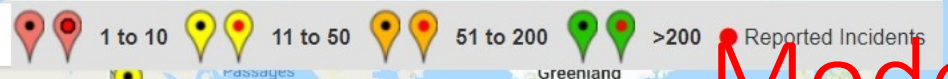




STS operations in Chittagong: Lessons learned

Modern challenges to STS operations



- Ⓢ While regulated, STS is remaining a challenging activity and “grey” areas still exists – Annex II STS, bunkering, double banking
- Ⓢ Locations – “traditional” and new
- Ⓢ Complicated networking in certain areas – lack of boats, tugs, equipment
- Ⓢ Lacking of understanding of requirements – “precedent” law
- Ⓢ Lacking of following legal requirements – “precedent” law



Preamble

- ⑤ Vessel was fixed to discharge 15.5k RBD Palm Olein in Chittagong, Bangladesh
- ⑤ Initial fixture do not specify discharging option, on a later stage it was announced that it will be via lightering by “barges” at outer anchorage of Chittagong

Initial screening

- ⑤ Upon receiving nominations, BSM trigger screening process as per Company Policy
- ⑤ Screening reveal that “barges” in fact are small coastal tankers
- ⑤ There was no any P&I Certification provided
- ⑤ There was no proper documentation provided to evaluate daughter vessels compatibility and suitability
- ⑤ There was no appropriate certification and objective evidences provided that STS equipment met industry requirements

Looking for the solutions

- ⑤ After a sequence of events and communication between the time charterers (T/C) and cargo receivers (C/R), the vessel had delayed the cargo discharge to various DV vessels, due to absence of important information that would enable owners to provide their consent (clearance) and thereto proceed with the planning of the needed STS operations, as per SMS requirements.
- ⑤ In the meantime, Charterers were assessing the option to secure a jetty. However, the chain of correspondence slowed down (cargo receivers and their agents) the communications and consequently the clearance procedure of Owners could not take place.
- ⑤ In the absence of positive evidence, concerning the suitability of DV vessels, after a sequence of events and exchange of information, BSM requested from DYNAMARINE to attend the lightering operations and consult the Master on risk mitigating measures that would ensure safety, in-line with best industry practices.

Looking for the solutions

- ⑤ Notwithstanding the efforts of the BSM, the result was still that there was not sufficient information supplied in order to follow their screening procedure as outlined in the SMS. In this respect, BSM had engaged DYNAMARINE to send a representative to perform the following:
 - ⑤ a) An assessment of the STS location;
 - ⑤ b) An assessment of the available STS equipment;
 - ⑤ c) To summarize all the available information, highlight the areas of concern to the Master and
 - ⑤ d) Propose risk mitigation measures for Master's consideration and final decision.

Looking for the solutions

- ⑤ During operations and in view of absence of data from the DV vessels, the assessment team on board, consisting of DM representative along with charterers representative, the Master, C/O and other deck crew undertook several toolbox meetings in order to assess the various elements arising from the shape, characteristics, crew competency in relation to available STS gear and weather conditions, as applicable.
- ⑤ The STS operations completed with delays, without any incident with no impact to the vessel, crew, cargo, equipment or the environment.

Commercial pressure

- ⑤ When the discharge orders via STS were sent by the charterers, the Owners of the MV requested the following documents/information in order to perform their screening and compatibility assessment on the candidate DVs, available STS equipment and location:
 - ⑤ • Updated last version of Q88 or vessel's particulars;
 - ⑤ • Last Class status report;
 - ⑤ • P&I Entry certificate;
 - ⑤ • IOPP Form B;
 - ⑤ • Date of STS Operation;
 - ⑤ • Place of STS OPERATION;
 - ⑤ • Whether STS operation is to be conducted at anchor or underway;
 - ⑤ • Participating vessel's displacement;
 - ⑤ • Nominated STS service provider;
 - ⑤ • Mooring plan;
 - ⑤ • Crew matrix;
 - ⑤ • Confirmation that the captioned deficiencies are rectified.

Commercial pressure

- ⑤ Following the e-mail, correspondence, it was concluded that the requested information was not available for any of candidate DVs. BSM had requested the following information:
 - ⑤ The name of the nominated vessels assigned to conduct the possible STS operation;
 - ⑤ Clear Photos of the nominated vessels;
 - ⑤ Mooring master (name and qualification
 - ⑤ STS provider (Contact details);
 - ⑤ STS operation to be carried out in a sheltered area;
 - ⑤ Port Authority confirmation that any reported deficiencies related to safety are closed to the satisfaction of the industry requirements;
 - ⑤ Port authority to monitor the vessels to conduct the operation under their authority and supervising;
 - ⑤ LOI to be submitted on Club's wording;
 - ⑤ Adequate and proper fendering - 4 fenders required;
 - ⑤ Tugs assistance;
 - ⑤ Confirmation that the operations will be performed during day time. (Mooring /discharge /unmooring);
 - ⑤ Communication protocols in English;
 - ⑤ Reminding about Master's overriding authority to abort the operation on his screening and risk assessment.

