HNS 国家緊急時計画草案を策定済みであるが、未だ国内での承認手続きが未了である。主管省庁は海事局であるが、2011 年の政権交代により民主化が進められている現況下、新政権において省庁再編が図られ、関係省庁として環境省が加わった。これによる省庁間の調整が必要となり、また、MARPOL 条約付属書批准等の優先すべき案件等が相まって、作業が進まないものであるが、新政府の体制が途上段階にあり、承認手続きが不明確であることが一番の要因である。ただし、国内の HNS 事故対応体制については確立すべく、緊急時計画の草案においては、戦略的政策立案についての助言を行う国家 HNS 流出主導委員会（National HNS Spill Leading Committee）や、実働対応を協議する国家 HNS 作業委員会（National HNS Spill Working Committee）を設置することとしている。

(7)フィリピン（担当部局：PCG 海洋環境保全司令部）

2011 年末に HNS マニュアルを作成したものの、HNS 国家緊急時計画については草案の域を出ず、依然として政府の承認待ち状態が続いている。

現在、緊急時計画を策定するうえで必要な、リスク評価を実施している段階であるが、単独の政府機関で必要な全ての情報を得ることは困難であり、関係する様々な機関からデータを収集し、リスク把握をすることとしている。

なお、フィリピンにおいては、緊急時計画の策定や改正に、法律の制定・改正は不要であり、その手続きは、担当機関である PCG と運輸通信省だけで可能となっている。法律の制定・改正に関しては、フィリピンは ASEAN 諸国の中で唯一、大統領制を敷いており、上院・下院それぞれへの説明が必要となることから、その手続きは長い道のりとなる。

フィリピンにおいて HNS そのものが広く知られるようになったのは、2008 年 6 月 21 日の「Princess of the Star 号海難（フィリピンのマニラからセブ島へ向け航行中、台風による波浪で機関故障を起こし、高波を受けて転覆。貨物である多量の殺虫剤（エンドスルファン）の有毒性による二次災害の懸念から捜索・救助活動中が困難を極めた事例)」が発端となっている。現在では HNS 事故対応要員が約 60 名となったが、今なお、国内の大半の機関、団体、企業が HNS に伴うリスクを明確に把握できていないため、PCG が指導を行っていく必要がある。この指導を通じて、前述の「リスク評価」に必要なデータや情報が得られると考えている。

(8)シンガポール（担当部局：海上港湾局）

シンガポールにおいては、油と HNS とで別々に緊急時計画を策定しており、2003 年に OPRC-HNS 議定書を批准し、2004 年 4 月に HNS 緊急時計画を発効している。また、訓練についても毎年、油・HNS それぞれについて、実働訓練と机上訓練を織り交ぜながら本格的に実施している。毎年、２つの計画について訓練を順番に行うことにより、事故対応と緊急時対応システムの妥当性を確認している。

(9)タイ（担当部局：海事局）

タイについては、2011 年度の段階において、翌年度中のドラフト完成が見込まれていたところ、現在まで完成に至っていない。既存の油対応国家緊急時計画を拡大し、HNS を対象に加えるか、あるいは新たな HNS 緊急時計画を策定するのか、方向性が定まっていない状況である。前者の場合、「海上における油汚染の防止と軽減に関する首相府規則」を改正する必要がある。同規則は油流出事故のみを対象としているためであり、規則改正のうえ、国家緊急時計画を改正することとなる。油流出緊急時計画については海事局が唯一の所管省庁であったが、その改正作業には、現計画の対象外であ

る産業省や天然資源環境省、保健庁などの関係機関を加える必要がある。

HNS 緊急時計画策定に向けた今後の作業計画としては、今後開催される油濁防止・防除委員会（The Committee on Prevention and Combating of Oil Pollution meeting）において HNS を緊急時計画の対象に含めることへの同意が得られれば、計画についての協議・検討が直ちに開始される。次いで、「海上における油汚染の防止と軽減に関する首相府規則」を改正し、HNS を対象に加え、その上で油流出緊急時計画の改正となる。

(10)ベトナム（担当部局：ベトナム国家捜索救助調整委員会、海事局）

①ベトナム国家捜索救助調整委員会（VINASARCOM）

VINASARCOM は、各省庁代表者で編成される委員会であり、海上における油流出のみならず、自然災害等の広い分野で関係省庁からの報告を受け、これを取りまとめて国家首席に報告を行う組織である。

HNS については国としての対応が必要との認識のもと、担当省庁を決めたうえで緊急時計画の策定に取り組んでおり、部分的ではあるが、担当局から計画案の提出があり、委員会として承認している。

ワークショップにおいては HNS 対応に関する各国の現状や知識・経験を共有できることを期待している。2012 年度のタイにおけるワークショップに参加した際、流出事故対応に必要な資機材の種類が多数あることを知り、国として資機材整備が必要と考えている。

②ベトナム海事局（VINAMARINE）

HNS 対策に関しては東南アジアの各国間で差が顕著であり、ベトナムは遅れていると認識している。今回のワークショップでは、他国の取り組みを十分に学び、自国に持ち帰り施策に反映できればと考える。

油流出事故対策に関しては、油流出対応センターが北部、中部及び南部の三カ所に数年前に設置されたが、このうち南部はペトロベトナムという石油ガス会社の所属で、職員も石油・ガス業界からの派遣社員であるが、北部及び中部の対応センターは軍の所属となっている。

これまでにベトナムは巨額の資金を投じて油流出事故対応のために資機材及び船艇を整備してきたが、それ以上に石油・ガス企業が多額の費用をかけて事故防止に取り組んでおり、油流出事故対応への、資材・要員とも十分な状況である。

Ⅱ　HNS 緊急時計画策定支援ワークショップ

Ⅱ　HNS 緊急時計画策定支援ワークショップ

1　目的

アセアン諸国を対象として、HNS 緊急時計画策定のための支援を行うことで HNS 流出事故時における組織的な対応体制を確立し、もってアセアン地域全体の海上防災体制のさらなる強化に資することを目的とする。

2　日程

平成 25 年 11 月 18 日（月）

午前　セミナー事前準備、ホテル側と最終打合せ

午後　各国出席者マニラ到着

会場準備等

平成 25 年 11 月 19 日（火）

08:30～17:00　HNS ワークショップ

18:00～20:00　日本財団主催ウェルカムディナー

平成 25 年 11 月 20 日（水）

08:30～12:00　フィリピンコーストガード（PCG）による展示訓練

13:00～18:00　施設見学

19:00～21:00　PCG 主催フェアウェルディナー

平成 25 年 11 月 21 日（木）

各国出席者帰国

3　HNS ワークショップ

平成 25 年 11 月 19 日、マニラにおいて日本財団と PCG との共催による、HNS ワークショップを開催した。

専門家による講演、各国からの HNS を主とした海洋汚染防止への取り組みや事故事例等に関する現状報告が行われた。

（1）日時・場所

日時：平成 25 年 11 月 19 日（火）　08:30～17:00

場所：ダイヤモンドホテル・フィリピン(会議場:アメジスト)

（２）参加者

本事業に初参加となるラオスを含むアセアン各国より、それぞれ 2 名ずつ招聘した実務担当者(ミャンマーの 1 名は欠席)及び PCG 海洋環境保全部門の関係職員、講師（日本、シンガポール）を含む約 50 名が参加した。

アセアン出席国及び参加者所属機関

・ブルネイ

Marine Department, Ministry of Communications

・カンボジア

General Department of Transport, Ministry of Public Works and Transport

・インドネシア

Directorate of Sea and Coast Guard, Ministry of Transportation

・ラオス

Department of Waterways, Ministry of Public Works and Transport

・マレーシア

Marine Department Malaysia, Ministry of Transport

・ミャンマー

Department of Marine Administration, Ministry of Transport

・フィリピン

Philippine Coast Guard

・タイ

Marine Department of Thailand

・シンガポール

Maritime and Port Authority of Singapore

・ベトナム（2 機関）

Vietnam Maritime Administration, Ministry of Transport

National Committee for Search and Rescue（The National Southern Oil Spill Response Center ）

（３）ワークショップ概要

19 日は、PCG 海洋環境保全司令部（MEPCOM）のガルシア司令官による開会の挨拶の後、Oil Spill Response 社 の Lau Siau Li 氏、海上保安庁警備救難部環境防災課倉田氏による講演とそれについての質疑応答が行われた。

午後からは、マレーシア、ミャンマー、タイ、ベトナム、フィリピン各国の現状報告の後、活発な質疑応答及び意見交換が行われ、修了証の授与の後、閉会の辞が述べられた。

講演内容

① Oil Spill Response 社: Ms. Lau Siau Li 事案対応専門家

「Walk-Through the Steps in Responding to Marine Spill」

② 海上保安庁　警備救難部　環境防災課:倉田主税国際係長

「Current Status of HNS incidents, Case study and Response System in Japan」

「The Law Relating to the Prevention of Marine Pollution and Maritime Disaster」

「Japanese National Contingency Plan for Oil & HNS spill Combating」

ワークショップ会場

オブザーバー（PCG）

全　体　写　真

開会式辞/Joel S Garcia 司令官(PCG)

歓迎式辞/野澤室長(JAMS)

講演 1
Oil Spill Response 社
Lau Siau Li 氏

“Walk-Through the Steps in Responding to Marine Spill”

講演 2
海上保安庁警備救難部環境防災課
倉田主税氏

“Current Status of HNS incidents, Case study and Response System in Japan ”
“The Law Relating to the Prevention of Marine Pollution and Maritime Disaster ”
“Japanese National Contingency Plan for Oil & HNS spill Combating ”

各国状況報告１
マレーシア

各国状況報告２
ミャンマー

各国状況報告 3
タイ

各国状況報告 4
ベトナム

各国状況報告 5
フィリピン

修了書授与

【ワークショップにおける質疑応答】

（１）講演

①Oil Spill Response 社(OSRL)　Lau Siau Li 氏関連

（テーマ：海上事故の対応手順、HNS 流出事故への介入、流出した HNS の動態及び挙動とそのモデリング、緊急時計画について）

・フィリピン：HNS 流出事故に備えた、三段階の対応（Tier１：現地レベル、Tier２：地方レベル、Tier３：地域・国家あるいはそれ以上のレベル）を構築しておくことは確かに必要であるが、Tier１に相当する事故でも、地方の沿岸警備隊や自治体では対応できない、中央政府の支援が必要なケースもある。よって、計画を策定する際には、まず地方機関の対応能力を評価すべきであり、さもなければ計画は限定的になってしまう。

　また、フィリピンでは、国家油流出事故対応計画（NOSCP）策定にあたり、２年間の各機関との手続きに加え、多額の資金が必要であり、ノルウェー政府の資金援助を得て、実現に至った。全てのアセアン加盟国に理想的な計画を策定するだけの潤沢な資金や後方支援体制があるわけではないので、今後、緊急時計画を策定した際には、同計画が機能するか実際に検証することが必要である。

・フィリピン：健康や安全面で段階的対応に触れた説明があったが、健康リスクと段階的対応にはどのような関係があるのか。段階的対応は現地主義（Tier1:現場レベル）が基本だと思うが。

→OSRL：各 Tier における健康面、安全面を考慮する必要があり、最初にこの点を明確にしたうえで、流出のリスクを特定する。これにより危険にさらされている要保護対象の優先順位を決めるのである。

→フィリピン：対応の決定において、段階的対応とリスクには相互関係があるのか。

→OSRL：相互関係はない。緊急時計画に終了基準を定めている国があるかもしれないが、そこに健康や安全との相互関係はないと思う。常に安全が最優先事項である。

・フィリピン：ICS（Incident Command System：事故対応指揮運用システム）はなぜ有効なのか。

→OSRL：本システムは、部隊の指揮統率に不可欠なものであり、また、複数のチームで現場対応する場合、ICS があれば、チームを別々の場所に配置しての対応が可能であり、効果的かつ効率的な運用が可能となる。逆に ICS がない場合、誰も作業の進捗を把握・評価できず、迅速的確な現場対応をするうえで、その影響は大きい。

・フィリピン：油流出に関しては、段階を判定するための非常に詳細な基準がある。それは、流出量または流出規模、すなわち影響が及ぶ範囲であるが、HNS 流出においては、例えばバケツ一杯の流出量でも地域全体に影響が及ぶ可能性があり、個々の流出事故で段階を決めることが非常に困難である。HNS 流出事故における段階の判定について、目安や指針があれば教えてほしい。

→OSRL：実際に調査を行ったわけではないが、HNS に対しても流出量など同様の基準で活動を行うのでは。ただ、油に比べて化学物質の流出事故対応は安全面で大きく異なるものであり、化学物質の方がより危険性が高く、それぞれ種類が異なる。

②海上保安庁(JCG)　倉田氏関連

（テーマ：事例研究、海洋汚染・海上災害に関する法律について、油・HNS 流出対応国家緊急時計画について）

・フィリピン：油流出に関して、日本においては海上災害防止センター（MDPC）と契約を結ぶ必要があるのか。

→JCG：近海を航行する外航タンカーの所有者の大半は、MDPC と機材備蓄及び油流出事故対応に関する契約を結んでいる。しかし、内航タンカーは、船内に資機材を備蓄する場合もあり、所有者によって異なるのが実状である。

・フィリピン：「汚染者負担」の原則について、費用の負担を拒む汚染者もいると思うが、日本政府はそのような問題にどう対処しているか。

→JCG：船主責任保険（P&I）がある。日本では、ほぼ全てのオイルタンカー所有者が P&I に加入している。日本では 1970 年代から 80 年代にかけて環境問題が大きな国家的課題となり、油汚染事故による経済的なリスクを避けるために多くの船舶所有者が P&I に加入した経緯がある。日本に入港する外国船舶に関しては、総トン数 100 トン以上の全ての船舶の所有者に対して P&I への加入を法律で義務付けている。

また、日本では「海洋汚染等及び海上災害の防止に関する法律」を制定し、船舶所有者は油処理剤とオイルフェンスの装備を義務付けたが、この制定にあたっては、船舶所有者の合意を得るために十分な話し合いがなされた。

・マレーシア：日本では 1977 年以降、油・HNS 等の流出事故を対象とする基金が創設されている。あらゆる災害を対象とする点で、優れたモデルであり、また、これにより MDPC が設置されたと聞いている。このような優れたメカニズムをマレーシアにおいても構築すべく、MIMA（マレーシア海事研究所：運輸省のシンクタンク）と共同で研究をしているが、業界、国会議員等へ説明し賛同を得るまでには 5～10 年はかかると見ている。

・フィリピン：効率的に補償を請求する、つまり汚染者に費用を負担させるためには、法律が必要である。この点で日本、タイ及びシンガポールは汚染者負担に関する法律が整備されているが、フィリピンにおいては、制定はしたが施行されていない。

課税という言葉に業界が否定的な反応を示すのが現状である。流出事故の損害賠償や対応費用を請求するためには、十分な法を整備すべきであると考える。

（2）各国レポート

①マレーシア（テーマ：国家緊急時計画、マラッカ・シンガポール海峡における HNS 流出共同緊急対処行動計画書（草案））

・フィリピン：OSRL 社 Lau Siau Li 氏の講演への質疑応答でも議論された段階的対応

について、マレーシアにおいては化学物質の積載量に関連してどのように取り組んでいるか。

→マレーシア：企業は量を基準にして段階的対応を取るが、政府は量ではなく能力を基準とする点に注意しなければならない。段階的対応は汚染防除のための一つの戦略であり、油流出のみならずHNS流出についても同様である。マレーシアではHNSは海事局、油流出は環境局の管轄になり、国内において整合性の取れたメカニズム実施が必要となる。このような状況から、質問に関し、実際のケースでは国家緊急時計画と異なる段階として判定される可能性がある。汚染源は様々だが、プロセスやメカニズムは同じでなければならない。

・フィリピン：フィリピンでは量と能力に応じた段階的対応を行うが、基準としてどちらを選択するかという判断は難しいと思う。

→マレーシア：企業レベルのTier3は、国レベルではTier2に過ぎない。Tier1になると、運航者や港湾管理者が作業を実施するものであり、企業レベルのTier2は国レベルではTier1に該当する。国レベルのTier3は、油・HNS流出への国境を越えた対応になる。

②ミャンマー（HNS現状報告）

・フィリピン：貴国は海洋汚染を犯罪ととらえるか。また海洋汚染に関して刑事責任を追わせることに賛成か。

→ミャンマー：海洋汚染に関して我が国では港湾法でその刑事責任について規定し、罰則を設けている。しかしながら、海洋汚染に関してこの法律しかなく、罰則が非常に少ない時代遅れの法律となっている。

→インドネシア：環境関連の犯罪については、環境省の所管であり、我々（海運総局）としては環境犯罪に対して罰則を科す十分な証拠を探求することに注力している。

③タイ（HNS緊急時計画の策定状況）

・ミャンマー：タイ海事局による「HNSを取り扱う港湾管理者に対する緊急時計画と運用計画策定の義務付け」に関する説明があったが、国家緊急時計画を策定するうえで、そのような一つ一つの港湾緊急時計画を考慮しているのか。

→タイ：考慮している、というのではなく、タイにおいては、油防除に関し、国レベルでの国家緊急時計画、州政府レベルでの地域緊急時計画、そして企業レベルでの運用計画を定めている、ということである。

・ミャンマー：タイでは条約を批准するために何らかの手順を経る必要があるか。

→タイ：公用語に翻訳し、公聴会を開く必要がある。これは法律で規定されたことであり、条約を批准するためには膨大な時間を要する。

→フィリピン：タイでは法案を通過させた上で、緊急時計画の改正が可能になるとのことだが、フィリピンでは沿岸警備隊と運輸通信省だけで緊急時計画の改正を行う。もちろん必要な公的協議プロセスを経由するものである。

④フィリピン（HNS 状況報告）

・日本：貴国において HNS を取り扱うターミナル、そしてそれに関する統計はあるか。
→フィリピン：現在進めている HNS 緊急時計画策定（草案は完成済み）において、その計画の一つであるリスク評価を実施している段階であるが、これには複数の政府機関による調査結果を集約し検討する必要がある。例えば港湾管理の場合、国内の監督官庁は一つではなく、フィリピン港湾公社や港湾庁があり、これらから輸入量・仕向地・輸入者そして輸入する化学物質といったデータを入手し、それによるリスクを把握しなければならない。
→日本：我が国においては HNS 貨物の取扱量と取扱いターミナルに関する独自の統計をまとめている。HNS 関連の事故件数も含んでいる。HNS 貨物取扱量については業界団体に問い合わせて確認したものである。行政において、統計は重要な要素である。緊急時計画策定における重要な要素は、政策立案、法律制定、そして国民への説明である。法律を制定するにあたり、事故に関する世論を把握し、そして財務省に予算要求、さらに総務省に必要な定員要求を行うのであるが、これらを行ううえで、統計が非常に重要な基礎データとなるのであり、このことを参考にして頂きたい。

4　フィリピンコーストガードによる展示訓練

（1）日時・場所

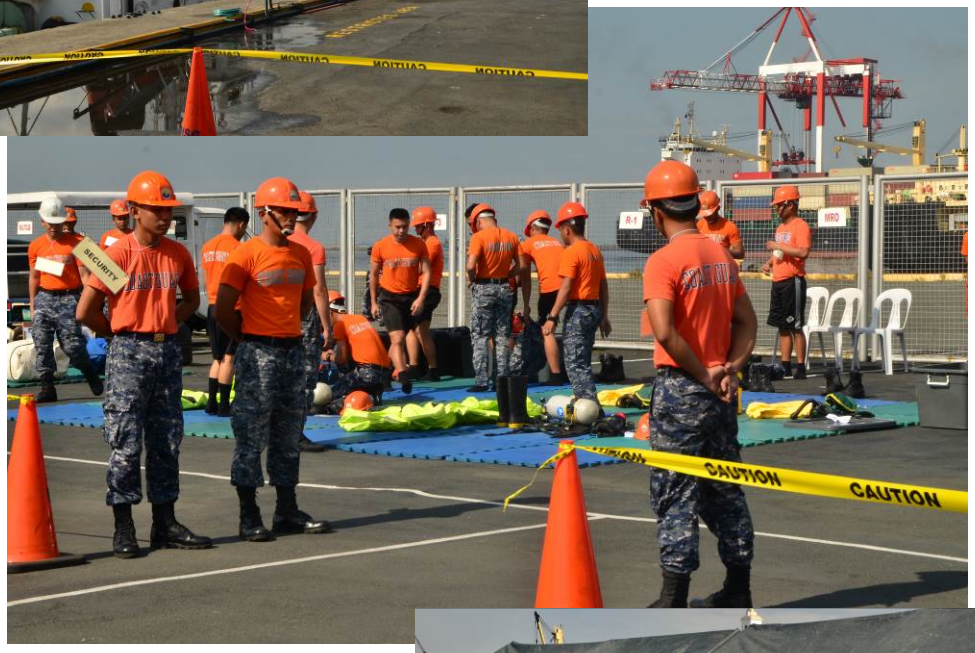
日時：平成 25 年 11 月 20 日（水）　09:30～12:00

場所：フィリピンコーストガード（PCG）専用桟橋周辺敷地内

（2）展示訓練概要

PCG 所属艇が係留されている、PCG 専用第１３桟橋周辺敷地において、PCG 海洋環境保全司令部（MEPCOM）隊員による HNS 船内漏洩事故を想定した展示訓練が行われ、各国招聘者は同敷地内にて、状況説明を受けながら見学した。

