SANCHI: The ITOPF Perspective

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TANKER SPILLS

Tanker Spills: 7 tonnes - > 700 tonnes

Number of spills


78.8 45.4 35.8 18.1 6.6

>700 tonnes 7-700 tonnes Average number of spills per year by decade
**Recent Spills**

18 incidents in 12 months

- Tanker = 8 (4 Cargo spills)
- Non-Tanker = 10 (8 Bunker spills)

**Sanchi Incident**

- En route - Iran to South Korea
- Cargo - 111,388 MT Condensate
- Collision with CF Crystal
- Roughly 160 NM off Shanghai
- Breach of cargo tank & explosion
### CARGO ONBOARD

- Condensate from South Pars Gas Field
- Two products: Phase 19 and Phase 12
- Specific Gravity: 0.7286 & 0.7338
- Vapour Pressure: 11.8 psi (Gulfaks Crude: 6 psi)
- Distillation: 50% at 123°C / 90% at 270°C
- Both classed as non-persistent (Fund Criteria)
WHAT IS CONDENSATE?

- Low-density volatile liquid hydrocarbons occurring with natural gas
- Extracted alongside crude oil or separated from natural gas
- Low viscosity — consistency of water — and light in colour
- High value ‘crude’ oils — ‘natural gasoline’ — less refining needed
- Used in petrochemical industry and to dilute heavy crude oils
- Produced worldwide — Russia, Middle East, USA, Australia, North Sea

CONVENTIONS

CARRIAGE
- MARPOL Annex I — carried in crude oil tankers

COMPENSATION
- Non-persistent oil — CLC and Fund Conventions do not apply
- Condensate would be covered by HNS Convention when in force
- Bunker spills covered by Bunkers Convention (in contracting states)
• ‘WEATHERING’ model run to predict fate (ADIOS2)
• Used local weather conditions, ambient sea state
• Surrogate oils used with similar specifications:
  - Maui Condensate (matched °API)
  - Algerian Condensate Citgo (matched distillation)
• Instantaneous and continuous release scenarios
• Results: 70-85% evaporation ≤15% dispersion in 5 days
• Trajectory modelling also carried out using MOTHY
INITIAL RESPONSE

- RESPONSE LED BY CHINA (MOT, MSA, CRS)
- FOCUS ON SAR FOR CREW AND FIRE FIGHTING
- PATROL VESSELS ON SITE FOR ALL THREE COUNTRIES
- SHANGHAI SALVAGE AND NIPPON SALVAGE ON SITE
- AERIAL SURVEILLANCE: SOA, JCG AND KCG
- EXCLUSION ZONE IN PLACE AROUND CASUALTY
SINKING

- Violent explosion at around noon 14th January
- Vessel engulfed in flames - response pulled back
- SANCHI eventually sank ~16:45 to depth of 110 m
- Fire continued burning till morning of 15th January

FUEL OIL SPILL

SOA
OIL SPILL RESPONSE

- LED by MSA, observed by JCG, KCG
- Numerous vessels involved (>60?)
- Chemical/mechanical dispersion

TRACKING THE SPILL

COSMO-SkyMed
SAR (Synthetic Aperture Radar)
2018-01-17
21:11

Interpretation in GIS

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FORECASTING

Oil Drift Modelling – using GNOME (NOAA) and satellite image acquired on January 20th

Prediction for 27th January 2018

Oil position:
- high probability
- probable

SHORELINE IMPACTS

Takara-jima

STOPF
PRIORITISATION

- LED BY JCG & LOCAL AUTHORITIES
- P&I CLUB APPOINTED CONTRACTORS
- GUIDED & OVERSEEN BY ITOPF + SURVEYORS
- CLEAN-UP WELL-ORGANISED + EFFICIENT
- OPERATIONS CONTINUED UNTIL JUNE
VOLUNTEERS

CLEAN-UP ISSUES
CLEAN-UP ISSUES

RECOMMENDATIONS
SANCHI: KEY ISSUES

- Media reports – exaggerated impacts
- Location – far offshore, transboundary
- Politics – influence of central government
- Focus – on condensate, but actually HFO spill
CONDENSATE RESPONSE?

- Similar response to other non-persistent oils
- Priority: risk of fire, explosions, exposure to vapours
- Short term presence in marine environment – clean-up?
- Lack of clean-up techniques with technical merit
- Some strategies actually increase risk - containment

ENVIRONMENTAL EFFECTS?

- Sampling & analysis by SOA in China & MoE in Japan
- Details of analysis, results and conclusions unclear
- Preliminary reports suggest limited (if any) impacts

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LESSONS LEARNED?

- Major incidents still happening
- Transboundary spills more complex
- Sharing info + joint planning needed
- Multiple islands = difficult logistics
- Cooperation => effective response
- Fairly minor environmental impacts