Commercial pressure

- ⑤ Following the e-mail correspondence, BSM profoundly concluded that the requested information was not available for any of candidate DVs as well.
- ⑤ After that, Owners and Charterers have jointly agreed to appoint a P&I inspector to visit Chittagong in order to inspect some of the nominated vessels and provide his expert feedback based on OCIMF guidelines, industry best practices and actual condition of candidate's vessels. Two DV's were inspected. Both vessels had statutory certification issued by Bangladesh local authorities, without an STS Plan onboard or any notation related to "lightering vessel".

Commercial pressure

- Following the e-mail correspondence, several attempts were applied to managers and Master to proceed for STS “as it is” stating that BSM is unreasonably strict.
- It took several conference calls and chains of e-mail with Charts to refresh statutory and industry requirements:
 - MARPOL Requirements on STS
 - Type of Cargo – Applicability of OCIMF Guidelines
 - Industry Guidelines & Best Practice – OCUMF STS guideline
 - Shipowners obligations towards ensuring safety

Commercial pressure

Ⓢ Shipowners obligations towards ensuring safety:

Ⓢ *A number of identified information is needed to assess compatibility and suitability of the STS operation. BSM and the Master have an obligation, inline with IMO regulations to exercise their due diligence and charterers have to assist towards this direction. BSM and the Master, did not reject the STS operation, on the contrary they showed willingness to co-operate, without compromising safety though.*

Ⓢ Ship Compatibility assessment:

Ⓢ *Compatibility assessment is related to the proper rigging of vessels, alignment of manifolds, assessment of freeboards and rate of change, Mooring operation, primary and secondary fenders and rigging.*

Ⓢ Risk assessment

Ⓢ Provision of information to the Master

Ⓢ STS organizers' duties as per OCIMF guidelines

Ⓢ Location Assessment

STS equipment

- ⑤ Upon arrival to Chittagong, an inspection to the proposed fenders took place by DM rep. The concept of the inspection was to assess the size and condition of fenders, in line with applicable requirements
- ⑤ According to the displacement of the MV, as well as to the displacement of the nominated DV, the fenders should be three in quantity and size 2500x5500mm. The process of fender selection is relevant not only to the vessels' displacement but should also take into consideration the physical shape of DV's, parallel body, freeboard assessment etc. For this reason, during the compatibility assessment, the relevant vessel drawings are inspected and assessed accordingly.
- ⑤ It is recognized that in certain trades in many regions of the world, fenders are provided in accordance with local customs and practices.

STS equipment



STS equipment

- Ⓢ The fenders evidenced at the yard were in a substandard condition. Condition of fenders included, without being limited to the following remarks:
 - Ⓢ a) The fenders were not YOKOHAMA, as mentioned at the relevant certificate provided by the supplier;
 - Ⓢ b) The size shown at the certificate was incorrect;
 - Ⓢ c) The test pressure 200kPa shown at the certificate is unreasonable for the condition of fenders;
 - Ⓢ d) The rubber connection seams of the fenders were in substandard condition;
 - Ⓢ e) Fender netting with associated chain and tyres was in substandard condition and maintenance should take place prior to deploying such fenders to operation;
 - Ⓢ f) The safety valve and associated ending plate of some fenders were covered with rust, without any recent maintenance evidence;
 - Ⓢ g) Fenders were not stored in a safe and proper place;
 - Ⓢ h) The fenders examined did not comply with ISO requirements and hence did not satisfy the requirements of (ICS/SIGTTO/OCIMF/CDI, 2013) section 9;
 - Ⓢ i) The date of inspection of fenders did not correspond to the actual evidenced condition;