HNS 漏洩想定船舶（PCG 所属艇）

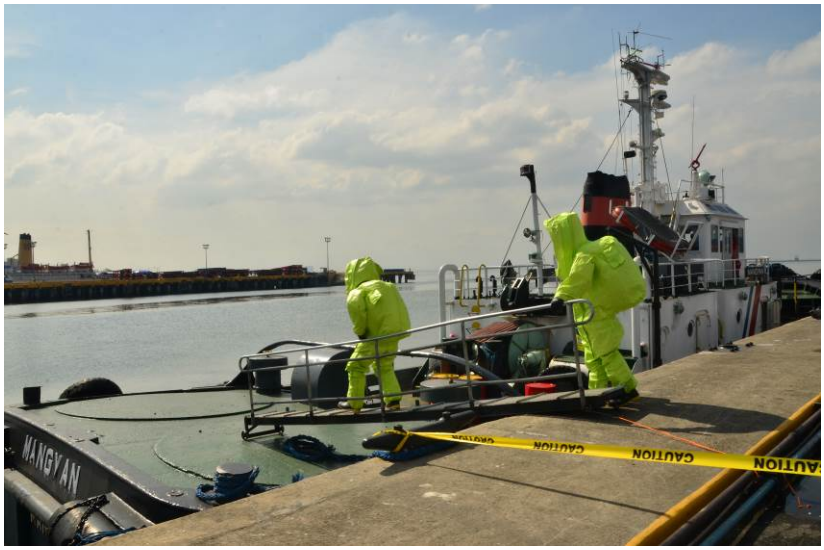


MEPCOM 隊員

各国招聘者

①船艇内 HNS 漏洩事故発生通報を受け、現場指揮者の指示に従いレベル A 防護服を装着した検知作業員（第一班）が船艇内に進入、北川式ガス検知器を使用し、流出物質はアンモニアであると特定された。

その間、レベル C 防護服装着の除染作業員（第三班）がウォームゾーンにおいて除染準備。



②第三班は第一班の防護服等に付着した可能性のある微粒子を水等で洗浄。

③レベル B 防護服の第二班は第一班の報告に基づき、HNS 発生源制御のため船内へ進入。

④第三班は第二班の除染作業を補助。また、レベル D 防護服の第四班も出動し第二班の除染の補助を行った後、自らの防護服を密封容器に格納しコールドゾーンに設置された救護所において作業後の体調管理を行う。








【展示訓練における質疑応答】

約１時間に及ぶ訓練の後、質疑応答が行われた。概要次のとおり。

・マレーシア：HNS は揮発性が高く、風の影響を受けやすいが、訓練においてはそのあたりの考慮がなかった。風上、風下をあらかじめ設定し、風下に回らないような状況で作業する想定とすべき。天候は考慮すべき需要な要素。

また、簡易プールを設置し水洗による除染をしていたが、乾燥させるエリアも必要であり、このため本日のケースでは３個のプールが必要と思料。

→PCG：消防の手順を取り入れたが、指摘を踏まえ、温度等の諸条件を考慮した除染方法を加えるべく検討したい。

・日本：本日の手順は、日本（MDPC：海上災害防止センター）による指導で取り入れたものと思うが、日本とフィリピンとでは気候が大きく異なる。何か PCG 独自で取り入れた、または工夫した手法はあるか？

→PCG:現状として特に改善した点はないが、高温多湿の環境において隊員の負担を軽減するために、換気（ventilation）ができないか検討している。

以上のほか「訓練に時間を要しすぎ」「引火物が充満している状況下での無線機器への対策は」「作業員による船内での滞在時間は計測しておくべき」といった質問がなされ、PCG 海洋環境保全司令部（MEPCOM）のガルシア司令官から、「参加者からの率直な意見が我々実働部隊の能力を向上させるものであり、全て持ち帰って検討し、部隊の対応マニュアルに必要な改正を加えたい。」との発言があった。

Lecture 1
Oil Spill Response Limited
Ms. Lau Siau Li

"Walk-Through the Steps in Responding to Marine Spill"

Session Outcomes

- International Conventions on Marine Incidents
- Walk-through the Nine Basic Steps
  - HNS – its definition, properties and hazards
  - Fate and behaviour of HNS, modelling
  - Contingency Plan
  - Incident Command System
  - Combat with HNS spill

Oil Spill Response © Copyright 2013. Oil Spill Response Limited. 2

Facts for HNS Spill

- Dangers - ship's crew, coastal populations, environment
- Not as frequent as oil spills
- Little publicity
- BUT, they are **NOT RARE**
- 1-2 major HNS accidents can be expected in each year
- Wide variety of ship types have been associated with HNS accidents

Oil Spill Response

Oil Spill Response

International Conventions

Conventions - Compensations

- 1969 International Convention on Civil Liability for Oil Pollution Damage
- 1971 International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage
  - Amended in 1992: 1992 CLC and 1992 Fund Convention
  - Entered into force on 30th May 1996
- International Supplementary Fund for Compensation for Oil Pollution Damage, 2003 (Supplementary Fund)
  - Entered into forced on 3rd March 2005
- International Convention on Civil Liability for Bunker Oil Pollution Damage
  - Entered into force on 21 November 2008
- International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (HNS Convention)

Conventions – Prevention & Safety

- International Convention for the Prevention of Marine Pollution from Ships (MARPOL) 1973, as amended by the Protocol of 1978 (MARPOL)
  - Control and minimise the deliberate, negligent or accidental release of oil and harmful substances

Conventions – Spill Response

- International Convention on Oil Pollution Preparedness, Response and Cooperation, 1990 (OPRC 90)
  - Entered into force in 1995
  - Preparing for and responding to oil pollution incidents
- OPRC-HNS Protocol 2000

OPRC-HNS Protocol 2000

- Must be a Parties to OPRC Convention 1990
- Global framework for international co-operation
- Follows principles of OPRC 1990
  - Emergency plans and reporting
    - Pollution incident emergency plan
  - National and regional systems for preparedness and response
    - Designation of authorities and contact points
    - National Contingency Plan
  - International co-operation in pollution response
    - Advisory services, technical support and equipment
  - Research and development
  - Technical co-operation

HNS

- Definition of HNS under OPRC-HNS Protocol 2000

  Any substance other than oil which, if introduced into the marine environment, is likely to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea

HNS

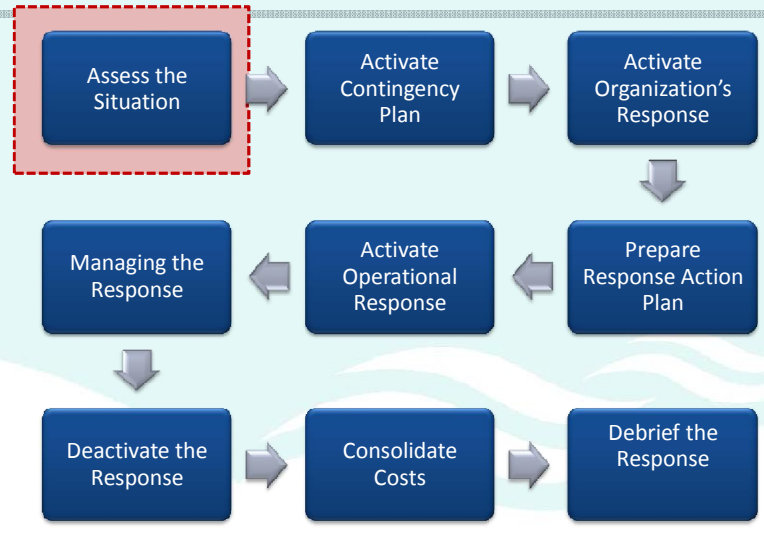
- Include:
  - Oil derivatives
  - Noxious or dangerous liquid substances
  - Liquefied gases
  - Liquids with flashpoints ≤ 60°C
  - Packaged dangerous, harmful and hazardous materials
  - Solid bulk material with associated chemical hazards

Oil Spill Response

Responding to HNS Incident

Nine Basic Steps

Nine Steps of Response to HNS Incident



Oil Spill Response

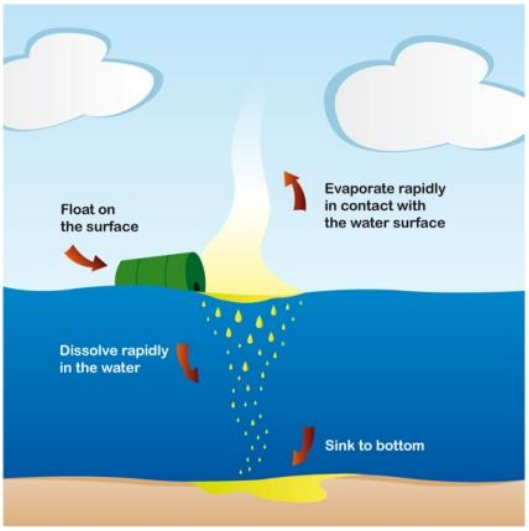
Assess the Situation

- Incident information - Location, type & quantity of spill
  - Hazard implications
  - Threats identification
  - Political & economical significance of spill
- Prioritize the actions
  - Medical care of victims
  - Restriction of access
  - Evacuation
  - Reduction of leakages

Toxic Hazards by HNS

- Depend on a number of factors
  - Amount of spilled
  - Number of chemicals involved in the spill
  - Time frame over which the spillage occurs (instantaneous or continuous)
  - Properties of the chemical
  - Path of exposure into the body
  - Concentration and duration of exposure
  - Stage of development of an individual and their current condition
  - Prevailing meteorological conditions

Fate of HNS in Marine Environment

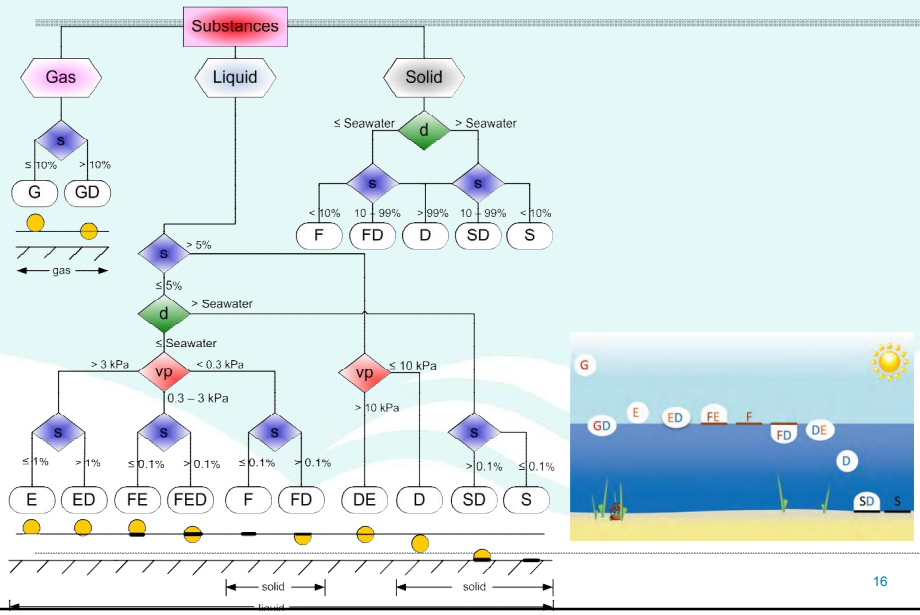


- Dissolve (D)
- Evaporate (E)
- Float (F)
- Gas (G)
- Sink (S)

Photo courtesy of ITOPF

15

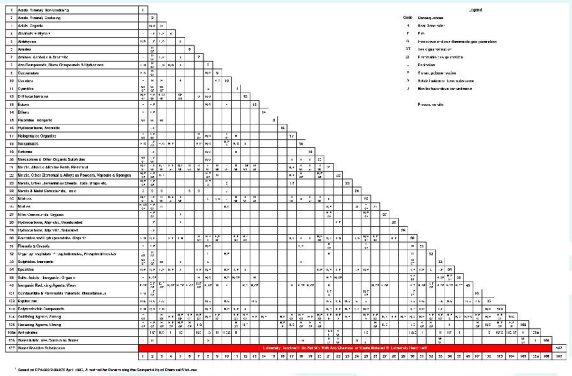
European system for classification of chemical spills in water



16

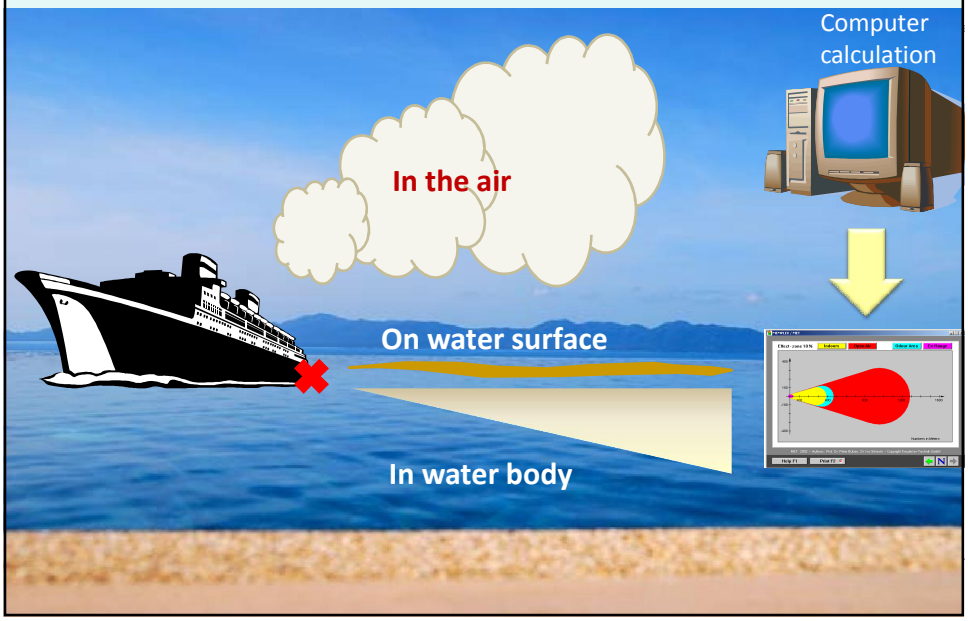
Chemical Reactivity

- EPA's Chemical Compatibility Chart



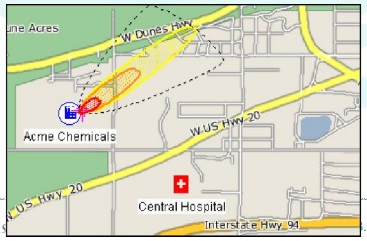
- *Chemical Reactivity Worksheet*

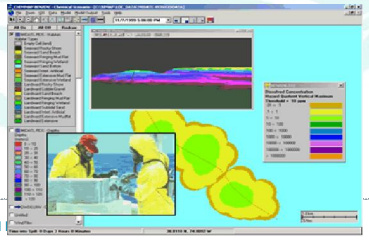
Predicting the Drift and Spread



Modelling

- Predict likely trajectory and fate of marine chemical spills
- Facilitate selection of response strategies
- To identify threat to people, environment and property
- Available model: ALOHA* & CHEMMAP



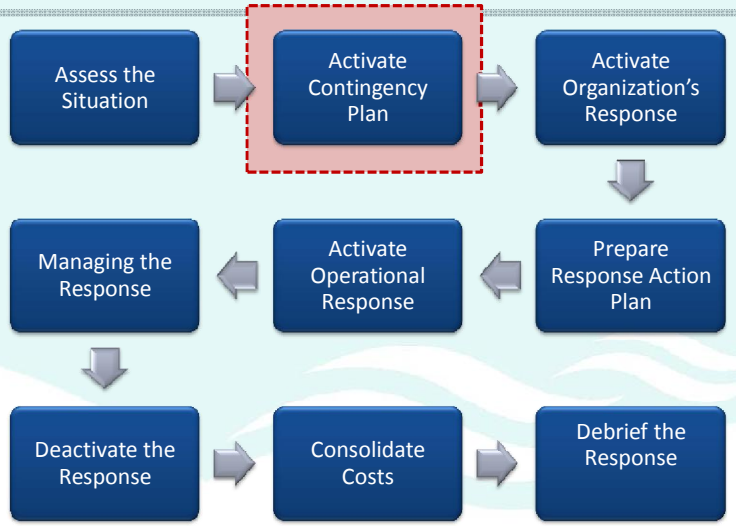


Safety & Health Risk

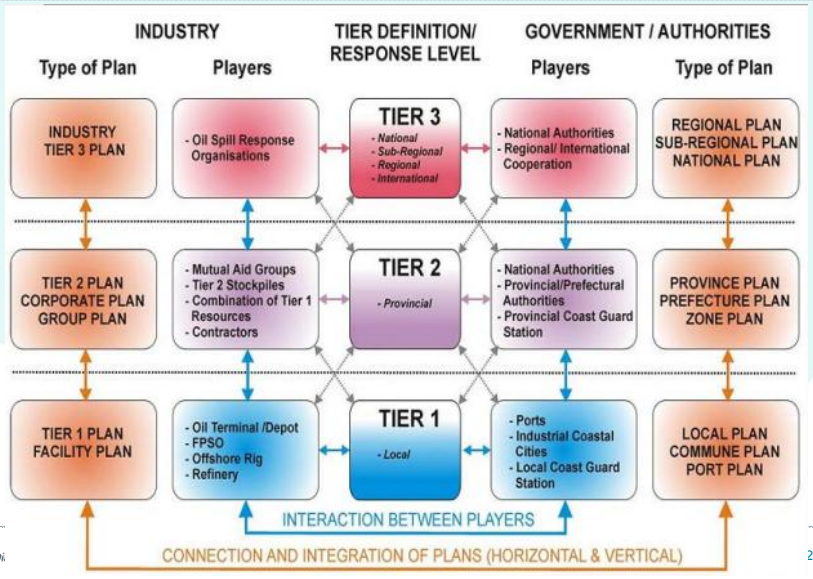
Release	Health Risk		Fire/Explosion Risk
	Ammonia, vinyl chloride, chlorine	**Methane (LNG), propane (LPG), butane (LPG), ethylene, butylene-butadiene**	**Ammonia, vinyl chloride, methane (LNG), propane (LPG), butane (LPG), ethylene, butylene-butadiene**
tonnes	m / n.m downwind	m / n.m downwind	m / n.m downwind
0.1	1,000 / 0.62	200 / 0.12	200 / 0.12
1	2,000 / 1.24	400 / 0.25	400 / 0.25
10	5,000 / 3.11	1,000 / 0.62	1,000 / 0.62
100	10,000 / 6.21	2,000 / 1.24	2,000 / 1.24
1000	20,000 / 12.43	4,000 / 2.49	4,000 / 2.49

Adopted from HELCOM Manual

Nine Steps of Response to HNS Incident



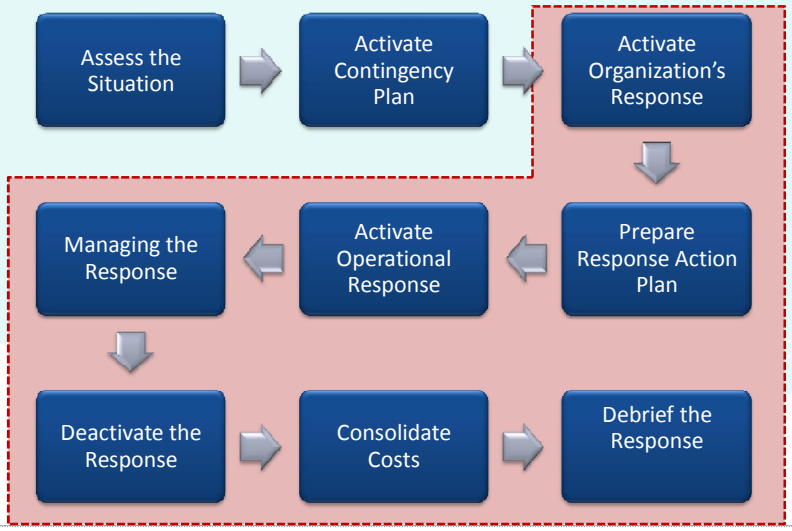
Tiered Response



Contingency Planning

- Integrated national framework
- Provide structure for the management of response operations
- Need to be actively managed, regularly updated and revised
- Provide a focus for training
- Everyone involved have to understand and be familiar with their roles

Nine Steps of Response to HNS Incident



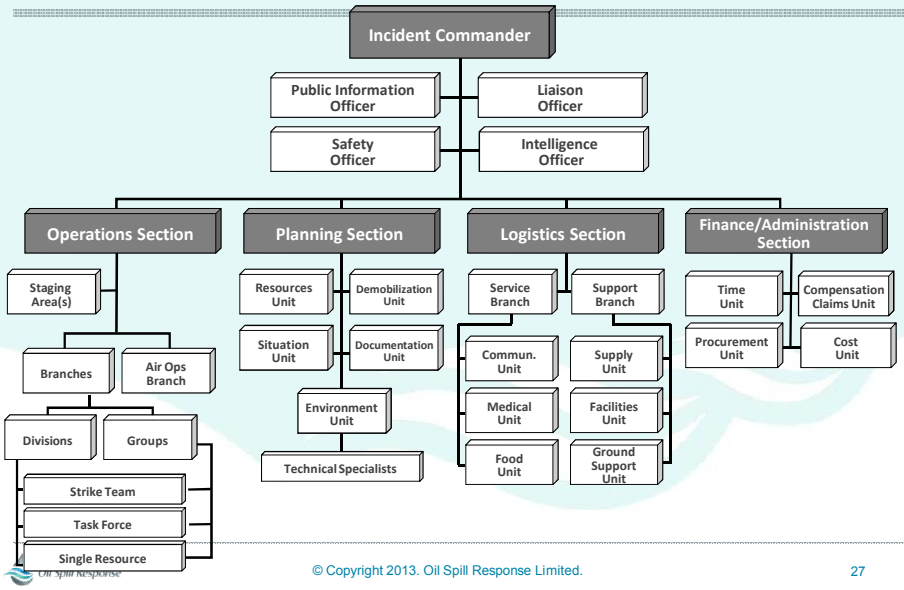
Incident Command System

- Organization of people and resources using standardized process to meet incident objectives
  - Task oriented organizational structure
- Universal language for responders
- Information flow and universal documents
- Cycle of response activities culminating in agreed Incident Action Plan (IAP)
  - Future oriented
  - Proactive plans

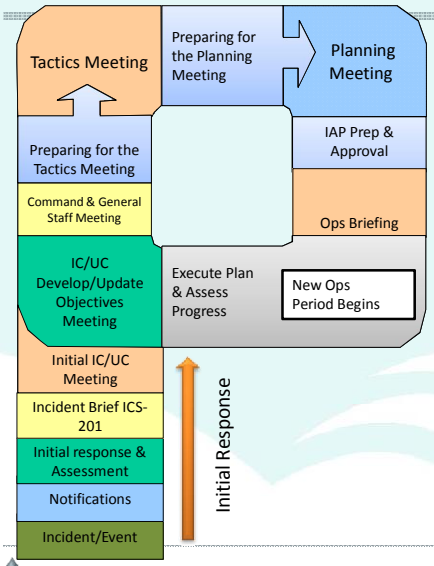
Principles of ICS

- Management by Objectives
- Modular Organization
  - Flexible/ Scalable
  - Designated Management Functions
  - Manageable Span of Control
- Consolidated Action Plan
- Unity of Command/ Chain of Command
- Common Terminology

ICS Organisation



Planning "P"



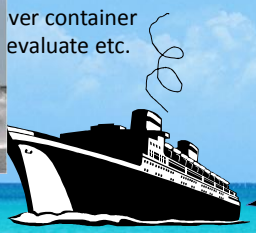
1. Analyze situation
2. Establish incident objectives and strategy
3. Develop action plan
4. Plan approval and dissemination
5. Execute, evaluate and revise plan

Combat with HNS

- Gases and volatile liquids
  - Use of water sprays
  - Monitor / forecast dispensation
  - Assessment
  - Combating
- Floaters
  - Monitor/ forecast spread
  - Assessment
  - Combating
- Dissolvers
  - Monitor/ forecast
  - Assessment
  - Combating
- Sinkers
  - Monitor/ forecast
  - Assessment
  - Combating

Response Strategies

ver container evaluate etc.



