Telephone: 23728867
Email:prt-west@indiancoastguard.nic.in

CG Pollution Response Team (W)
Loco/Boiler Shed, MbPA Workshop
Narsu Vithoba Nakhwa Marg
Mazgaon, Mumbai – 400 009

700/Jaigad

31 Jul 24

The Commander
(for RFEO)
Headquarters
Coast Guard Region (West)
Worli Sea Face PO
Mumbai- 400 030

ASSESSMENT REPORT ON GROUNDING OF VESSEL: MV JSW RAIGAD

1. Refer to CGRHQ(W) fax 782/1/JSW RAIGAD dated 27 Jul 24.

2. A team of following Officers & Personnel visited the incident site on 28-29 Jul 24 at Alibaug to assess the situation and oversee the PR strategy:-

(a) DIG MM Syed
(b) Comdt (JG) Abhinav Srivastava
(c) CB Yadav, P/Adh(RP)
(d) Bikash Bagchi, P/Adh(ME)
(e) DR Kadam, FLO

3. **Incident Summary**. MV JSW Raigad had run aground in position 18 Deg 38.45N 072 Deg 50.59 E (227 Revdanda Lt. 02) at 1315 hours on 25 Jul 24. The crew comprised of 14 Indian nationals who were rescued by ICG helicopter on 26 Jul 24. The vessel is holding 16 KL of marine diesel oil (MDO) and 35.85 MT of heavy fuel oil (HFO) in the tanks.

4. **Initial Assessment**.

(a) The team reached at the incident site at 1230 hours on 28 Jul 24 for initial assessment of the situation. The representatives of owners and Salvage Company were available on site. The P & I Club has hired M/S BMC Lines, Dubai for shoreline clean-up in case of any spill and they have further sub-contracted M/s Viraj Clean Sea Enterprises, Navi Mumbai on 27 Jul 24. Representatives of both M/s BMC Lines and M/s Viraj Clean Seas Enterprises were also available on site. Further, the Tehsildar, Police officials and MMD representative were also present.

(b) It was observed that the vessel is grounded at a distance of approximately 400 m from the closest rocky position ahead of the beach, which was exposed during low tide. The vessel is grounded outside the intertidal zone and due to the prevailing South West monsoon, conditions are not conducive for approaching the vessel in small fishing boats during periods of high tide. The topography of the area around the vessel is also suspected to be rocky which would hamper salvage operation requiring any other vessel to close the casualty. Both anchors of the vessel are down and swung across to the starboard and it was reported that the vessel has not shifted position since running aground.

(c) The details of POL tanks with capacity and Reserve On-board as provided by the salvor is as follows:-

Ser	Location of Tank	Capacity (T)	ROB (T)
Tanks in Bottom Platform			
(i)	HFO storage Port	89	31
(ii)	HFO storage stbd	89	Nil
(iii)	Bilge holding Tank	8.89	03
(iv)	Dirty oil Tank	5.59	4.9
(v)	Sludge Tank	5.59	3
(vi)	MDO storage Tank	45	12
(vii)	LO storage Tank	4	Nil
(viii)	Sewage Tank	8.5	5.8
Tanks in Upper Platform			
(ix)	HFO settling Tank	8	5
(x)	HFO service Tank	8	1
(xi)	MDO settling Tank	6	2
(xii)	MDO service Tank	1.8	1

5. **Conduct of Salvage Operation**. The Owners, M/s JSW has signed LOF with M/S T & T Salvage, LLC on 27 Jul 24 for undertaking the salvage operation. The Salvage Company had embarked a team of 08 members comprising of Salvage Master and one Technician and six locals on-board MV JSW Raigad on 23 Jul 24 to assess the location of POL tanks, status of flooding on-board, check sounding of tanks and ensure security of the vessel. The course of action of the salvor is as follows:-

(a) Layout 600 m of solid Neoprene boom around the ship in order to contain any oil spill from ship

(b) Position following equipment onboard MV JSW Raigad to initiate fuel transfer: -

Sl.	Equipment	Quantity
(i)	Hydraulic Power Pack	02
(ii)	PD 75 Oil Transfer Pump	02
(iii)	Gear Pump	02
(iv)	Centrifugal Submersible pump	01
(v)	Selwood Pump	01
(vi)	Hydraulic Hose	15 m
(vii)	Thunder Hose 2	150 m
(viii)	Absorbent Pad	02 box
(ix)	Absorbent boom	1200 m
(x)	Wilder Pump with hoses	02

(c) Position an 82 MT capacity floating barge at a suitable location nearest to the vessel (between vessel & shore) for transferring HFO & MDO on the barge. Further, IBC tanks of 01 ton capacity each will be utilised to transfer oil from barge to the disposal site with aid of movable cranes on the beach.