Assessment

- ⑤ From day 4 to 9 April 2019 eight STS operations took place at the anchorage BRAVO in order to offload cargo quantity of 15581 mt palm olein. All STS operations took place in an arbitrary sequence of vessels which was unknown to the owners during the planning phase.
- ⑤ The main issues that had to be resolved prior to the STS operations were the following:
 - ⑤ 1. An assessment of the STS location, required for the Risk assessment
 - ⑤ 2. Preparation of a JPO by the Master
 - ⑤ 3. Preparation of a framework to accommodate the mooring plan after assessing the mooring arrangement of DV vessels, upon arrival and prior to actual mooring;
 - ⑤ 4. Provision of fendering of MV and assessment of possible risk mitigating measures;
 - ⑤ 5. Perform continuous toolbox meetings with the senior officers, in order to assess the evidence, given the absence of any data for the DV vessels;

Assessment

- ⑤ The assessment of the location was prepared by DYNAMARINE in conjunction with information from local agents in Chittagong. Information from the Port authorities was also obtained through the agent. In general, the outcome is that proper and detailed planning is required from the participating stakeholders, towards preparing the STS operation;

Operational details

⑤ *Mooring*

⑤ The mooring pattern followed on all DV's was the following:

- ⑤ Three headlines
- ⑤ One spring FWD
- ⑤ Two stern lines

The DVs deployed their lines only. The condition of their lines was in fair condition. No mooring lines were deployed from the MV since the condition of fairleaders of DV were in substandard condition. In case it would be needed, for safety reasons, additional mooring lines would have been deployed.

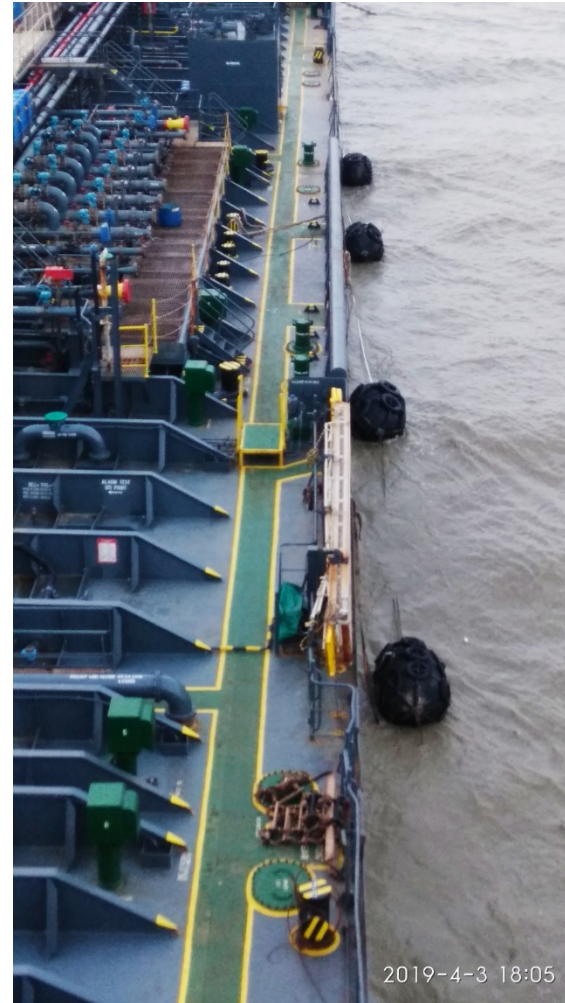
The above mooring pattern was not according to OCIMF guidelines but was assessed as adequate on the basis of applicable and forecasted weather conditions. The forecast was monitored continuously with the assistance of DYNAMARINE main office who supported the team onboard the vessel with a continuous stream of information.

Operational details

⑤ *Fendering*

- ⑤ The parallel body of the DVs was equipped with small track tires. Owners insisted in the provision of proper pneumatic fenders, in order to be utilized at the parallel body of the MV. Such fenders arrived and deployed
- ⑤ The Fendering system was the following:
 - ⑤ Pieces: 4 baby fenders size utilized as primary fenders in order to match the parallel body.
 - ⑤ Size: 1.2mtrs Diameter x 2mtrs Length each fender
 - ⑤ Type: Pneumatic 50kPa
 - ⑤ Manufacturer: EVERGREEN
 - ⑤ Inspection standards: ISO 17357:2002
 - ⑤ Last inspection date: 16/08/2017

Operational details



Operational details

⑤ *Cargo hoses*

The hose arrangement was the following:

- Strings: 3 strings formulated a composite hose;
- Size: 6" x 9L x3(strings) , overall length of the hose: 27mtrs;
- Type: Composite;
- Cover: Plastic material;
- Max. working pressure: 16 Bar, as per provided hose description;
- Last time inspected: 09/01/2018;