E.g. Ap… polypro… sorbent… skimme… screen, …vdered …and

E.g. Treating with neutralizing agent, mobile treatment unit etc.

E.g. Using dredging system, suction pump system etc.

Response Methods

This table shows X-marks where practical methods exist for response to accidents involving releases of chemicals into the environment													
								Solid Subst			Solid Subst		
								F	FD		D	SD	S
		Gas		Liquid									
Group		G	GD	E	ED	FE	FED	F	FD	DE	D	SD	S
Method													
F1	Forecasting the spread in air	X	X	X	X	X	X			X			
F2	Forecasting the spread on water surface					X	X	X	X				
F3	Forecasting the spread in water body		X		X		X		X	X	X	X	
M1	Monitoring the spread in air	X	X	X	X	X	X			X			
M2	Monitoring the spread in water body		X		X		X		X	X	X	X	1)
C1	Combating gas clouds	X	X										
C2	Combating spills that float on water							X					
C3	Combating spills that dissolve in water		X		X		X		X	X	X	X	
C4	Combating spills that sink to the bottom											X	X

1) It may also be appropriate to monitor sinkers that move over bottom in the water body.

Oil Spill Response

Level	Remark
A	Highest level of respiratory, skin, and eye protection
B	Highest level of respiratory, skin, and eye protection; The breathing apparatus is worn outside the suit
C	The types of airborne substance is known and the criteria for using air purifying respirators are met
D	A work uniform affording minimal protection, used for irritating contamination only

Figure A5 - 1

Figure A5 - 2

Figure A5 - 3

Figure A5 - 4

Figure A5 - 5

Figure A5 - 6

Level C

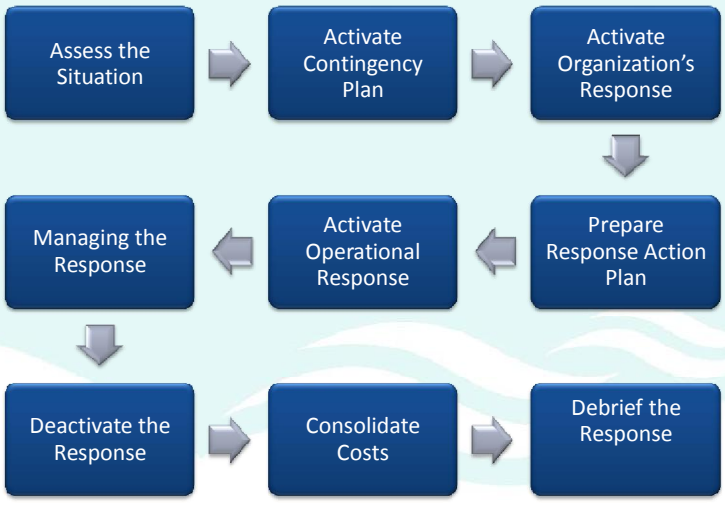
Figure A5 - 7

Adopted from HELCOM Manual

Response Deactivation

- Measures no longer effective
- Further clean-up may cause greater damage
- Level of response is out of proportion to amount of spill
- Costs of the response are exceeding the likely benefits

Nine Steps of Response to HNS Incident



Know your resources

- HELCOM manual
- NOWPAP MERRAC HNS Training Manual
- Emergency Response Guide
- NOAA website
- Local / Global response organisations e.g. government bodies, contractors
- International best practices e.g. IMO, ITOPF

Current status of HNS incidents, Case study and Response system in Japan

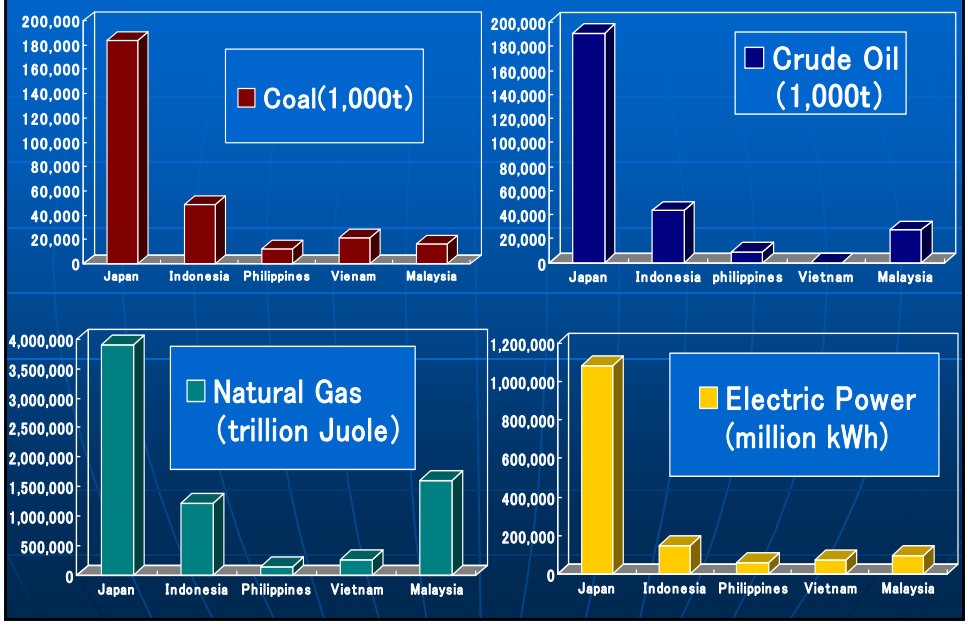
LTCDR. Chikara KURATA
Marine environment protection & disaster prevention division
Guard & Rescue department
Japan Coast Guard

Table of Contents

1. Transportation of HNS in Japan

3

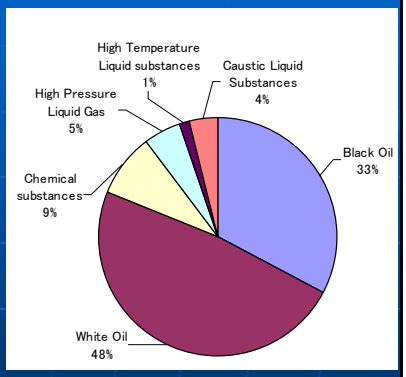
Resource Consumption (2008)



1-1 Transportation amount of oil & HNS by coastal tankers in Japan

Item goods	FY 2012 (unit: kl, kton)	compared with FY2011
Black Oil (heavy oil, crude oil)	50,889,614	107.40%
White Oil (gasoline, kerosene, diesel oil etc.)	75,321,749	99.40%
Chemical substances (xylene, benzene etc.)	13,493,538	96.40%
High Pressure Liquid Gas (LPG, ethylene, liquid ammonia etc.)	7,793,009	94.60%
High Temperature Liquid substances (asphalt, dissolved sulfur etc.)	2,211,134	97.90%
Caustic Liquid Substances (caustic soda, sulfuric acid, hydrochloric acid	6,032,399	88.20%
Total	155,741,443	100.80%

Costal tanker (as of 2012)
Number: 1,124 (total 962,692GT)
Size: 50 – 2,000GT(par:900GT)



Amount of item transported by coastal tanker in Japan in FY 2012

※ according to the data from HP of "Japan coastal tanker association "

5

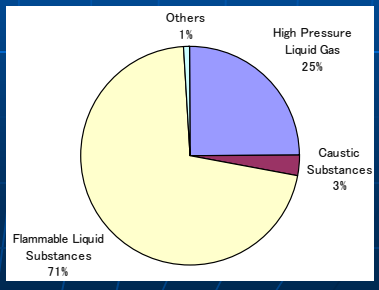
1-2 Cargo handling volume of Hazardous substances in Japan

Cargo handling volume of Hazardous substances sorted by substances

unit: cargo handling volume(ton)

Jurisdiction	Total	High Pressure Liquid Gas	Caustic Substances	Flammable Liquid Substances	Others	
1st Regional CGH	19,088,064	929,966	188,921	17,739,053	230,123	
2nd Regional CGH	18,249,324	1,875,688	951,438	15,304,401	117,797	
3rd Regional CGH	160,508,519	48,892,636	2,077,072	108,275,294	1,263,518	35%
4th Regional CGH	48,357,563	21,098,539	1,430,057	25,208,973	619,993	11%
5th Regional CGH	66,738,401	17,288,011	3,219,146	45,688,686	542,558	15%
6th Regional CGH	52,166,543	7,031,820	3,768,010	40,646,008	720,704	11%
7th Regional CGH	30,839,144	10,205,489	2,833,188	17,294,185	506,282	7%
8th Regional CGH	950,200	1,079	102,852	845,211	1,058	
9th Regional CGH	11,399,474	6,896,793	160,286	4,333,356	9,039	
10th Regional CGH	45,003,246	283,598	15,170	44,700,699	3,779	
11th Regional CGH	6,301,363	197,087	5,307	6,096,418	2,551	
Total	459,601,840	114,700,706	14,751,448	326,132,283	4,017,403	

80%

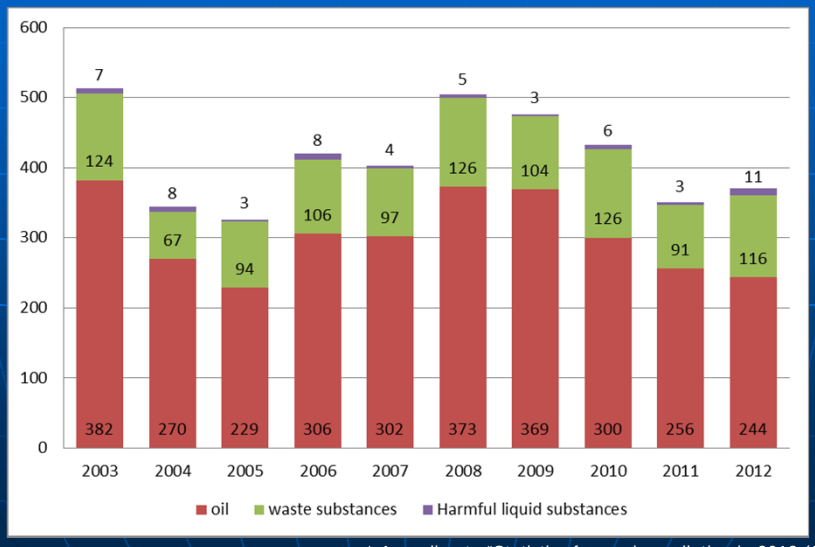


※ according to the data from "annual statistic report of JCG (2012)"

6

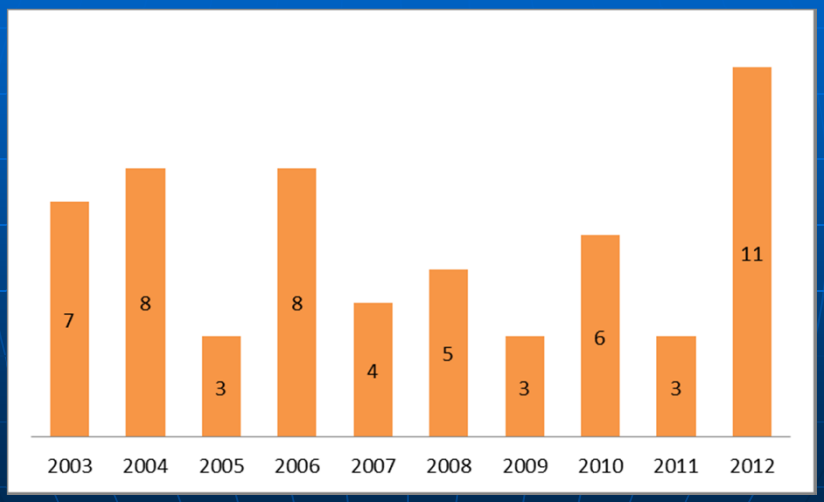
2. HNS spill incidents

2-1 Number of incidents of marine pollution in Japan



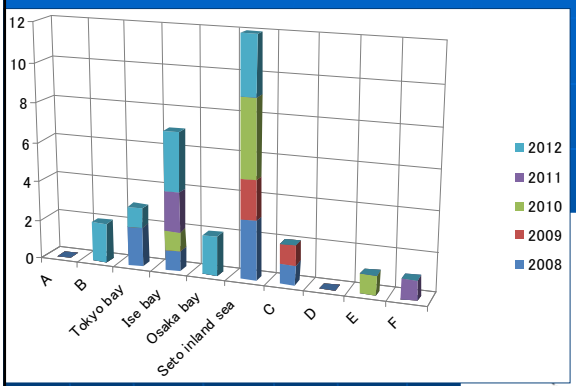
* According to "Statistics for marine pollution in 2012 (JCG)"

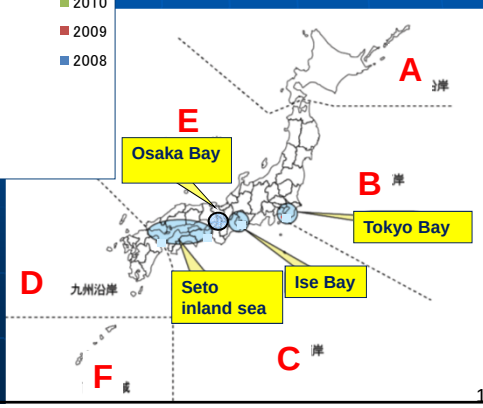
2-2 Number of incidents related to harmful liquid substances



* According to “Statistics for marine pollution in 2012 (JCG)”

2-3 Number of incidents related to harmful liquid substances by regional sea

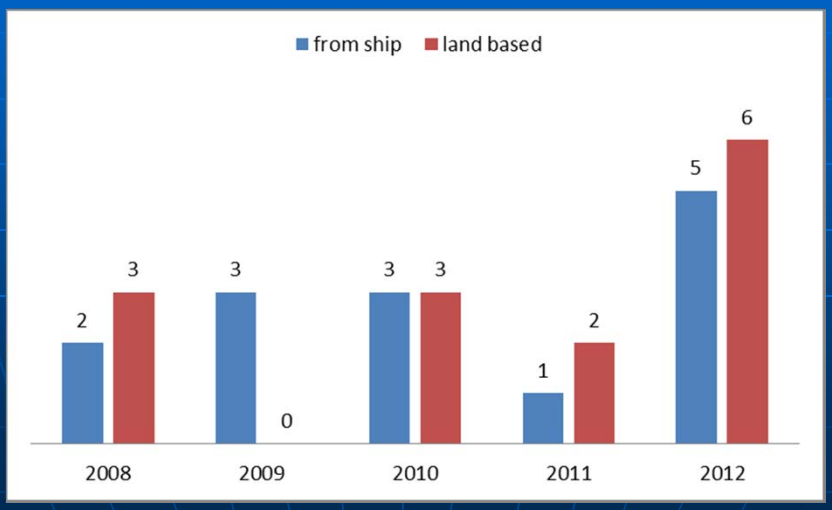




* According to “Statistics for marine pollution in 2012 (JCG)”

10

2-4 harmful liquid substances spill incidents sorted by emission sources



* According to "Statistics for marine pollution in 2012 (JCG)"

3. Case study of HNS spill incidents

3-1 Ammonia leak incident in fishing vessel (Sendai-port)

Outline of the incident (initial)

- Some amounts of ammonia leaked from the freezing compartment of the fishing ship moored in Sendai port on 28, August, 2012.
- 4 onboard crews who had aspirated ammonia complained of throat aches and sickness, and 2 of them were transported for emergency first aid.
- At that point, there was no information about whether the leak of ammonia was lasting or not and the density of gas in the ship.

【ship's particular】

- Nationality: Japan
- Type: Fishing ship
- Tonnage: 285 GT
- Length: 52 meter
- Crew: 3

3-1 Ammonia leak incident in fishing vessel (Sendai-port)

Feature of the incident

【Property of ammonia】

1. stimulated bad smell
2. harmfulness
   - Gas aspiration result in breathing trouble
   - Contact liquid directly result in irritation
3. flammable
4. high volatile → density of gas increases quickly

【gas leaks within a ship】

- Closed space (within a ship)
- High possibility to be formed high density of gas by accumulation and saturation of ammonia gas.

It was necessary to have specialized equipment such as breathing apparatus, protective suits and gas monitoring devices and also have technical knowledge to approach to the site in the vessel and take measures to prevent the leakage safely.

3-1 Ammonia leak incident in fishing vessel (Sendai-port)

Outline of the incident

【Crew onboard】

- AM 28th , noticed the leakage of ammonia and shut down the valve of leaking pipe and escaped from the ship.

【Fire Department】

- AM 28th , started to ventilate by firefighting vehicle

【Japan Coast Guard】

- AM 28th patrol vessels arrived at the site
- PM 28th National Strike Team (NST) arrived at the site

〈Activities by NST〉

- 28th, monitored the density of gas in the vessel and identified the leaking spot and confirmed the suspension of leaking
- 29th , confirmed reduction of the density of gas in all rooms of the vessel

NST member are conducting gas monitoring with wearing protective suit in the vessel

【National Strike Team】

NST is mobilized to incident site such as oil & HNS spill and assist officers of regional coast guard in responding by providing not only specialized equipment but also technical knowledge as a specialized Team of JCG

3-2 Blackout of a large LNG tanker in the Tokyo Bay

Outline of the incident（initial）

・On 3 December 2012, a LNG tanker lost it's own control due to engine stop resulted from electronic power failure (blackout) in front of LNG terminal in Tokyo Bay.

↓

・As an emergency measure, the tanker was moved by tug boats and anchored in safe place.

↓

・The pressure control system of LNG tank（which can reduce the pressure with burning vaporized LNG）was also shut off.

↓

・LNG may have to be released to the open air (outside of tanks) in case of avoiding the damages to LNG tanks by pressure increase within the tank.

【Ship's particular】

・Nationality	Marshal Islands
・Tonnage	95,000 GT
・Length	285 meter
・Load	LNG (57,000ton)

3-2 Blackout of a large LNG tanker in the Tokyo Bay

Feature of the incident

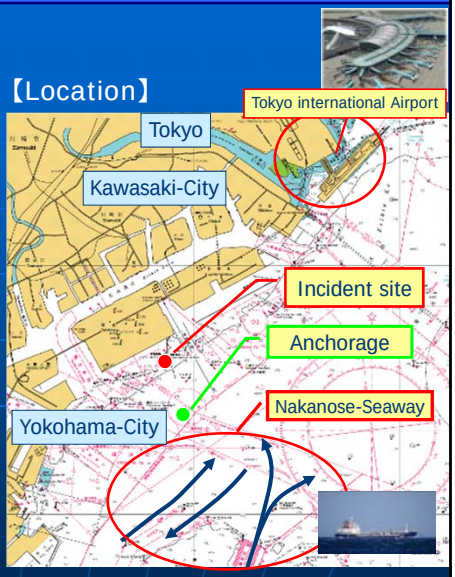
【Characteristic and Hazardous of LNG】

- transported as ultracold liquid (liquefy at -162 Celsius degree)
- volume expansion by evaporation(about 600 times)
- evaporated LNG spreads up ↑
- flammable nature

【Impact in case of LNG released】

- Restriction/prohibition of seaway in the neighborhood area
- Restriction/prohibition of airway from/to Tokyo International Airport (Haneda)
- **Risk for fire on a LNG vent**

【Location】



It would be fatally worse if a fire occurs

3-2 Blackout of a large LNG tanker in the Tokyo Bay

Action to be taken

【Japan Coast Guard】

- Patrol vessels, fire-fighting vessels, NST and SRT (Special Rescue Team) stood by to emergency response
- Instruction to ship management company regarding incident response
- Information service to authorities concerned (Civil Aviation Bureau etc.)

LNG tanker which was moved to outside of Tokyo Bay with under close watch and support from 5 tug boats.

【Ship management company 】

- ●4-5th Tanker was docked at LNG berth with assistance of tug boats. Pressure in the LNG tanks decreased by emitting gas into onshore facility.
- ●5th Pressure control system of LNG tank made a recovery because of recovery of electronic generator.

→ Succeeded in avoiding of emitting LNG gas into the open air

- ●14th Tanker was moved to out side of Tokyo bay for ensuring it's safety.
- ●15-17th Electronic generator was repaired outside of Tokyo bay
- ●26th LNG was unloaded at a LNG terminal
- ●27th Tanker left for Qatar

Reference: Each electronic power/gas company usually prepare a LNG transportation plan on the basis of each accuracy plan of acceptation / consumption. So it would take a long period to re-coordinate/reschedule of acceptation date.

3-3 Asphalt spill incident from onshore facility（Chiba port）

Incident summary (initial)

1.AM 28, June 2012, some amounts of asphalt leaked from the storage tank and spilled to the sea through a drainpipe at a oil factory in Chiba prefecture faced to the Tokyo Bay.

2.Oil factory operator extended the oil boom immediately after the incident.

3.A part of asphalt was accumulating in oil boom, but other went over the boom and spread to the Tokyo Bay.

Some asphalt was accumulating in oil boom

Damaged storage tank

Some asphalt was spreading to the Tokyo Bay

3-3 Asphalt spill incident from onshore facility（Chiba port）

Incident summary (2)

【property of asphalt (heavy oil)】

・High viscosity
→ Response equipment can be used was limited

・Low volatile
→ Floating in the sea for a long period

・Have possibility to be mousse-ize
(mousse-ize ：increasing its viscosity and its volume (2-5 times) with absorbing sea water during floating
→ Increasing difficulty of recovery operations

※ some asphalt sank to the sea floor

mousse-ized asphalt

mousse-ized asphalt

3-3 Asphalt spill incident from onshore facility（Chiba port）

Incident summary (3)

【Social influence】

●Sea traffic
- Heavy sea traffic due to lots of industrial complex
- Ships have to be navigated with avoiding polluted and response operation area

●Fishery
- Spreading to aquaculture facilities and shellfish gathering beach
- Damage to fishery

●Recreation facilities etc.
- Large recreation facilities are located nearby the site.
- The possibility of damage to leisure business due to shore pollution and oil smell

3-3 Asphalt spill incident from onshore facility（Chiba port）

Action to be taken

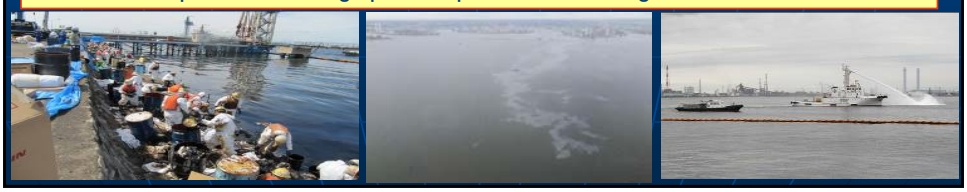
【Japan Coast Guard】
- Investigate the spreading area of asphalt by patrol vessels and airplanes
- Recovery operation (collection & dispersing) by patrol vessels
- Mobilized NST to assist recovery operation of oil company and to provide technical advice to the company

【Oil company (Maritime disaster prevention center)】
- Made a contract with MDPC for recovery
- MDPC conducted asphalt recovery in the oil boom, dispersed asphalt offshore and cleaned up shoreline

It spent 400 million JY (4 million US$) for 30-day operation.

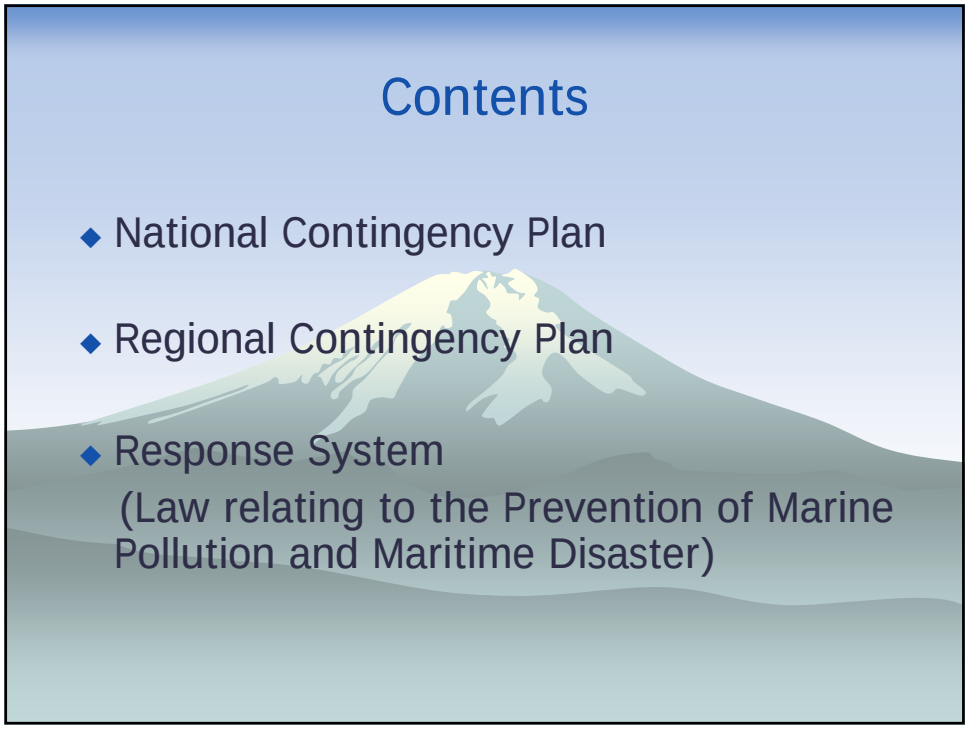
【Combined operation between JCG and MDPC】
- JCG provided MDPC with the information about the location of floating asphalt which was confirmed by patrol vessels or airplane.
- MDPC collected and dispersed efficiently because they could grasp the exact location of asphalt by JCG assistance.

We could completed collecting spilled asphalt and cleaning shoreline within a month



Thank you for your attention!


Japanese National Contingency Plan
for Oil & HNS spill combating
LCDR. Chikara KURATA
Marine Environment Protection & Disaster Prevention Div.
Japan Coast Guard


Contents
National Contingency Plan
Regional Contingency Plan
Response System
(Law relating to the Prevention of Marine Pollution and Maritime Disaster)

Historical back ground (National Contingency Plan)

Establishment of the "National Contingency Plan" (Cabinet Decision, 1995)

Accession to the OPRC Convention (1995)

M/V Nakhodka oil spill disaster (1997)

Revision of the "National Contingency Plan (1997)

Accession to the OPRC-HNS protocol, HNS was added as an objective of the National Contingency Plan (2007)

Revision of the "National Contingency Plan (2007)

National Contingency Plan-1

◆ Introduction

Purposes: Prompt and effective measures for Oil and HNS spill incidents

- Maintain the harmony with other existing laws, procedures, plans
- Secure the accurate enforcement of International agreement
- Protect marine environment
- Protect the lives, health, and property of the people of Japan.

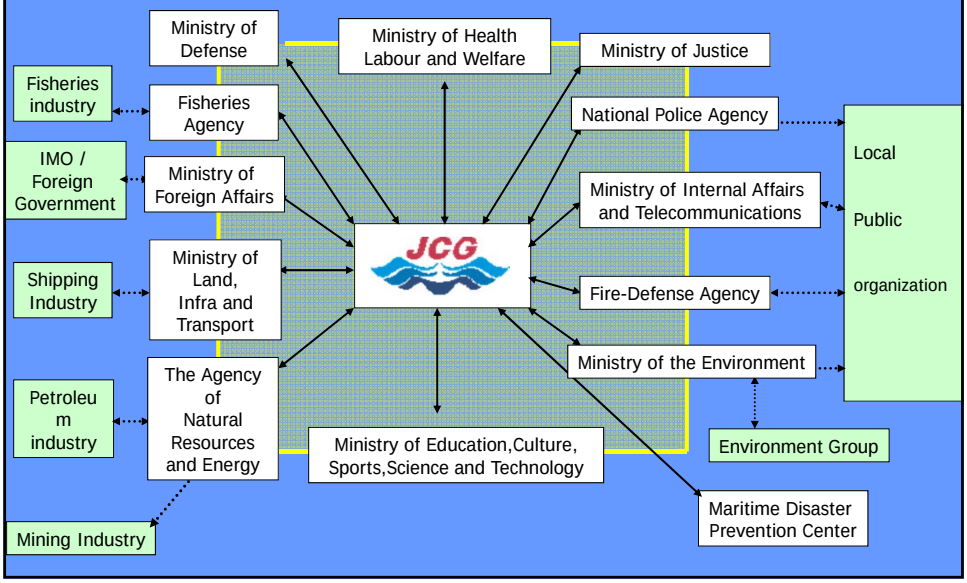
◆ Basic matters related to the preparation

- Preparation of the systems（Response regime, information transmission and communication system, preparation of relevant materials and equipment)
- Regarding to the training
- Co-operation with neighboring countries

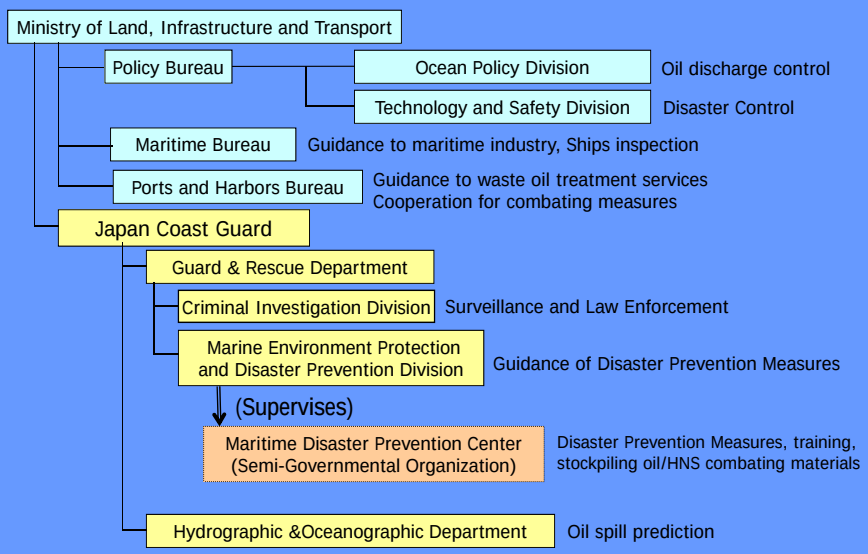
National Contingency Plan-2

- **Basic matters related to the responses**
  - Establishment of the response system
  - Evaluation of the emergency (at time of outbreak), response, and safety controls as well as environmental measures including protection of living organisms
- **Mutual co-operation with related governmental agencies**
  - Convening of the Council for Countermeasures against Oil & HNS spills
- **Other matters**
  - Research and development

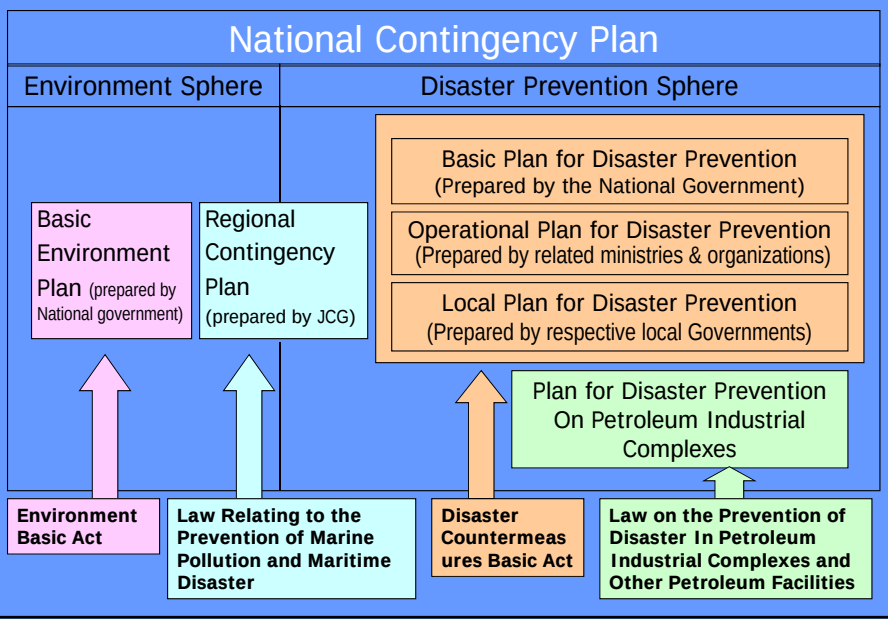
Government Agencies for Oil and HNS Pollution Preparedness and Response



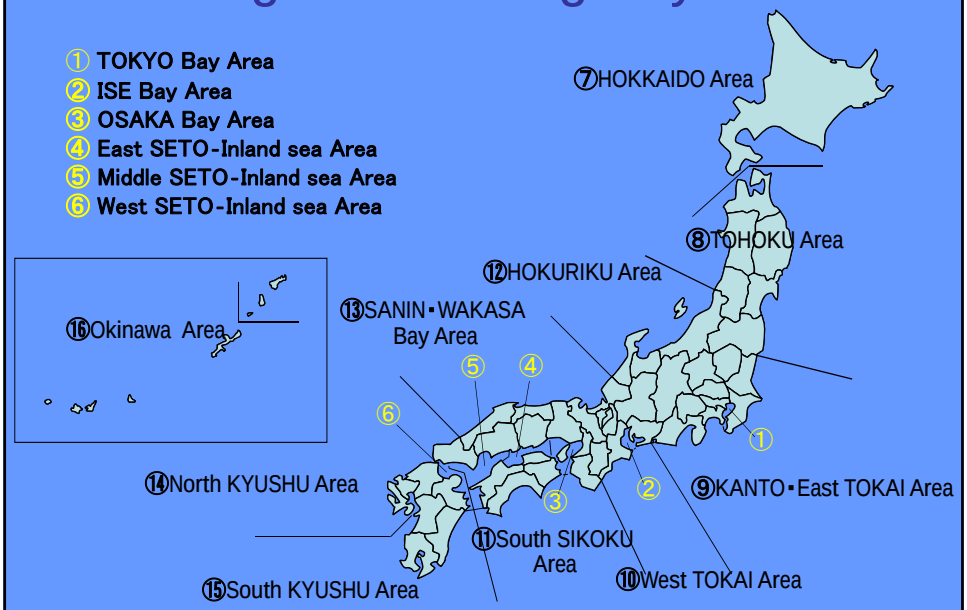
Organization Chart of the Ministry of Land,Infrastructure and Transport and Japan Coast Guard, which are responsible for oil and HNS pollution



Relationship among NCP and other Plans



Regional Contingency Plan



Regional Contingency Plan

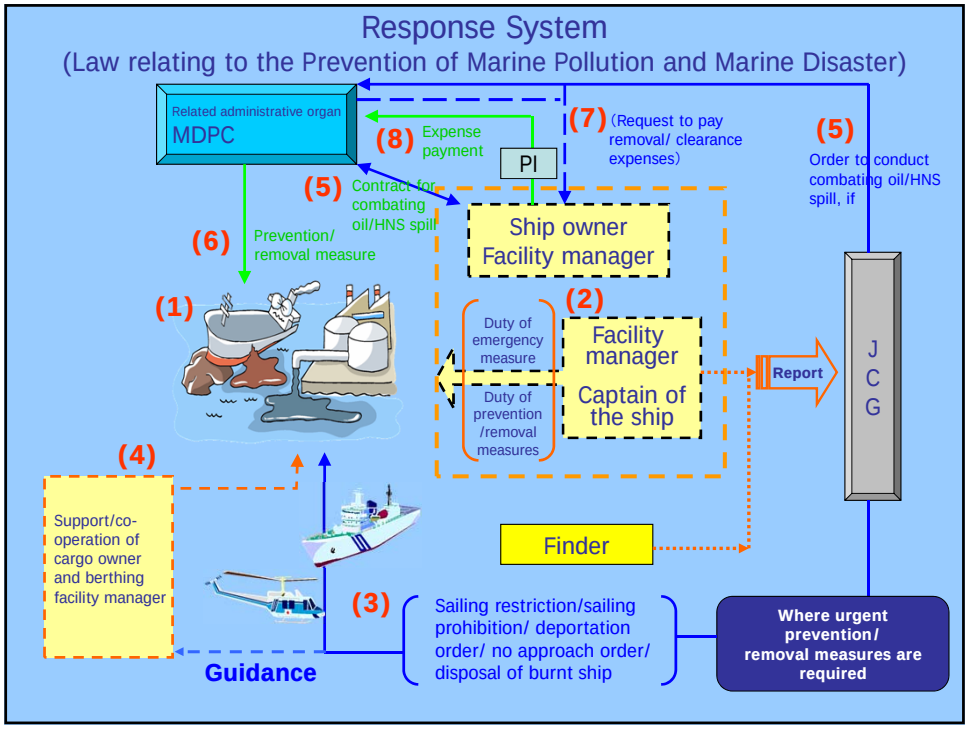
Section1 Purpose, Scope, and Fundamental Policy

Section2 Sea Area

- Situation of sea area
- Incident assumption
- Objective and current situation of pre-positioned oil and HNS spill combating equipment
- Communication and information exchange
- Combating spilled oil and HNS, prevention of danger

Section3 Countermeasures against spilled oil and HNS at the high sea

Section4 Countermeasures against oil spill incidents from Sakhalin, Russia Project (in Hokkaido Plan only)

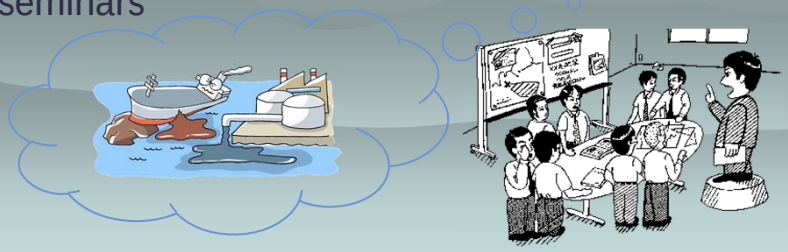


Roles of the JCG and the MDPC

- **Duties of polluters (ship owner)**
  - Stationing and stockpiling of oil and HNS spill combating equipment, notification to JCG, taking necessary measures
- **Roles of the JCG**
  - Responsibility for the national regime for oil/HNS spill at sea
  - Evaluation of the oil/HNS spill at sea
  - Supervising and/or directing the polluter to respond
  - Taking combating measures, If necessary
  - Directing MDPC to take combating measures, If polluter does not respond, massive oil/HNS spill, etc.
- **Roles of the MDPC**
  - Carrying out countermeasures on consignment with polluters
  - Carrying out the countermeasures under the order of the JCG Commandant
  - Stockpiling of oil/HNS combating equipment and materials for ship owners

Councils (around the country) for Countermeasures against Oil and HNS Spills

- Examines necessary combating operations to respond to major oil and HNS spills
- Establishes local contingency plan at each port where large tankers sail in
- Promotes to place equipment and provide exercises and seminars



Conclusion-1

- To make clear the roles of the related organizations
- To know the character of HNS and handling condition of HNS
- To learn the technique to response to HNS accidents (by Operation Manual)
- To construct the strategies for HNS accidents

National Contingency Plan, HNS Response Manual

National system for preparedness and Response to oil and HNS spill accidents

Conclusion-2

- To train the Responders
- To prepare the necessary equipment and keep them well maintained
- To enhance the Regional system for response

National system for preparedness and Response to oil and HNS spill accidents

Thank you for your kind attention.

"The Law Relating to the Prevention of Marine Pollution and Maritime Disaster"

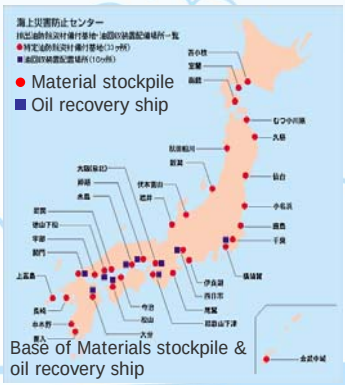
LTCDR Chikara KURATA
Marine Environment Protection and Disaster Prevention Division
Guard and Rescue Department
JAPAN COAST GUARD

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Legal requirement to private sectors

Cargo: Specified oil (⇒That are hard to evaporate, e.g. Lubricant)

Requirement ①: Equipment of oil spill combating materials



Object person

① Owner of oil tanker with 150GT or more
② Manager of berthing facilities for oil tanker
③ Manager of oil storage facilities on land

Object scope

① 5 major Bays (Tokyo, Ise, Osaka, Seto Inland Sea, Kagoshima)
② Port areas (main 85 ports)

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Legal requirement to private sectors

Cargo: Specified oil (⇒That are hard to evaporate. e.g. crude oil)

Requirement ①: Deployment of oil recovery ship to the tanker

Object person

Owner of oil tanker with 5,000GT or more

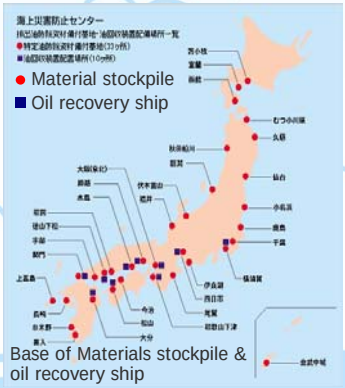
Object scope

4 Main Bays (Tokyo, Ise, Osaka, Inland Sea)

Place of deployment

2 hours to the tanker

Almost all owners of oil tanker made contracts with MDPC (Maritime Disaster Prevention Center) for ① stockpile of materials and ② deployment of oil recovery ship in accordance with the law.



Base of Materials stockpile & oil recovery ship

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Legal requirement to private sectors

Cargo: HNS and white oil (⇒ Ethanol, Xylene, Kerosene, etc.)

Requirement ①: Equipment of HNS spill combating materials

Object person

① Owner of HNS tanker with 150GT or more

Object scope

① 4 major Bays (Tokyo, Ise, Osaka, Inland sea)

Almost all owners of HNS tanker made contracts with MDPC (Maritime Disaster Prevention Center) for stockpile of materials, devices, expert and boat, in accordance with the law.

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Legal requirement to private sectors

Cargo: Specified oil, HNS, white oil

Obligations

① To report to JCG in case of oil/HNS discharge to sea (Article 38-1)
② To response to discharge (ex. contract with MDPC) (Article 39-2)
③ To follow the order of JCG regarding necessary steps (Article 39-5)

Object person

① Owner of oil/HNS tanker (no limit)
② Manager of oil storage facilities on shore

Object scope

① In Japanese territorial waters

Almost all owners of oil/HNS tanker make contracts with MDPC (Maritime Disaster Prevention Center) for oil/HNS spill combating activities in accordance with instruction of JCG.

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Authority and duty of JCG

Object: Specified oil, HNS and White oil

Orders

① Necessary measures for prevention of discharge to Master/Owner
② Restriction of navigation around the scene for securing safety
③ Mandatory collecting expense which JCG conducted measures from owner/operator or seizing his/her property in tax procedures.