Operational details



Operational concerns

- ⑤ Findings are the following:
- ⑤ a) weather conditions were not a major issue basis on past weather data analyzed, apart from localized events with gusts and visibility restriction due to heavy rain;
- ⑤ b) Attention is drawn with respect to the very strong current and the dragging anchor effect at the outer anchorage particularly during lightering operations. These concerns had been pointed out on various e-mail exchange via commercial channel and also reflected on a Port authority circular

Operational concerns

- Ⓢ c) There are uncertainties concerning the provided services by third parties, including the quality of fenders;
- Ⓢ d) traffic in the location is an issue and underway casting off cannot take place in case of emergency;
- Ⓢ e) The Location is not considered as sheltered; however, it is within the port limits of Chittagong; Weather limitations are subject to vessel size. In any case the service provider, pilot, STS Superintendent and the Masters of the engaged vessels should agree on the maximum weather criteria;

Operational concerns

- ⑤ f) The port authority has not established any specific guidelines related to STS operation. General navigational guidance is provided related to the anchorage areas;
- ⑤ g) Traffic in the area could not permit the use of the main engine in case of an emergency situation. In this case and in the absence of any information regarding the location, the use of tug would be deemed necessary for emergency assistance.

Operational concerns

- ⑤ h) The safety culture of the DV's crew does not meet the international requirements and industry best practices. ;
- ⑤ i) The DVs approach from STBD quarter and was fastened to the STBD side of MV. All DV's' approached in the same manner, and the maneuvering overall was satisfactory apart from steep angle approaching which may cause steel to steel contact

Conclusion

- ❶ The STS location and nominated vessels did not comply with OCIMF guidelines, and there was no information available from the charters to allow owners to assess the potential hazards.
- ❶ Participating vessels were not considered as barges, on the contrary they were inland/ costal tankers with a GT over 500 tons.
- ❶ The infrastructure in the Chittagong location requires attention, as it not a matured STS location and does not have the necessary stakeholders and technical equipment to support STS operations.
- ❶ Charterers developing trade in the location, need to devote resources towards providing information to owners, in order to allow them to exercise their due diligence, in line with best industry practices and ISM regulations.

Conclusions

- ⑤ On the basis of the STS location assessment, as well as the lack of available positive evidence from the DV vessels, a continuous assessment should take place by an STS expert who has good understanding of hazards and risk mitigating actions. Basis on the fact that there was no STS service provider available at Chittagong as well as a POAC or Mooring Master, the existence of an expert is, by itself, a risk mitigating action that the charterer could provide as a resource, acting on behalf of the owner.
- ⑤ STS operations require proper and detailed planning and as such, Managers should conduct a detailed on-site assessment utilizing existing industry tools and practices available within (ICS/SIGTTO/OCIMF/CDI, 2013).

Proposal for future STS operations at Chittagong

Ⓢ Chittagong is an area with uncertainties in STS, since the local infrastructure and resources require advanced planning. For future STS operations the following points should be considered:

Ⓢ **For nominated vessels:**

Ⓢ I. The charterer should ensure via local channels that as a minimum, the following information for the nominated vessel should become available;

- Ⓢ a) Vessel particulars, including loadline details;
- Ⓢ b) A general arrangement plan or equivalent;
- Ⓢ c) Proof of insurance;
- Ⓢ d) Proof of seaworthiness;

Proposal for future STS operations at Chittagong

- ⑤ II. Operator should undertake a suitability and compatibility analysis subject that data of point (I) are available. In case such data cannot become available a person with certified experience in STS operations should be appointed to attend the operations;
- ⑤ III. Availability of Fenders should be ensured for the actual operation. Apart from Primary fenders, Secondary fenders should also be ensured, to protect higher freeboard surfaces;
- ⑤ IV. JPO and Mooring plans will have to be prepared prior to the STS along with relevant toolbox meetings with senior officers and key deck rating personnel.
- ⑤ V. Due to the size of available local vessels, STS operations could take place on consecutive basis. Proper planning for work-rest hours to take place in advance and operation halted if violations are occurring.

Proposal for future STS operations at Chittagong

Ⓢ For the anchorage:

- Ⓢ I. The STS location assessment should be updated accordingly to include relevant information as deemed necessary;
- Ⓢ II. The location assessment is a “must” process and should take place well in advance of the STS operation. Owners’ Protective Agent or charterers’ agent to assist in the collection of required information;
- Ⓢ III. STS Mooring operation should not take place during darkness hours. However this is subject to Master’s assessment and final approval.
- Ⓢ IV. Assessment of currents should take place, prior to each STS operation. The sea current in the areas very strong and poses continues load onto the mooring lines and anchor system of MV;



Thank you

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