Object person

① Owner of oil/HNS tanker (No limit)
② Manager of oil storage facilities on shore

Object scope

① Japanese territorial waters

The Law Relating to the Prevention of Marine Environment and Maritime Disaster

Authority and duty of JCG

Purpose: Ship fire

Object: All ships, No limit

Orders

① Necessary measures for prevention of discharge to Master/Owner

② Restriction of navigation around the scene for securing safety

③ Mandatory collecting expense which JCG conducted measures from owner/operator or seizing his/her property in tax procedures.

④ Dispose the ship which discharged oil/HNS and property around the scene with the purpose of prevention of heavy impact on marine environment, human health and property around the scene.

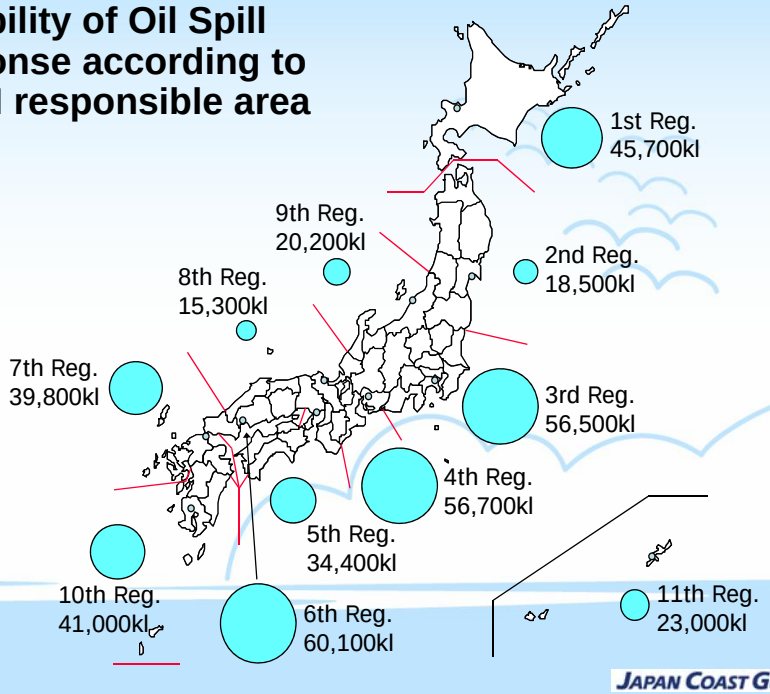
Object person

Owner/Operator of all ship (No limit)

Object scope

Japanese territorial waters

Capability of Oil Spill Response according to RCGH responsible area



JAPAN COAST GUARD

Maritime Disaster Prevention Center

Semi-government established by The law Relating to the Prevention of Marine Pollution and Maritime Disaster in 1977

◆ Disaster Prevention Duties

1. Responds oil spills and similar accidents, **acting under instructions from the JCG Commandant**
2. Responds oil spills and similar accidents, fight fires using firefighting vessels, and prevent fires from spreading, **acting under the commission of those responsible for the accident (ship owners, etc.)**

24-hour response, nationwide network

Oil spill response
HNS* response
Fire response

→ **Crisis response (emergencies)**

◆ Other Duties

3. **Maintain oil spill response materials** (oil recovery equipment, oil booms, oil dispersants, etc.) and **lend them under contract** to ship owners and other relevant parties
4. **Conduct** maritime disaster prevention **exercises**
5. **Research** maritime disaster prevention equipment, materials and technologies and **publicize the results**
6. **Integrate** maritime disaster prevention **information**
7. **Provide guidance and advice** on maritime disaster prevention under commission from ship owners or other interested parties
8. Contribute to promoting **international cooperation**

Maintain and supply materials & equipment
Train and enhance skills of disaster prevention personnel
Develop new technologies and methods

→ **Risk Management (normal times)**

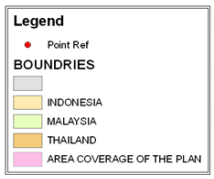
DRAFT OF JOINT EMERGENCY RESPONSE AND ACTION PLAN (ERP) FOR HNS IN THE STRAITS OF MALACCA AND SINGAPORE

SCOPE

- Used by littoral states of the Straits of Malacca and Singapore response agencies to manage and deal with accidents, spillage or release of HNS

GEOGRAPHICAL AREA

Id_Ref	X	Y
1	104.298333	1.44
2	104.583333	1.44
3	104.583333	1.225
4	104.223333	1.021667
5	103.94	0.91
6	103.29	0.988333
7	102.978333	1.1
8	95.433333	5.658333
9	95.106667	6.075
10	98.025	5.95
11	99.111667	6.3
12	99.458333	6.306667



HNS DEFINITION

- Set out in the HNS Convention 1996 and 2010 HNS Protocol
- Bulk cargo
- Packaged goods
- Bulk Solid
- Bulk Liquids
- Persistent Oil and Non-Persistent oil
- LPG/LNG

OBJECTIVES

- To establish a notification procedure
- To establish response procedure
- To facilitate emergency response
- To provide ready reference of key operational personnel and equipments

ROLES AND RESPONSIBILITIES

- The states in which HNS incidents occurred shall assume overall command
- Updated List of contact person and contact numbers
- Shall inform its counterpart focal points in any HNS incidents
- Activation of Standard Operating Procedures (SOP)

RESPONSE AREAS AND DIVISION OF RESPONSIBILITIES

- first response agency to arrive at the incident site shall proceed to initiate and take action
- If the first response force is NOT from the State which has jurisdiction over the part of the location where the spillage/release occurs shall take command of the overall response operation from the first response force upon arrival at the incident site.
- The State which has jurisdiction over the part of location on which the spillage/release occurs shall take command of the overall response operations, and request for assistance from the other State if necessary.
- In the event of a HNS or release occurring at or along the location at the common boundary of the States, the State from which the HNS was transported shall take command of the overall response operations.

STATE FOCAL POINT

- Directorate General of Sea Transportation (Indonesia)
- Marine Department Malaysia
- Maritime and Port Authority of Singapore

OPERATION LIASON OFFICER (OLO)

- Notify the other country's OLO of the accident;
- Activate own country's response agencies;
- Coordinate and facilitate exchange of information for all activities between the States;
- Coordinate and facilitate movements of the personnel and equipment for the joint operation; and
- To update situation report.

NOTIFICATION PROCEDURES

- The first notification of HNS incident ;
  - Vessel's master;
  - Member of public;
  - Police/Marine Police;
  - Port Authority
- OLO shall then immediately inform the respective response agencies of the HNS incident

RESPONSE PROCEDURES

- The State Focal Point that first arrives at the incident site shall take immediate action
- Immediate attempts shall also be made to control and contain the HNS spill
- If the State Focal Point that arrives at the incident site is from the State which has jurisdiction over the part of the location that HNS occurs, then the State Focal Point shall continue to lead and command the overall response operations.

RESPONSE PROCEDURES

- The State Focal Point which has jurisdictions over the part of the location where the HNS occurs, but is NOT the first response force to arrive at the incident site take over command of the overall response operation from the first response force.
- The State Focal Point that commands the overall response operations may request for assistance from the other State to respond to the incident. The other State shall render assistance to respond to the incident when requested.
- The respective State may activate its own additional agencies to respond to the incident if it was deemed to be necessary.
- Throughout the operation, the Site Incident Commander (SIC) shall command and coordinate the overall response operations at the site

MOVEMENT OF PERSONNEL, CRAFT AND EQUIPMENT ACROSS STATES

- The requesting State shall facilitate entry and exit of personnel, craft and equipment, and expedite all diplomatic, customs and immigration formalities. Details of incoming personnel, craft and equipment such as number, identification, country of origin, proposed routes shall be communicated through the OLOs.

COMMUNICATION BETWEEN AGENCIES

- The main mode of communications between the States shall be any means of effective communication, i.e. telephone or email. The response agencies shall also maintain a radio set or walkie-talkie for communication at the incident site. Where possible, mobile or hand phones shall be used by the response agencies at the site to provide quick and convenient communications between agencies.
- The contact numbers of the respective agencies shall be updated

RESOURCES AVAILABLE

- Each State shall provide a list of all equipment, craft and support services that can be made available
- Agencies, which have existing standing operation procedure (SOP) with third-party contractors or companies on HNS, may activate their respective contractors to respond to the incident.

SAFETY AND PROTECTIVE EQUIPMENT

- Each State is to be self-sufficient in the supply of safety and protective equipment to its own respective operation staff. The response agency may also specify that its own specialist contractor, if any, shall be equipped with necessary safety and protective equipment in addition to the emergency equipment required to combat the HNS

MEDIA PUBLICITY

- Press statements shall be issued by the State Focal Point if it is necessary to do so. The SICs and OLOs shall keep the State Focal Point informed of the progress of the spill containment and clean-up.

PROCEDURE FOR DECLARING STAND-DOWN OF OPERATION

- The State Focal Point shall declare stand-down of the operations if the following conditions are met:
  - ✓ The HNS spillage has been removed or contained effectively;
  - ✓ The search, rescue and evacuation operations have been completed;
  - ✓ There is no further danger of the HNS spillage endangering marine life or polluting the coastal waters.

RECORD OF ACTIONS TAKEN

- Each State shall maintain individuals records of action taken and equipment and other resources used to respond to the incident. These records can be utilised in coast accounting purposes and in subsequent analysis of actions taken during the chemical incident in order to upgrade the Operating Procedure.

CLAIMS

- Any States that wishes to claim against the ship owner responsible for the HNS accident to recover the cost and the resources incurred in responding to the accident may deal with the ship owner/agent or P&I Club direct.

TRAINING AND EXERCISES

- The State Focal Point shall co-ordinate regular training and exercise among the various response agencies as and when it is necessary to do so or at least once in every two years.

REVIEW AND UPDATING OF JOINT ERP

- The State Focal Point shall co-ordinate the review and updating of the Joint ERP as and when it is necessary to do so or at least once in every two years.

NATIONAL HAZARDOUS AND NOXIOUS SUBSTANCES (HNS) CONTINGENCY PLAN

BY

MARINE DEPARTMENT MALAYSIA

CONTENTS OF HNS CONTINGENCY PLAN

- Section A – Strategy
- Section B – Action Plan
- Section C – Data; Annexes

CONTENTS OF HNS CONTINGENCY PLAN

Section A (Strategy)	Section B (Action Plan)	Section C (Data - Annexes)

• Introduction;
• Risk Assessment;
• Purpose;
• Objectives;
• Scope & Geographic Area of the Plan;
• Potential Impacts from HNS Pollution - Sensitivities;
• Meteorological & Hydrological ;
• Potential HNS Pollutants;
• Legislative & Legal Framework –
  • National Legislations
  • International Legislations
• Tiered Response Concept
	• General Notification and Mobilization Procedures;
	• HNS Response Resources – Government and Industries;
	• HNS Response Action Plan;
	• HNS Equipment – Logistics and Materials;
	• Managing the Response;
	• Claims and Compensation;
		• Directories;
		• Documents Form;
		• Training and Exercises – Capacity Building;
		• Legislation and Agreements/Conventions;
		• Know-How :-
		  • Technical guide to use when responding to an HNS spill;
		• HNS Spill Response Equipment;
		• Ship Casualty Plan – Salvage;

CONTENTS

SECTION A – STRATEGY SECTION

CONTENTS

1. Introduction
   - HNS Handling in Malaysia;
   - HNS Pollution Response Policy in Malaysia;

2. Risk Assessment
   - HNS Products handled in Malaysia;
   - HNS Shipping Traffic & Facilities in Malaysian Waters;
   - HNS spill incidents in Malaysia;

CONTENTS

3. Purpose
   - Safety in Handling of HNS;
   - To comply with National & International Legislations/Conventions;

4. Objective
   - Implementation of HNS Action Plan;

CONTENTS

5. Scope and Geographic Area of the Plan
   - Scope;
   - Geographic Area;

CONTENTS

6. Potential Impacts from HNS Pollution – Sensitivities
   - ESI Table;
   - ESI maps of Malaysian Coastline;
   - Identify Environmental Sensitivities;
   - Identify Socioeconomic Sensitivities;
   - Identify Industrial Sensitivities;
   - Identify Political/Public Sensitivities;

CONTENTS

7. Meteorological and Hydrological Condition
   - Salinity, Sea Surface and Air Temperature;
   - Prevailing Winds;
   - Tide and Current Data;

8. Potential HNS Pollutants
   - HNS Definition;
   - HNS Properties;
   - List of HNS Handled in Malaysia;
   - Physical and Chemical Properties of HNS;

CONTENTS

9. Legislative and Legal Framework
   - National Legislations;
   - International Legislations;

10. Tiered Response Concept
   - Tier 1 Response;
   - Tier 2 Response;
   - Tier 3 Response;

CONTENTS

SECTION B – ACTION PLAN

CONTENTS

1. General Notification and Mobilization Procedures
   - Procedures and Initial Action Response;
   - Notification of Parties Involved in an HNS Spill:-
     - Internal;
     - External;
     - Reporting Forms;
     - Reporting Schedules;

CONTENTS

2. HNS Response Resources – Government and Industries
   - HNS Response Organization – Government;
   - Develop ICS Organization Chart;
   - Roles and Responsibilities of Response Members;
     - Response Manager;
     - Planning Team;

CONTENTS

. Response Operation Team;

. Logistic Team;

. Admin/Finance Team;

. Safety Team;

. Public Affairs/Community Relations;

CONTENTS

3. HNS Response Action Plan
   - HAZMAT/HAZWOPER Procedures;
     - Safety and Health;
     - Level of PPE;
   - Mobilization of HNS Resources;
     - Government;
     - Industry;

CONTENTS

- Summary of HNS Spill Scenario;
- Response Strategies and Scenarios;
- Response Scenario Details;
  - HNS Spill at sea in Malaysian Waters;
  - HNS Spill in Port Area;
  - HNS Spill in Inland Waterway/Rivers;
  - HNS Spill in Impacting the Shoreline;
  - HNS Waste Management Plan;

CONTENTS

- Procedures to *"Call-In additional External Resources";*
  - From Local Industries;
  - From "Other Countries";

CONTENTS

4. HNS Equipment – Logistics and Materials
   - Table indicating List of HNS Equipment Available – Government (Tier 1 and 2)
   - Table indicating List of HNS External Equipment that can be called upon – Oil Industry and Others (Tier 1,2 and 3);
   - Table indicating Mobilization times of External Equipment;

CONTENTS

5. Managing the Response
   - Monitoring and Making Daily Reports;
   - Documentation;
   - Financial and Legal Considerations;
   - Archives;
   - Debriefs & Follow Up Actions;
   - Final HNS Spill Report;

CONTENTS

6. Claims and Compensation
   - Introduction to the Conventions applicable to Malaysian Waters;
   - Setting up of Claims Office;
   - Guidelines to "Admissible Claims";
   - Claims Format – Document;

CONTENTS

SECTION C – DATA - ANNEXES

CONTENTS

1. Directories;
   - List of Internal Governmental Contacts;
   - List of External Contacts – Industry;
   - List of Other Resources Contacts – HNS Response Contractors;

CONTENTS

2. Document Forms;
   - Initial of Internal Governmental Contacts;
   - Daily Notification/Assessment Form;
   - Mobilization Form – Internal and External;
   - Aerial Surveillance Report Form;
   - Log Sheet;
   - Incident Response – Daily Status Report;
   - Site Safety and Health Plan;
   - Manpower Allocation Chart;
   - Equipment Allocation Chart;
   - Consumables Expenses Chart;
   - Training & Exercise Record Form;

CONTENTS

3. Training and Exercises – Capacity Building
   - Training;
     - Introduction to HNS Training Needs;
     - HNS Training Records;
     - HNS Training Providers;
   - Exercise;
     - Recommended HNS Exercises identifying Annual Schedules;
     - Full Scale HNS Exercises;
   - HNS Competency Matrix;
     - Government HNS Response Team;
     - Industry HNS Response Team;
     - HNS Response Contractors;

CONTENTS

4. Legislation and Agreements/Conventions
   - HNS International Conventions and Acts;
   - HNS National Legislations;
   - HNS Government and Industry Mutual Aid Agreements;
   - HNS Regional Cooperation/Agreements;

CONTENTS

5. Know-How
   - Technical guide to use when responding to an HNS spill;
     - Monitor and Evaluate;
     - Protection/Defense;
     - Containment and Recovery – on/in water;
     - Shoreline Clean up;

CONTENTS

6. HNS Spill Response Equipment
    - General description, Specifications and Summary of Operational Guidelines of HNS Equipment;
        - HNS spill response vessel;
        - G.A Plan of Vessel;
        - HNS Boom;
        - HNS Recovery Device;
        - HNS Temporary Storage;
        - HNS Boat Spray System;
        - HNS Back Pack Sprayer;
        - HNS Sorbents;
        - Etc;

CONTENTS

7. Ship Casualty Plan – Salvage
    - Introduction;
    - Reference to Marine Department Salvage Plan;
    - List of reputable Salvage Contractors – Local and International;


THANK YOU


Maritime Pollution Prevention Program
19 – 20 November 2013
Manila
REPUBLIC OF THE UNION OF MYANMAR


Contents
1 Introduction to Myanmar
2 DMA Organization Structure
3 Constraints & difficulties
4 Legal Framework
5 Status of Ratification
6 HNS Contingency Plan

❑Situated between
Lat.:**09° 32'N** and **28° 31' N**
Long.:**092° 10 E** and **101° 11'E**

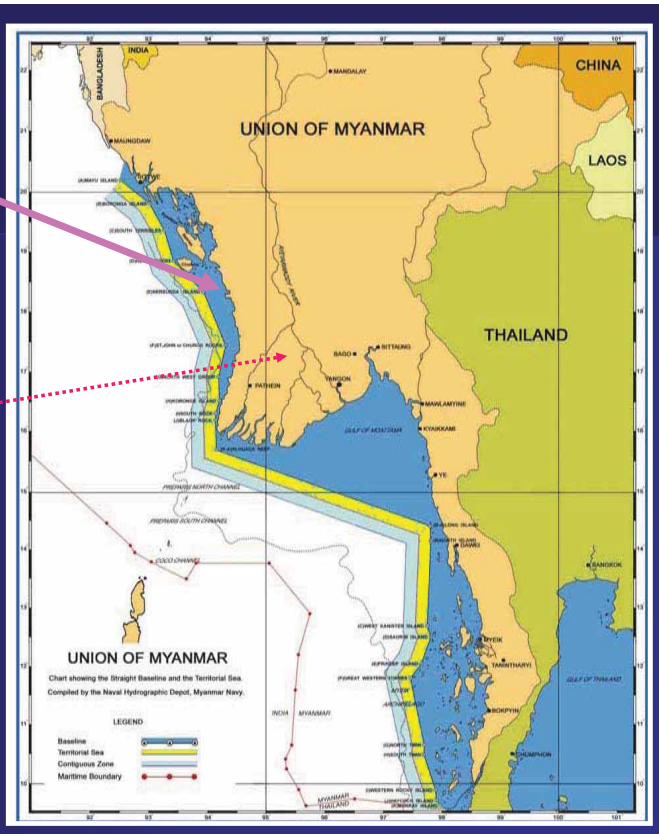
AREA
- **Area of 677,000 sq-km**
- **Ranging**
  - ***936 km*** **(East to West)**
  - ***2051 km*** **(North to South)**

Neighbouring Countries:

▪**Coastline – 2229 km** (along the Bay of Bengal and Andaman Sea)

Inland Waterways - 6650 kilometers.

- **Continental shelf covers 228,781 sq-km**
- **Exclusive economic zone (EEZ) of 486,000 sq-km area.**



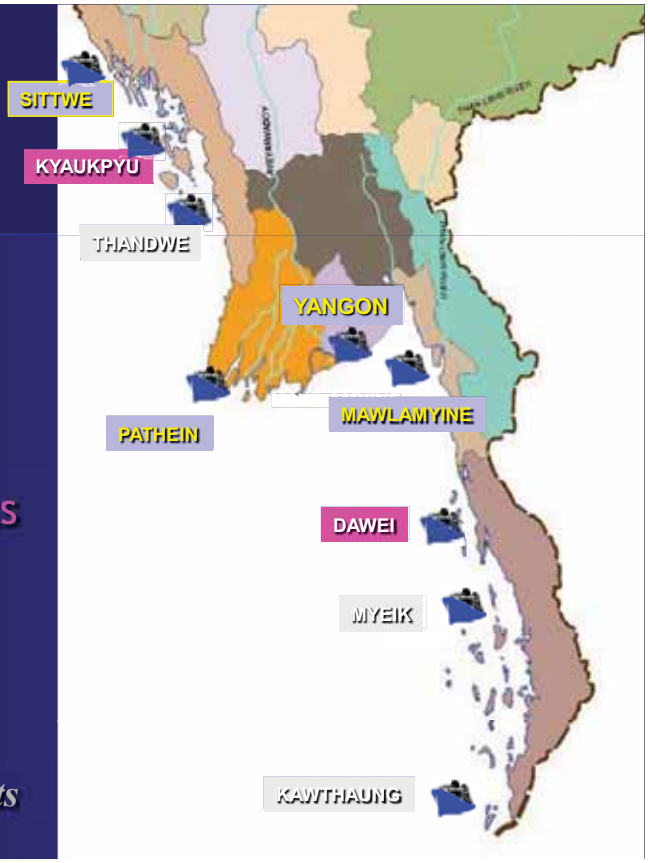
Coastal Ports

(9) SEA PORTS

(4) Major Sea Ports

(2) Prospective Sea Ports

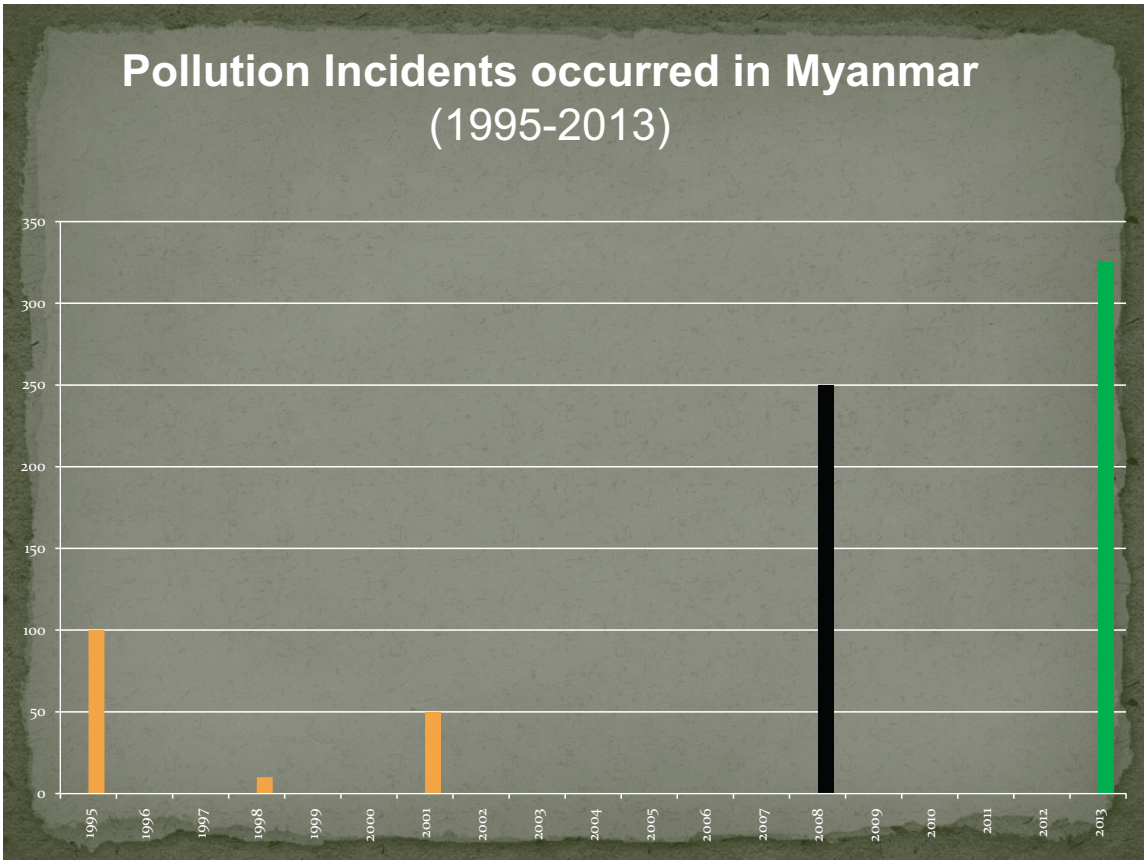
Riverine: More than 400 Ports

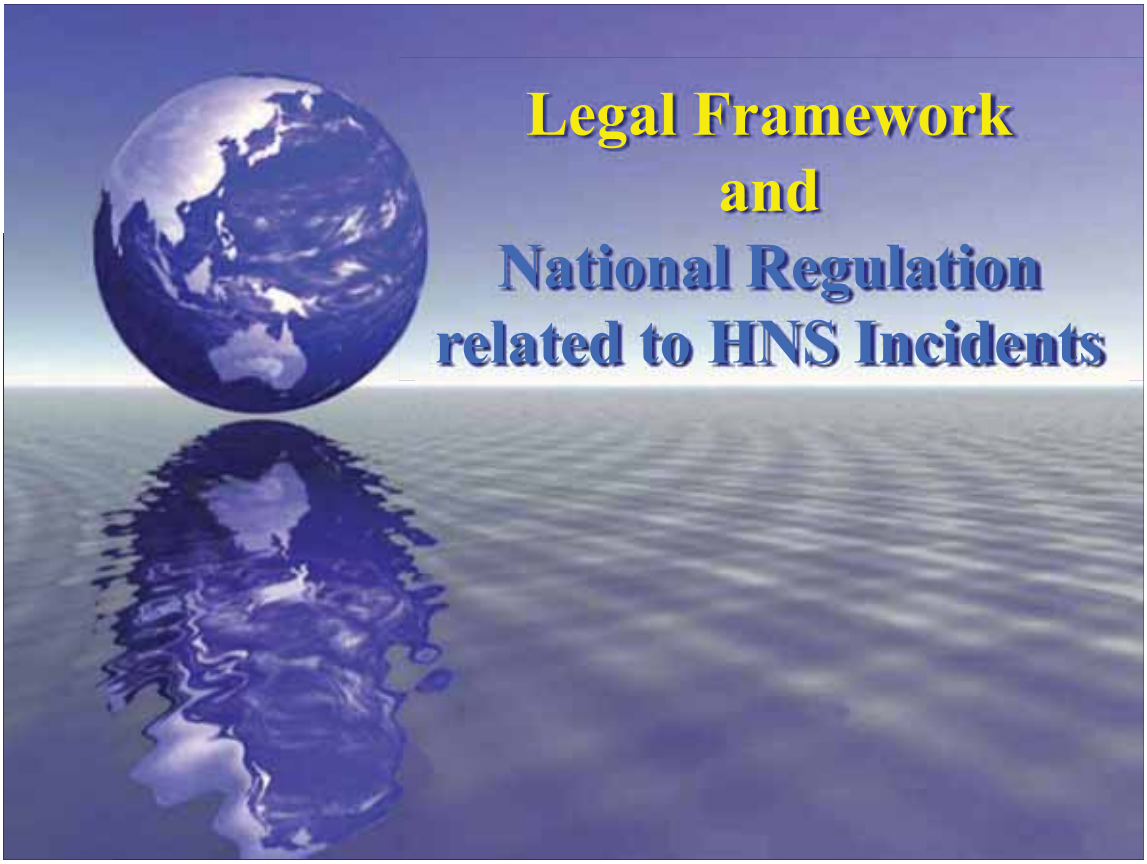


POLLUTION OCCURRED IN MYANMAR


2013 OSV PENRITH
SINGAPORE


NO.2 F.O.
D.B.T.K.(P)
Hottap


Pollution Incidents occurred in Myanmar
(1995-2013)
350
300
250
200
150
100
50
0
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013



Status of Ratification

❖	**OPRC-HNS Protocol 2000**	**Not yet**
❖	**HNS Convention**	**Not yet**

Constraints and difficulties in ratifying

- Political implication
- Financial
- Transitional period of new Government setting up
- First priority – MARPOL Annex III, IV & V

As usual, Designated authority responsible for preparedness and response to HNS incidents --- DMA

Organizational arrangements for response to HNS incident

Myanmar National HNS Contingency Plan (Draft)

Myanmar National HNS Contingency Plan (Draft)

Divided into four chapters as follows:

Chapter 1. Introduction

Chapter 2. Organization and Preparedness

Chapter 3. Response and Strategies

Chapter 4. Response Support

Chapter 1. Introduction

- **Background history**
- **Threats**
- **Objectives**
- **Scope of the Plan**
- **Geographical Area**
- **HNS incidents**
- **Legislation**

Chapter 2. Organization and Preparedness

- National HNS Spill Leading Committee
- National HNS Spill Working Committee
- State and Regional Response Committee
- Duties and Responsibilities
- Response Policy
- Levels of Response
- Providing advices and supports by experts on HNS

Chapter 2. Organization and Preparedness

- National HNS Spill **Leading** Committee
  The Vice President of the Republic of the Union of Myanmar as a Chairman,
  The Union Minister of Transport as a Secretary and the responsible ten Union Ministers as members of the committee
  (providing advice for the strategic policy making)

- National HNS Spill **Working** Committee
  The Union Minister of Transport as a Chairman,
  The Director General of DMA as a Secretary and
  the Ministers of Transport from five States/Regions that are likely to be spilled by HNS
  (Yangon, Ayeyarwaddy, Thanintharyi, Rakhine, Mon)

Chapter 2. Organization and Preparedness

- State and Regional **Response** Committee
  The Transport Ministers from these region and states will chair the committee and its secretary will be the Heads of DMA in those regions (responsible to take action for spills within harbours, onshore, in the territorial seas, and on the high seas

- Response Policy
  protect human health and safety; minimise environmental impacts; and restore the environment, as near as is practicable, to pre-spill conditions.

- Specialist Advice and Assistance

Chapter 2. Organization and Preparedness

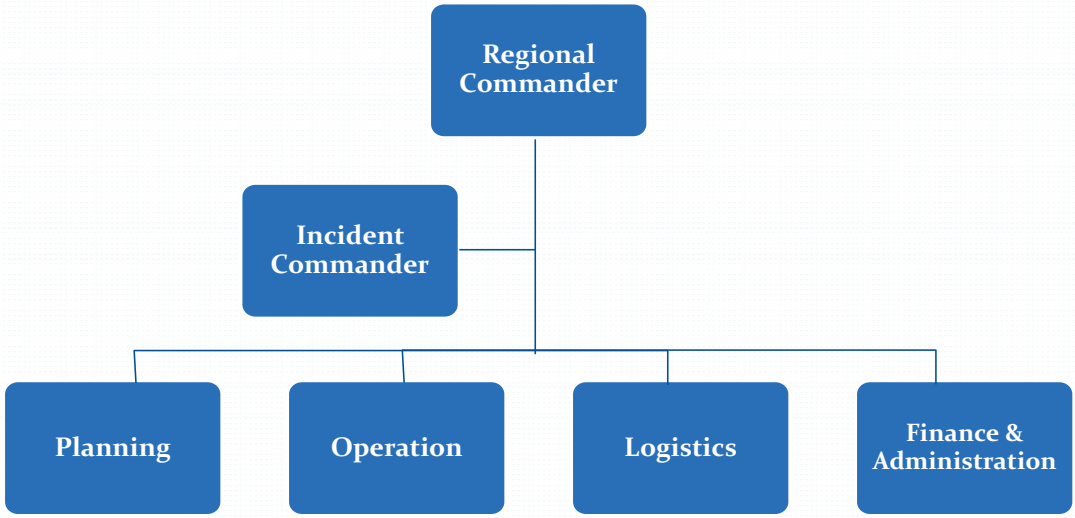
❖Levels of Response will be categorized into three different levels

Levels of Response:
- Level 1,
- Level 2,
- Level 3

according to its nature and extent of spillage (not defined yet)

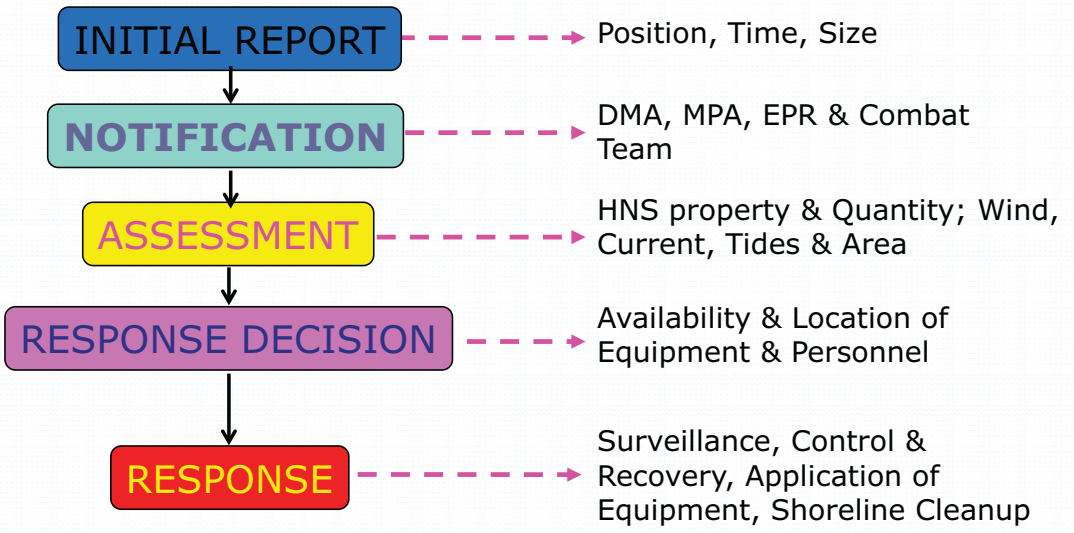
Chapter 2. Organization and Preparedness

Response Organization Structure (Regional)



Chapter 3. Response and Strategies

INCIDENT REPORTING & RESPONSE PLAN



Chapter 3. Response and Strategies

The management of response has been drawn in five stages

1. Monitoring
2. Implementation of response
3. Response and control
4. Clean-up operation
5. Long-term observation and restoration

Chapter 3. Response and Strategies

- **Overall Protection Priorities**
  Human health and safety, Habitats and cultural resources,
  commercial resources and amenities

- **Specialized Agency Participation**
  Chemist, Medical doctor, fire brigade and other expertise

Chapter 3. Response and Strategies

- Incident Reporting and Response Activation
  National Response working committee shall have to response without any delay upon receipt of such message from Government of division/state, vessels and company (including initial action, Activation, Pollution report, situation report)

- Health and safety

Chapter 3. Response and Strategies

- Environment protection (including sensitivity maps)
- Cultural and Heritage Issues
- Obtaining Samples for Evidence and Analysis
- Disposal of spill material
- Equipment
- Termination of the Response

Chapter 4. Response Support

- Charter of vessels
- Surveillance Aircraft
- Hire of other equipment
- Assistance by Defense Forces
- Salvage Arrangements

The Way Forward

ACCESSION IN NEAR FUTURE

	IN FORCE
Annex III – Regulations for the Prevention of Pollution by Harmful Substances Carried by Sea in Packaged Form	1 July 1992
Annex IV – Regulations for the Prevention of Pollution by Sewage from Ships.	27 September 2003
Annex V – Regulations for the Prevention of Pollution by Garbage from Ships.	31 December 1988

Myanmar is preparing to ratify these annexes in near future.

- International Convention on Oil Pollution Preparedness, Response and Co-operation (OPRC), 1990
- International Convention on Civil Liability for Oil Pollution Damage (CLC), 1969

- FUND ?

32

The Big Challenges ahead!

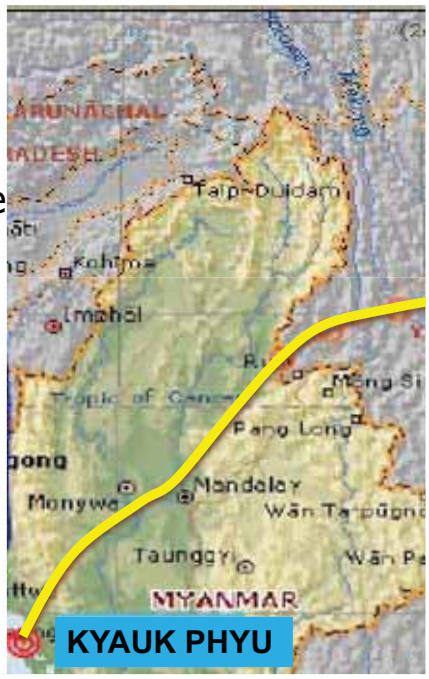
Kyaukpyu Deep Sea Port Project

- ***Oil and Gas Terminal has been expected to complete on in the end of this year.***

- ***Can accommodate oil tankers of DWT 300,000 vessel with a draught of 26 m, LOA 300 m and 60 m breadth.***

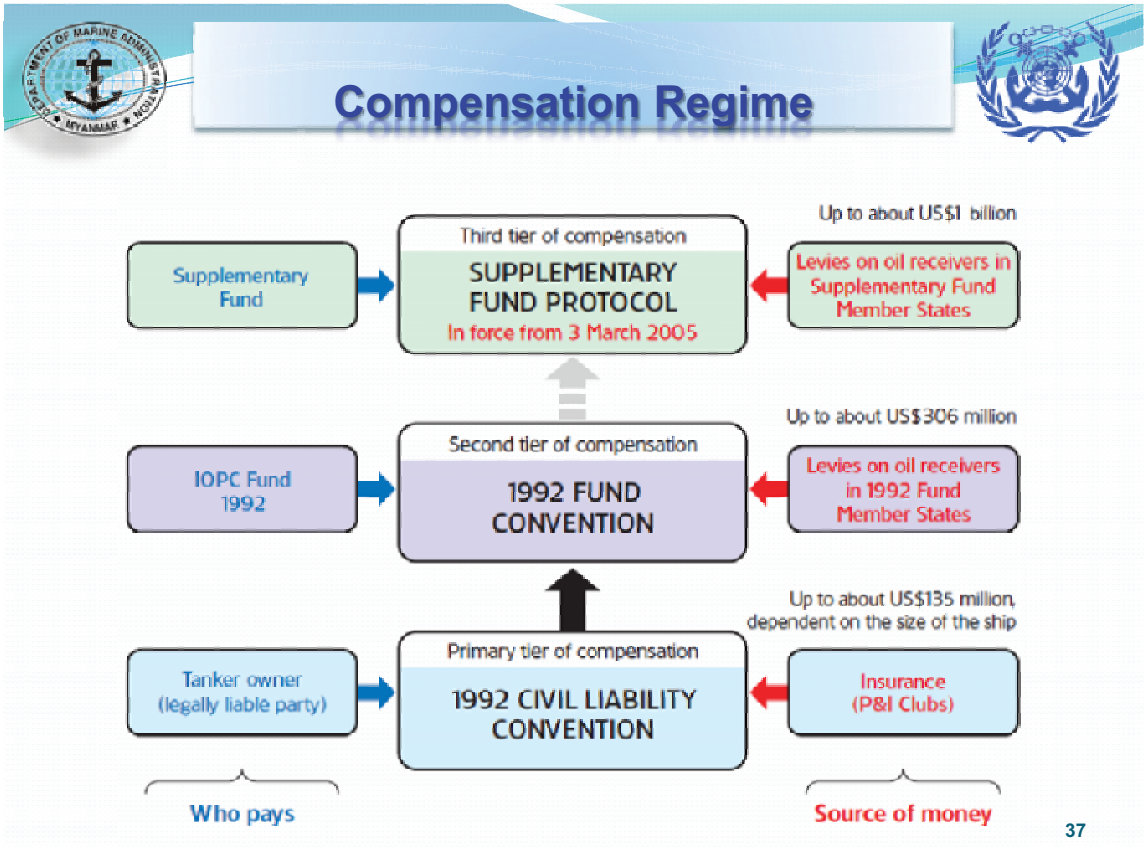
Crude oil received for China

- two pipelines;
  - Gas pipeline
  - another parallel **oil pipeline**
- will carry 22 million tonnes of crude oil annually
- Generally, about 2 million tonnes discharged at Kyauk Phyu on monthly basis.
- 2014 onwards, oil receiver for tons in millions of Crude Oil per annum.



Are we ready?

- *Technical perspective….*
- *Legislative point of view ….*
- *Implementation bodies…*
- *Monitor and control …*
- *management strategy …..*
- ***Environmental Law 2012***



Training of Relevant Personnel

Personnel from the Myanmar DMA and Port Authority had attended workshop/ seminars

- Singapore,
- Maldives
- Thailand and
- the Philippines →→→ (Japan Association of Marine Safety)


WELCOME TO MYANMAR
THANK YOU
VERY MUCH
FOR YOUR KIND ATTENTION
39

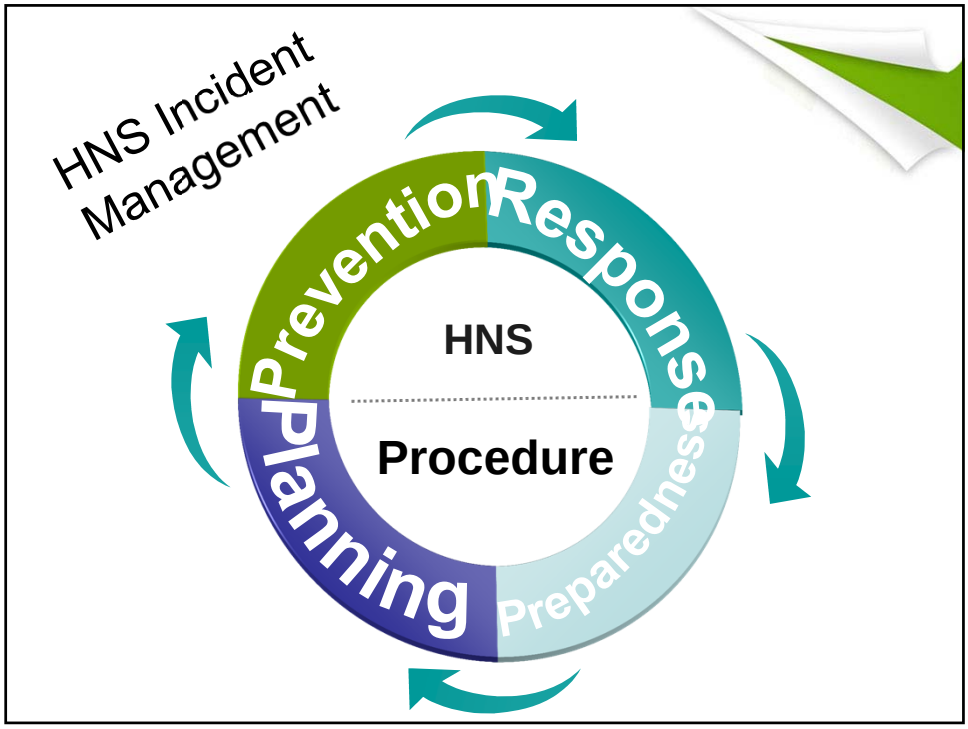
Status of HNS Contingency Plan in Thailand

Ms. Soontharee Pirom

Marine Department, Thailand

Outline

1. HNS Incident management
2. Related Laws, Regulations and organization on HNS
3. HNS Contingency Plan Preparation



Prevention

- laws and regulations
  - Act on Navigation in Thai Waters, B.E. 2456 (1913) as amended until Act (No.15), B.E.2540 (1997)
  - Office of the Prime Minister's Regulations on Prevention and Mitigation of Marine Oil Pollution 2004 (B.E. 2547)
  - Hazardous Substance Act, B.E. 2535 (1992)
  - Factory Act, B.E. 2535 (1992)
  - The Enhancement and Conservation of National Environmental Quality Act, B.E. 2535 (1992)
- Safety Audit System

Planning

HNS Contingency plan
- **National level**
- **Local/Provincial level**
- **Operation level**

Preparedness

- Human Resources
- Tools and Equipments
- Data and Information
  - Hazardous Chemical Emergency Response Database
  - Hazardous Substances Awareness Manual
  - Hazardous Waste Handling Tips
  - Material Safety Data Sheet (MSDS)

Response

HNS Contingency Plan

- Training
- Exercise and drills
- Reviews and improvement

Present Situation of HNS Management

Ministry of Transport	Ministry of Industry	Ministry of Natural Resources and Environment
Marine Department 1.Office of the Prime Minister's Regulations on Prevention and Mitigation of Marine Oil Pollution 2004 (B.E. 2547) 2. National Oil Spill Contingency Plan (NCP) 3. Marine Department's Regulations ❖ 411/2543 Safety Requirements for Oil and Chemicals Transfer ❖412/2543 Guideline for Preparation of Port's Operational Plan for Transferring of Hazardous Goods	**Department of Factory** •Hazardous Substance Act, B.E. 2535 (1992) •Factory Act, B.E. 2535 (1992)	**Pollution control Department** ➢Hazardous Chemical Emergency Response Database ➢ Hazardous Substances Awareness Manual ➢ Hazardous Waste Handling Tips ➢ Material Safety Data Sheet (MSDS) ➢Chemical and Hazardous response and operation manual

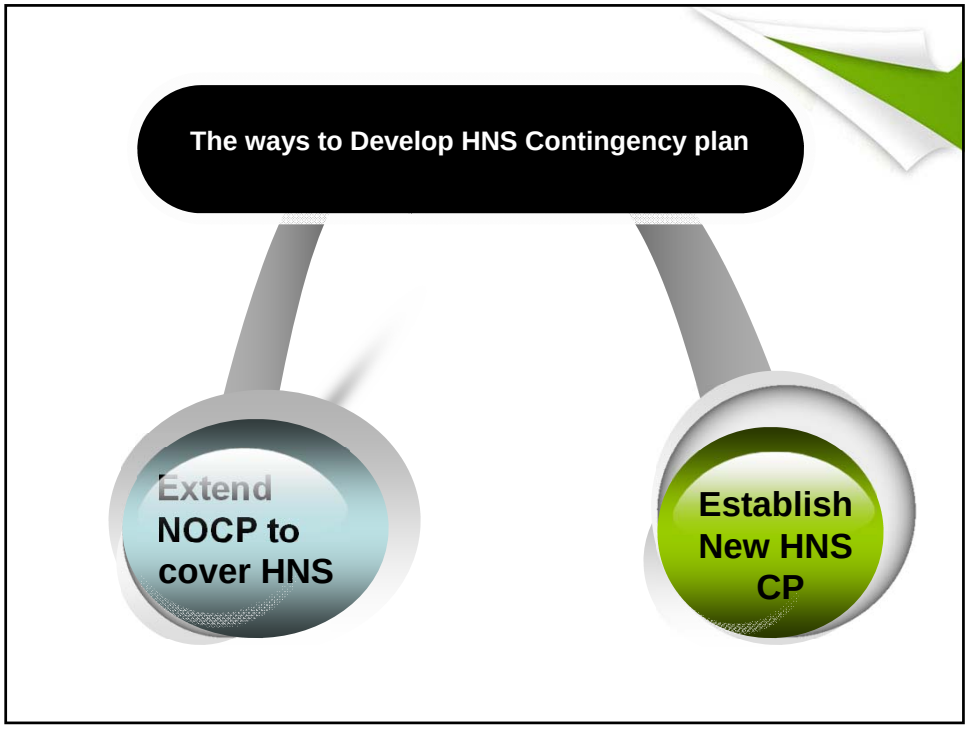
411/2543 Safety Requirements for Oil and Chemicals Transfer

- Give harbour owner and ship owner concern with transfer oil / chemicals prepare operation plan and provide equipment for response it and that plan must approved by Marine Dept.
- Before operate transfer, harbour owner and ship master must verify safety between harbour and onboard

412/2543 Guideline for Preparation of Port's Operational Plan for Transferring of Hazardous Goods

basis must have :

- General data (scope, address, goods, environment, transfer system, risk assessment)
- Organization chart and responsibilities
- Operation procedure
- Reporting and communication
- General affairs and support unit



To Extend NOCP to cover HNS

1

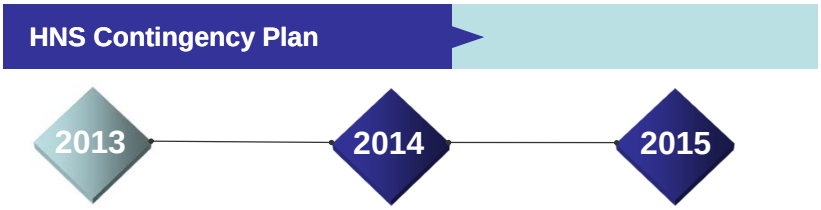
- Amend the Office of the Prime Minister's Regulations on Prevention and Mitigation of Marine Oil Pollution 2004 (B.E. 2547) to cover HNS
- Amend The National Oil Spill Contingency plan to cover HNS

2

Add related agencies

- Ministry of Industry
- Public Health Agency

Next Steps….



• December 4th, 2013
The committee on the prevention and combating of oil pollution meeting will discuss and consider the plan to cover HNS

❑ **Amendment the Office of the Prime Minister's regulations on Prevention and Mitigation of Marine Oil Pollution 2004 (B.E. 2547**

❑ **Develop National Oil Spill Contingency plan to cover the HNS iresponse**

Thank you for your attention

OIL SPILL RESPONSE IN VIETNAM

Nguyen Hai NAM - VINAMARINE

VINAMARINE

Manila, November 2013

CONTENTS

1. Oil Spill Risks
   - Potential risk resources
   - Oil movement
   - Resources at risk
   - Legislation
2. Oil Spill Preparedness & Response
   - Organization
   - Responsibilities
   - Key response forces for each region
   - Other response resource
   - Response strategies
3. Challenges
4. Recommendations

OIL SPILL RISKS

POTENTIAL RISK RESOURCES

1. From oil & gas drilling & producing operations: crude oil being produced, fuel oil of FPSO/supply vessel

   Location: occurs mainly in offshore of the South

2. From sea transportation: DO, FO, LO, KO, condensate (Fuel or goods of tankers)

   Location: at inland terminal (10-20km away from the estuaries) and unloading points in Ganh Rai Bay - Vung Tau, Van Phong Bay.

OIL SPILL AT SEA

OIL SPILL RISKS

OIL MOVEMENT

Mainly depend on time of year and location

1. Offshore incident (offshore area of the south)

   In NE monsoon: (from Nov to Mar/Apr) toward the shoreline

   In SW monsoon: (from Jun to Sep) drifts away from the shoreline

2. Near shore incident: not easy to forecast the movement direction

3. On river incident: moves quickly & changes dimension after six hours

OIL SPILL RISKS

RESOURCES AT RISK

1. Present at almost coastal provinces
2. Invested values of each type of feeding/ panting objective could estimate
3. Statistical reports in details are not available

- Tiger shrimp
- Salt farm
- Lobster farm
- Seaside resorts
- Tourists, beaches
- Oyster/shell farm
- Fish/ farm
- Mangrove stand
- Bird breeding
- Fishing spawning area

OIL SPILL RISKS

LEGISLATION

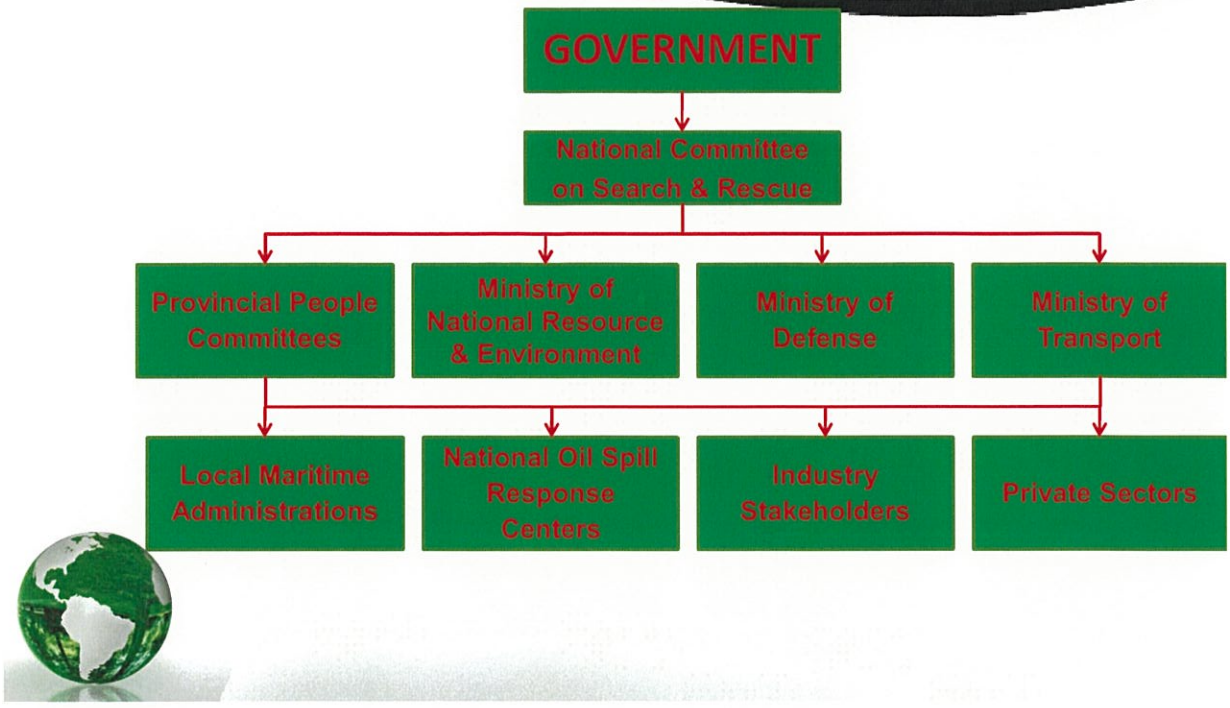
1. Law on Environmental Protection (LEP), 1995 & circular guidelines to implement LEP
2. Petroleum Law (PL), 1993 & circular guidelines to implement PL
3. Vietnam Maritime Code 2005
4. Decision No. 1278/QD-TTg, 2009 of the Prime Minister approving the Plan on Implementation of the Joint Statement and Framework Program between Vietnam, Cambodia and Thailand on partnership on oil spill incident preparedness and response in the Gulf of Thailand

OIL SPILL RISKS

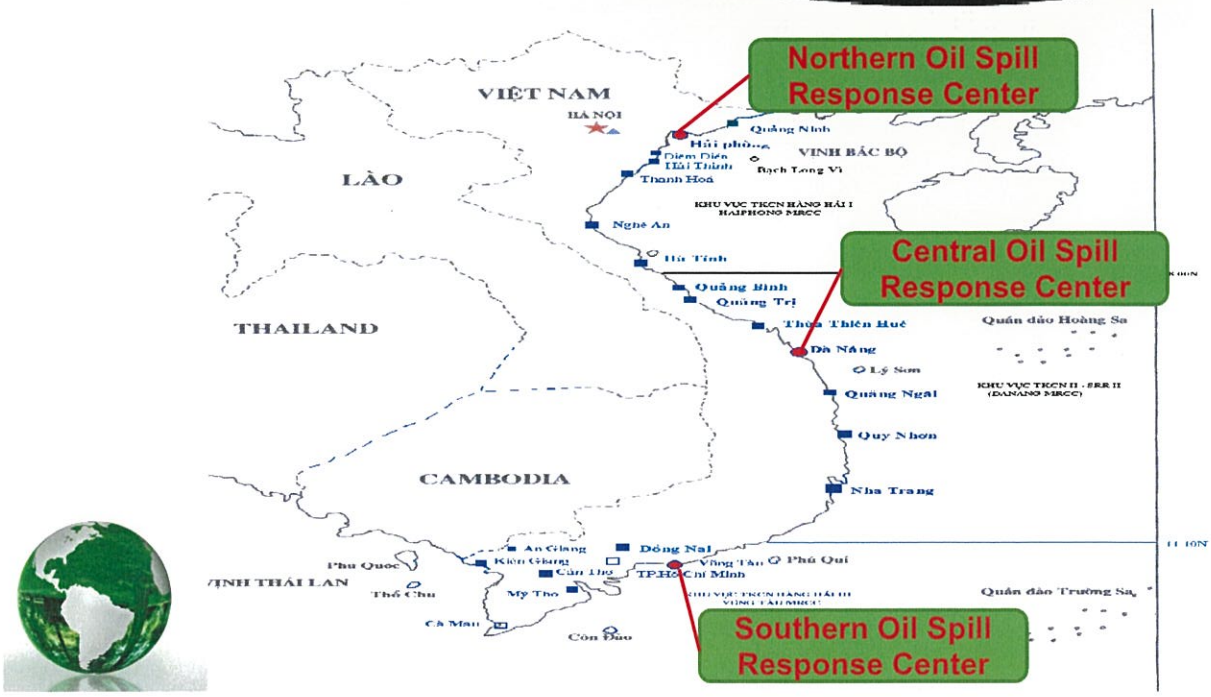
LEGISLATION (Cont.)

5. Decision No. 1864/QD-TTg, 2011 of the Prime Minister approving the plan on implementing the Agreement between the Government of the Socialist Republic of Vietnam and the Government of the Republic of Philippines on cooperation in the field of response to oil spills at sea.
6. Decision No. 02/2013/QD-TTg, 2013 of the Prime Minister promulgating the Regulation on oil spill response
7. Circular No. 2262/TT-MTg, 1995 issued by MoNRE regulating temporarily for responding to oil spill incident

OIL SPILL PREPAREDNESS & RESPONSE



OIL SPILL PREPAREDNESS & RESPONSE



OIL SPILL RESPONSE – M/T DUC TRI

OIL SPILL PREPAREDNESS & RESPONSE

RESPONSIBILITIES

1. National Search & Rescue Committee (NSR committee)
   - ➢ Direct & coordinate national centers in tier III incident
   - ➢ Report to the Government the result of response operations
2. National Oil Spill Response Centers (National OSR Centers)
   - ➢ Conduct directly the response operations up to tier III
   - ➢ Coordinate & control directly response teams from other resources attending to the response operations
   - ➢ Report response results to the NSR Committee
   - ➢ National contact point for international cooperating operations

OIL SPILL PREPAREDNESS & RESPONSE

RESPONSIBILITIES (Cont.)

1. Response teams of National OSR Centers
   - ➢ Prepare and arrange equipment, personnel, vehicles to carry out response operations
2. Industry stakeholder: PV Drilling, VietsoPetro, PTSC…
   - ➢ Support response teams to carry out the response operations (provide equipment, personnel, chemical, vehicles,…)
3. Local authorities: Military, Maritime Administration, …
   - ➢ Conduct/ support response operations from tier II
   - ➢ Report the responses to the Provincial People committee

OIL SPILL PREPAREDNESS & RESPONSE

KEY RESPONSE FORCES

1. Northern Oil Spill Response Center
   - ➢ Assigned to respond to oil spill incident in the north
   - ➢ Two bases: Hai Phong & Nghe An
   - ➢ Personnel: 90 persons
   - ➢ Equipment: diverse & enough to cope with a spill at tier II (booms, skimmers, tanks, chemicals, bio-degradable adsorbent, auxiliaries,…)
   - ➢ Experiences: 8 years with real incidents

OIL SPILL RESPONSE EQUIPMENT

OIL SPILL PREPAREDNESS & RESPONSE

KEY RESPONSE FORCES (CONT.)

2. Central Oil Spill Response Center
   - ➢Officially launches its operations in 2004
   - ➢Main working area: Nghi Son, Da Nang Port, Nha Trang & Vung Ro Bay
   - ➢Personnel: 91 persons
   - ➢Equipment: diverse & enough to cope with a spill at tier II (booms, skimmers, tanks, chemicals, bio-degradable adsorbent, auxiliaries,…)
   - ➢Experiences: 9 years with real incidents

OIL SPILL PREPAREDNESS & RESPONSE

KEY RESPONSE FORCES (CONT.)

3. Southern Oil Spill Response Center Assigned to respond to oil spill incident in the south
   - ➢ Main working area: all oil fields in Vietnam territory oil transferring areas on rivers in Vungtau, Hochiminh,...
   - ➢ Personnel: stand-by with 30 trained experts, technicians, operators back up with app. 150 offshore men
   - ➢ Equipment: diverse & enough to cope with a spill at tier II (booms, skimmers, tanks, chemicals, bio-degradable absorbent, auxiliaries,…)
   - ➢ Experiences: since 1994, carry out such exercise (6-10 times/year) and respond to real incident

DEPLOYING SKIMMER AT SEA EXERCISE

OIL SPILL PREPAREDNESS & RESPONSE

OTHER RESPONSE FORCES

1. VietsoPetro (VSP-Vung Tau)
   - ➢ Activities: stand-by/ respond for VSP's oil production operations in at offshore oil filed, VSP supply port at Vung Tau
   - ➢ Personnel: 50 persons
   - ➢ Equipment: diverse & enough to cope with a spill at tier II
   - ➢ Experiences: since 1995, carry out 1-2 exercise a year, responded to some spills

OIL SPILL PREPAREDNESS & RESPONSE

OTHER RESPONSE FORCES (Cont.)

2. PetroVietnam Technical Services Corporation
3. Thanh Trung Oil Spill Response Co., Ltd.
4. Haivan Shipphing - Services Corporation
5. Dai Minh Company
6. Other Port Corporations

OIL SPILL PREPAREDNESS & RESPONSE

RESPONSE STRATEGIES

1. Natural clean-up & monitoring
2. Chemical dispersant
3. Mechanic containment & recovery
4. In-situ
5. Protect the sensitive shorelines
6. Shoreline clean-up

For each situation, one or combined strategy will be chosen to prevent/reduce the affect of a spill to and promote the recovery of the environment

OIL SPILL RESPONSE ACTIVITIES

CHALLENGES

- Insufficience of legal documents and technical guidelines
- Insufficience of capability, manpower and equipments
- Insufficience of cooperation and assistance from international organization and member state
- Unfavourable meteorological, hydrographical, geological and geomorphical conditions:
- Few hazardous waste treatment systems existing in Vietnam that causes difficulties in the collection of oil and oily contaminated wastes when accidents occur

RECOMMENDATION

- Establishing a Committee responsible for oil spill response
- Ratifying international conventions relevant to oil spill like 1992 Fund Convention, OPRC, OPRC-HNS
- Becoming an official member of ASEAN-OSRAP in the future
- Updating and improving the National and Provincial Oil Spill Contingency Plan
- Master Plan and Oil Spill Response Regulations;
- Promulgation of Vietnamese standards on the environmental quality (soil, water, sediments) after pollution treatment

RECOMMENDATION

- Promulgation of legal documents on oil spill response, cleaning up and restoration
- Promulgation of technical guideline on Net Environmental Benefit Analysis in pollution treatment and oil spill response
- Promulgation of technical guidelines on the application of proper methods for the different area suffered by oil spill
- Developing guidelines for recovery and restoration after oil spills
- Developing a marine oil spill surveillance system, specially for the distant offshore area.

REFERENCES

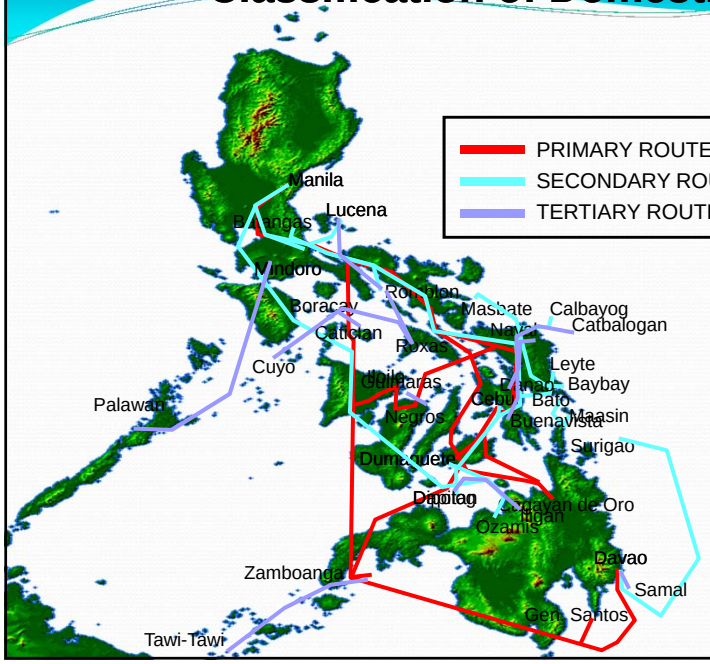
1. Cuong TT, Report on implementation of OPRC in Vietnam, 2011
2. Hieu DH, Presentation on Vietnam National Oil Contingency Plan, 2011
3. Lan LH, Bioremediation of oil spills in Vietnam, 2005
4. Lan LH, Legal aspects of bioremediation of oil spill, 2005
5. http://www.monre.gov.vn/v35/default.aspx?tabid=675&CateID=80&ID=126118&Code=HDJW126118
6. http://www.pvdrilling.com.vn/en-US/Subsidiaries/WHOLY-OWNER/PVD-Offshore/Services/Oil-Spill-Response-Services.htm
7. http://www.pvdrilling.com.vn/en-US/HSEQ/Activities/Oil-spill-response-exercise.htm

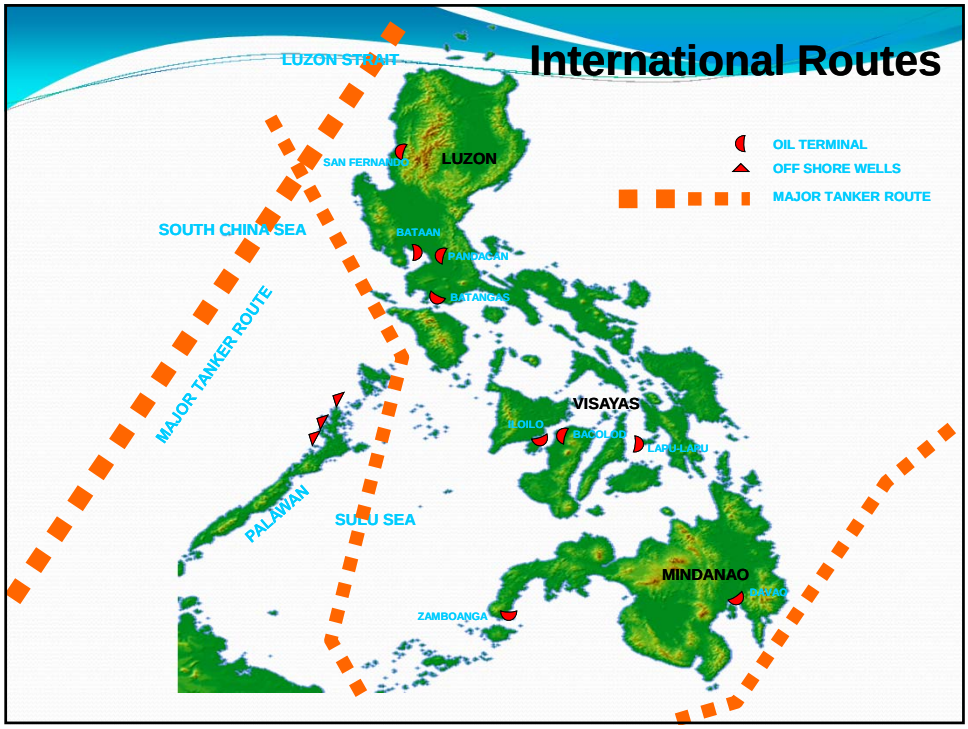
THANK YOU
FOR YOUR KIND ATTENTION!

Hazardous and Noxious Substance: Philippines Country Presentation

Philippine Coast Guard

Classification of Domestic Routes





Major International Chemical Tanker/Vessel Routes

A) Luzon Strait- Bashi Channel - Balintang Channel, and Babuyan Channel;

B) Verde Island Passage-San Bernardino Strait;

C) Mindoro Strait-Basilan Strait - Sibutu Passage;

D) Surigao Strait- Balabac Strait; and

E) Balut Channel

Most Common Transported Chemicals in the Philippines

1) Hydrogen Peroxide
2) Potassium Hydroxide
3) Caustic Soda
4) Polymer Resins
5) Ethylene
6) Paint Materials
7) Propionic Acids
8) Isopropanol

Status of OPRC HNS Convention Ratification:

The Philippines has not yet acceded to the OPRC Convention. However, it has signed Memorandum of Understanding (MOUs) with ASEAN member countries and the government of Japan for Oil Spill Preparedness and Response. Example of which is OSRAP and its spin-off project OSPAR.

Problem encountered

Lack of awareness and appreciation among NGAs and stakeholders on the merits and advantages of the OPRC Convention

PCG Actions to Comply with the provisions of OPRC HNS

The PCG has produced a HNS Manual

PUNONGHIMPILAN TANOD BAYBAYIN NG PILIPINAS
Marine Environmental Protection Command
Coast Guard Base Parola, Muelle dela Industria
Binondo, Manila

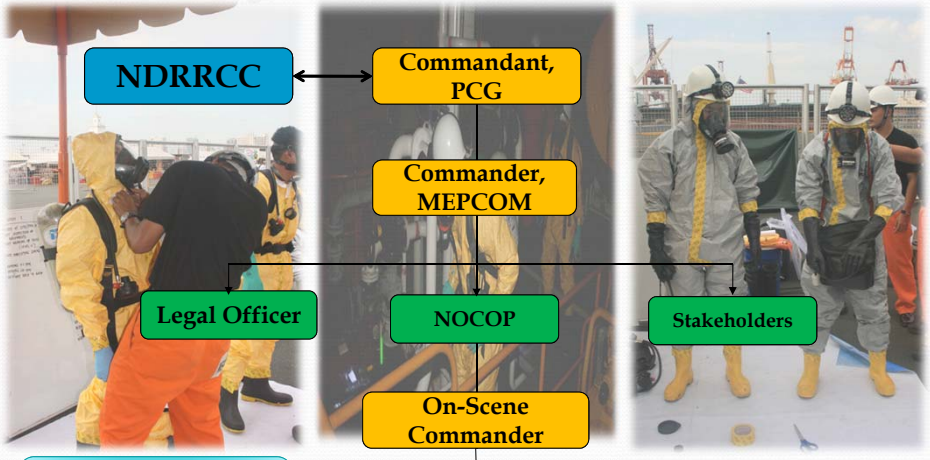
HAZARDOUS AND NOXIOUS SUBSTANCES MANUAL
(DRAFT)

November 2010

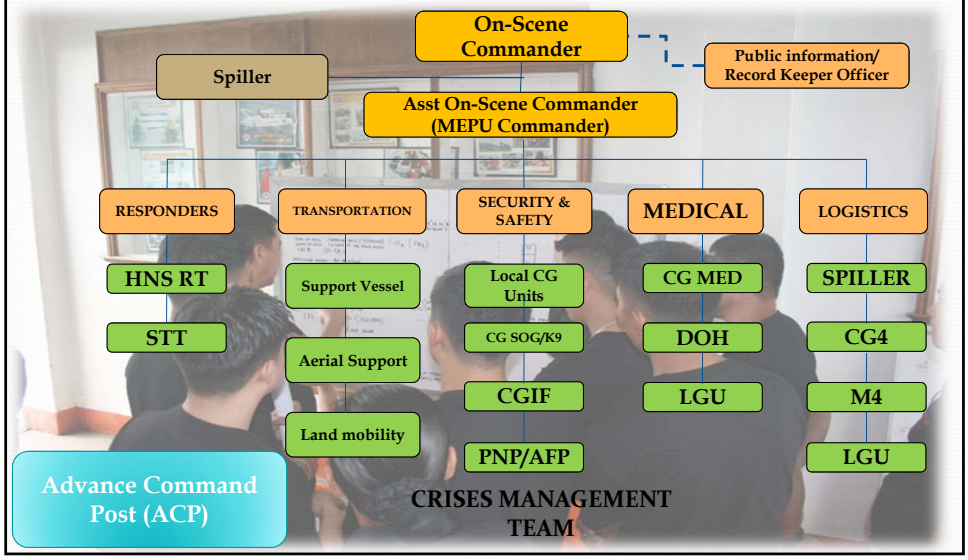
Conducted trainings and qualified 60 new HNS Responders

Conducted trainings and qualified 60 new HNS Responders

Created a National Organizational Structure for HNS Response



Adopted the ICS Organizational Structure for HNS Spills



ACQUISITION OF HNS PERSONAL PROTECTIVE EQUIPMENT

MODEL/DETAILS	DESCRIPTION	QUANTITY
DuPont Tychem F Chemical protective clothing (L)	HAZMAT SUIT C	7 pcs
DuPont Tychem F Chemical protective clothing (XL)	HAZMAT SUIT C	1pc
DuPont Tychem F Chemical (green)	HAZMAT SUIT A	3pcs
DuPont Tychem F Chemical (yellow)	HAZMAT SUIT B	4pcs
DuPont Tychem F Chemical (gray/yellow)	HAZMAT SUIT C	3pcs
HUAYAN breathing apparatus w/cylinder	SCABA	2 case
MSA breathing apparatus	SCABA	2 case
Kitagawa (combustible)	GAS DETECTOR	3pcs
kitagawa (portable)AP-20	GAS DETECTOR	1pc
Riken GX-111	GAS DETECTOR	1set
MSA Multi-Gas Detector	GAS DETECTOR	1set
Full Face Mask CS Shigematzu	GAS MASK	4pcs
Full Face mask for organic vapors CA-606/0V	GAS MASK	2 sets
JIST-8117 (yellow)	BOOTS	7 pairs
Particulate respirator R95		4 boxes
WOLFLITE H-4DCA Hand lamp		2 pcs
Protective gloves Type-12M		6 sets
VITON F-101010 Protective glove (black)		1 pair
KAPPLER Chem tape	CHEMICAL TAPE	1pc
Plastics gloves (blue)		77 pcs
Cotton gloves (white)		2 dozen
Rubberrex super nitrile RNF15 solvent resistant gloves (A)		4 pairs

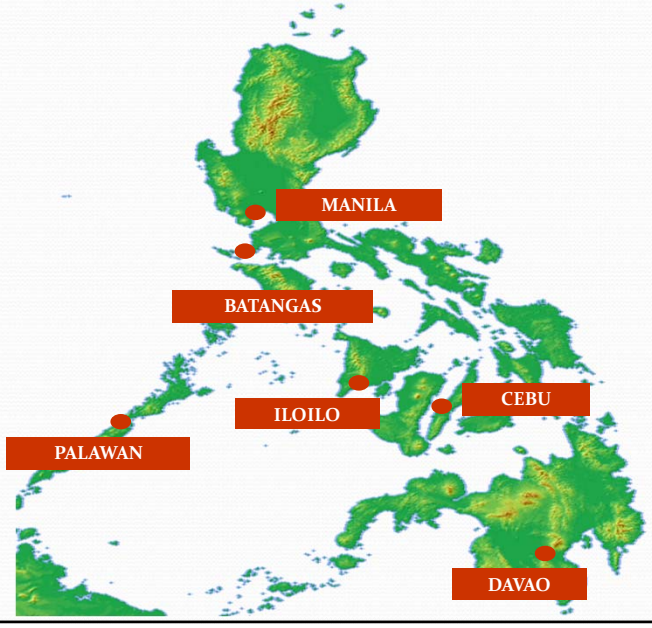
Conducted or Attended the following Trainings and seminars

TRAINING	SCHOOL LOCATION/ SPONSOR	DATE	NUMBER OF PERSONNEL
BASIC HAZMAT SEMINAR	CGETC CGBF Farola Compound Binondo, Manila - MEPCOM	06 March 2008	30
HAZARDOUS AND NOXIOUS SUBSTANCE RESPONSE OPERATION	Bayview, Roxas Blvd Manila - JICA	05 September 2008	30
DANGEROUS, HAZARDOUS AND HARMFUL CARGOES (HAZMAT) WITH CFR [IMO Model Course 1.10]	PHILCAMSAT First Maritime Place, 7458 Bagtican St. San Antonio Village, Makati City - IMO	7-10 October 2008	6
HAZARDOUS AND NOXIOUS SUBSTANCE SEMINAR AND TABLE-TOP EXERCISE ON OIL SPILL RESPONSE OPERATION	Diamond Hotel, Roxas Blvd Manila/ HPCG South Harbor Pier15 Manila JICA AND NIPPON	02-03 September 2009	80
HAZARDOUS NOXIOUS SUBSTANCE OPERATION RESPONSE TRAINING	HPCG Conference Room,South Harbor, Manila / CGRF, pier 13 South Harbor, Manila - JICA	22–26 November 2010	8
HAZARDOUS WASTE OPERATION AND EMERGENCY RESPONSE (HAZWOPER) HAZARDOUS MATERIAL TECHNICIAN LEVEL	HPCG Conference Room,South Harbor, Manila / CGRF, pier 13 South Harbor, Manila MEPCOM AND HARBOR STAR	03-04 February 2011	14

Proposed Five (5) Years HNS Development Program

Activities	2011	2012	2013	2014	2015
1. Personnel Development:					
Basic HNS Training					
Supervisory HNS Training					
Managerial HNS Training					
2. Procurement of HNS Equipment					
3. Formulation of HNS Contingency Plan					
4. Establishment of HNS Response Center	Manila	Cebu / Batangas/ Davao/ Iloilo	CDO/ Zamboanga/Palawan / NLZ/ Bicol	Tacloban/ Tagbilaran	Other Port Areas
5. Establishments of HNS Response Team					
6. Distribution of HNS Manual					

HAZARDOUS NOXIOUS SUBSTANCE RESPONSE CENTERS



Strengthening Disaster Preparedness

- Continue the conduct of manpower training, risk assessment, vulnerability analysis and hazard mapping.
- Innovate networking and resource mobilization by optimizing the involvement of NGOs and local populace.
- Preposition and make accessible equipment, manpower and logistics for immediate response.

Current Initiatives for the ratification of the OPRC HNS Convention

- Creation of a Philippine HNS Contingency Plan
- Conduct of Public awareness activities such as holding symposia, forums, public consultation and training workshops among concerned national agencies and stakeholders
- Legislative liaisoning with the Philippine Senate for the ratification of OPRC Convention

Reported HNS Incident

DATE	SPILLER/SOURCE	PLACE	APPROX QTY in liters	POL/CHEM PRODUCTS
23-Jan-05	Unknown Spiller	Taboo, Jimenez, Misamis Occidental	Undetermined	Vegetable Oil
11 May 06	Chemical tanker Barge BILLY STAR	Bauan Batangas	1,270 metric tons	Sulfuric Acid
23-Sep-06	Mabuhay Vinyl Corp	BBTI Wharf, San Miguel, Bauan, Batangss	420	Caustic Soda
24 Sept 08	Mv Ocean papa	Maralison Island, Antique	80 drums	TDI
24 June 08	MV Princess of the star	Sibuyan, Romblon	Undetermined	Endosulfant
18 Jul 09	Asian Terminal INC (ATI)	Port Area, Manila	Undetermined	Lupranol 2025 (POLYOL)
22-Jul-09	M/V Triumph	Asian Terminal INC (ATI), Port Area, Mla	Undetermined	Nitric acid
26-Feb-10	Barge Kita Kinabalu	Bauan, Batangas	Undetermined	Carbon Monoxide
14-Jul-10	M/T Deborah Uno	Limay, Bataan	Undetermined	Liquified Petroleum Gas (LPG)
16 March 11	MV WMS Rotterdam	Pier 3, Berth 3, Port area, South Harbor, Manila	2960 drums	Ethyl Alcohol

M/V OCEAN PAPA

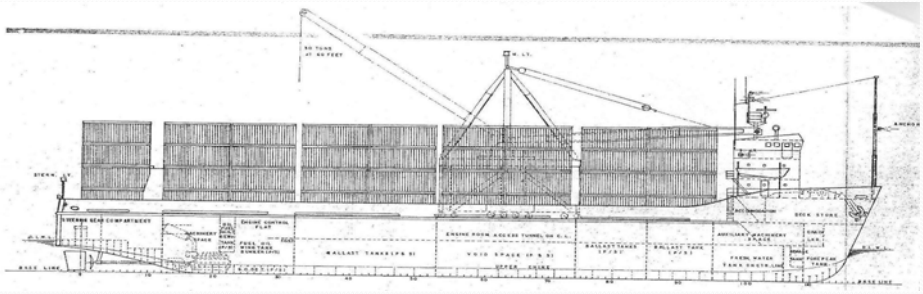
M/V OCEAN PAPA

- 21 June 08 - Oceanic Container Lines reported to CGS Bacolod regarding capsizing & sinking of M/V Ocean Papa at vicinity 100 yards SW off Maralison Island, Antique
- Enroute from Manila to Iloilo
- Cargo on board - 147 container van units of assorted goods
- Oil on-board

  Diesel Fuel Oil - 20,000Liters
  Lube oil - 1,600 Liters

M/V OCEAN PAPA

Owner:	Oceanic Container Lines Inc
Type of Service:	Container cargo
GT:	2,161
LOA:	71.4m
Hull:	Steel
Crew:	28



- Most of the container vans are scattered throughout Maralison Island
- 147 Container Van Units
- 63 CVU located but empty. Contents suspected to have been taken. Some vans were scrapped by the owner

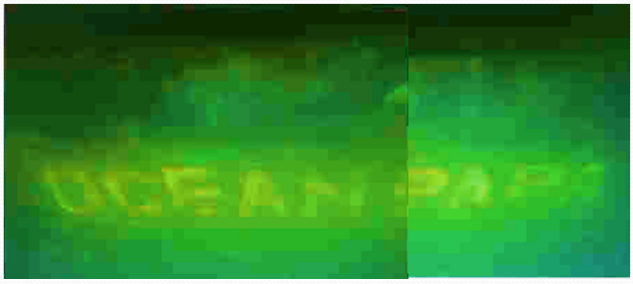
M/V OCEAN PAPA

- 031630H July 08 - Region VI Environmental Management Bureau (EMB) Regional Director Bienvenido Lipayon, and Golden Portals Ind. Inc. (GPII) reported to CGDWV that one of the three (3) containers of GPII contain 20 MT in sealed drums of toxic chemicals named Toluene Di-Isocyanate (TDI), an essential element for the manufacture of foam.
- Of the three (3) vans, HALU3735746 was said to contain TDI

Actions Taken

- Immediately conducted SAR operations on the 2 missing crews using hired motor bancas.
- Private divers were hired by ship owner to verify location of sunken vessel & status of CVUs.
- CG Station accounted and secured all CVUs floating at sea & washed to shores.
- Monitored possible oil leakage and prevented illegal diving operation.
- Conducted information campaign to the coastal communities and local authorities regarding ill effects of TDI.

M/V OCEAN PAPA



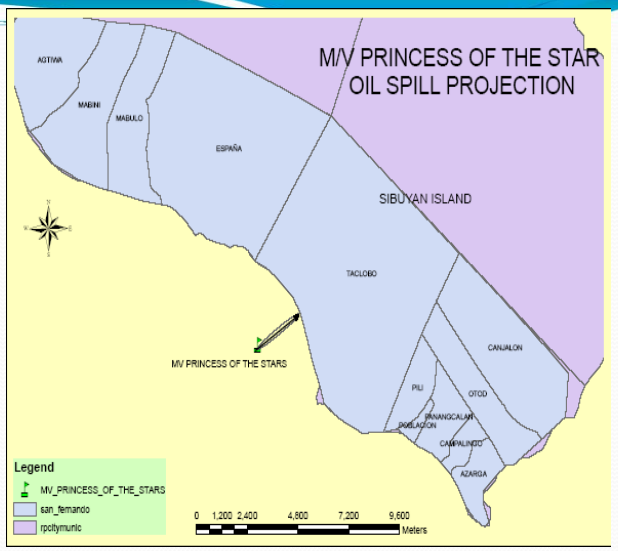
- Conducted diving & survey operations through SONAR equipment & set up 5 floating markers.

- SOG divers & hired Scuba divers of Oceanic continued to conduct search & retrieval operations.

PRINCESS OF THE STARS

Owner: Sulpicio Lines Inc
Year Built: 1981
Former Vessel Name: M/V Ferry Lilac
Type of Service: Passenger Cargo
LOA: 183.72 m
Breadth: 29.10 m
GT: 23,824.17

Sunk off the coast of Sitio Cabitangahan, Brgy. Taclobo, San Fernando, Sibuyan, Romblon at
Lat 12°20” 65’ N
Long 122°32” 63’ E



After 3days, Del Monte Philippines informed the government of the 10 MT endosulfan that was loaded in the M/V Princess of the Stars.

PRINCESS OF THE STARS

- The reported existence of the endosulfan cargo resulted in the suspension of the search and recovery operations.

- Continuous water quality monitoring was conducted to verify if the chemical is released into the marine environment.

Recovery of Endosulfan

On 29 Sept 2008, Salvor started extracting the Endosulfan from the vessel and transferred the package into 200 liter steel cap drums.

Transport of Cargo

HNS Response Team inspected the cargo before the transport.

The Endosulfan was then shipped back to Batangas Port prior to its transport to an agro chemical treatment facility.

End of Presentation

THANK YOU AND GOOD DAY!

Ⅲ　成果と今後の課題

Ⅲ 成果と今後の課題

2010 年からの 4 年間、アセアン各国における HNS 流出事故対応体制を強化することを目的として、IMO が OPRC-HNS 議定書において締約国に求める HNS 国家緊急時計画の策定支援のためのワークショップを開催し、事故対応に必要な知識の普及と知見の共有に取り組んできた。

当初は 3 か年事業としてスタートし、その間にフィリピン、マレーシア及びミャンマーが、自国の HNS 国家緊急時計画案を策定するに至り、一定の成果を見たところであったが、一方で、政府の方針変更その他の国内事情により、計画策定を断念あるいは方針転換せざるを得ない国（タイ、ブルネイ）があった。

そのような「ゴール（計画案策定）を目前にして届かなかった国」を強力にサポートし、ゴールへと導くために一年間の事業延長を決め、海洋汚染防止の分野において経験豊富であり指導力を有するフィリピン・マニラにおいて本年度ワークショップを開催した。

初参加となるラオスを含むアセアン 10 か国の実務担当者が一堂に会した本年度のワークショップでは、我が国及び前述の緊急時計画案完成国による計画の説明に主眼を置いたが、主催機関であるフィリピンコーストガードの円滑な議事進行も奏功し、質疑応答においては非常に活発な意見交換がなされた。

タイ、ブルネイにおいては、現状としては、ゴールへの到達は成し得ていないが、ベースとなる計画案が存在することから、政府の方針さえ決まれば、すぐにでも動き出せる状態にあり、今後の進展を注視していきたいと考える。

HNS 対応の分野におけるアセアン各国における人材、経験等の不足は否めず、また、アセアン各国間における HNS 対応への差は顕著であり、今後の海洋汚染防止体制の充実・強化のためにも、更なる支援が必要であることには変わりない。

一方で、4 年間に亘る一連の事業を通じて、同じ者が繰り返し参加している国もあり、専門家としての知識、能力等が着実に向上していることが伺える。

そのような延べ 150 名に及ぶ参加者が自国へ持ち帰った知見と、参加者間で構築された人的ネットワークが、自国内のみならずアセアン国間の協力関係に発展することにより、事案発生時における、専門家の派遣、資機材の共有等、アセアン地域における国際的な連携協力も実現可能となる。

今後は、本事業により構築した各国担当者との連絡体制を維持し、情報を共有しながら、アセアン各国において、更なる人材育成及び体制整備が自らの手で図られることを期待していくこととしたい。

公益社団法人　日本海難防止協会

東京都港区虎ノ門一丁目１番３号
〒105-0001　　磯村ビル 6F

ＴＥＬ　０３（３５０２）２２３１
ＦＡＸ　０３（３５８１）６１３６