(d) The rep of Salvor has also informed that all precautionary measures will be instituted to avoid any oil spill. The floating barge being deployed is having a gauge thickness of 12 mm and additionally sand bags will be wound in the bottom of the barge to avoid any damage to hull bottom due to the rocky shoreline. The barge position will be secured by 04 anchors weighing 200 kg each.

(e) The Salvage agency has estimated that it will take approximately one week to transfer the fuel from the vessel to the shore.

6. **Pollution Response Arrangements**.

(a) M/S Viraj Clean Seas, appointed for shore line clean-up in case of emergency, has also started to mobilise its equipment at site on 29 Jul 24. The list of equipment available presently is as follows:-

Sl.	Equipment	Quantity
(i)	Brush Skimmer with Hyd. Power Pack	01
(ii)	Wilder pump with accessories	01 set
(iii)	Absorbent Boom	50 m
(iv)	Absorbent packs	200 m
(v)	Absorbents rolls	200
(vi)	PRP	25 kg
(vii)	Fawda	10
(viii)	Showel	10
(ix)	Cotton waste	50 kg
(x)	Back pack spray system	02
(xi)	Foam filled boom	150 m
(xii)	Sorbent boom	300 mt.

(b) M/S Viraj Clean Seas has also kept a team of 15 personnel with all protective and requisite gears required for shoreline clean-up operation ready to respond to any situation if oil reaches shoreline.

7. **Assessment by CGPRT (W) Team**. The team from CGPRT(W) assessed the site and observed following:-

(a) **Accessibility to Site for PR Equipment Transportation**. The shortest approach road leading to the site is adjacent to District Court, Alibaug having a width of around 10 m with restriction for manoeuvrability of long trawlers and heavy cranes. The local administration has been requested to cordon of this road as it is being used for parking vehicles by visitors to the District Court.

(b) **Vulnerable Areas**. The CGPRT (W) team analysed the OSCP of Revdanda Port to identify the vulnerabilities in the area and adjoining surroundings. Since, the ship ran aground very near to Alibaug beach, in case of any oil spill, the shoreline will be immediately affected. List of vulnerable areas along with location as per OSCP is as follows: -

(i) Sensitive Zones. The priority for protection of shoreline zone is to protect those areas which have great environmental and social importance and following figure in the list:-

(aa) Mangroves on the Eastern side of the Salav Bridge.
(ab) Thin vegetation of mangroves in south of jetty.
(ac) Areas behind Rat island.
(ad) Mud flats on the western side of the Revadanda Fort.

(ii) Alibaug Beach. The beach is a popular tourist spot and accommodates various restaurants and hotels along with multiple leisure activities at the beach.

(c) **Probable Fate of Oil if Spilled and Effects**.

(i) The possibility of spillage of MDO is higher compared to HFO as the MDO tank location is in engine room which is presently flooded. Since, MDO is volatile, it would evaporate quickly, however if it hits the shore, the diesel oil would damage the fragile ecosystem before it evaporates and would cause long term damages to the highly sensitive mangroves which is located around 06 miles in inner creek location of Alibaug.

(ii) The Ship is carrying around 35.85 MT of HFO onboard, majority of which is stored in aft port storage tank (31 MT) which is reportedly above water line and accordingly likelihood of spillage of HFO is comparatively lesser compared to MDO. However, in case of any spillage of HFO, the environmental effects will be profound as HFO being a persistent oil with

high viscosity, will have lesser rate of evaporation also have a smothering effect on water. Due to the strong wave action because of prevailing winds, emulsification of the HFO will be accelerated thereby increasing the overall volume of spill when mixed with sea water and debris.

8. **Advisories Issued**.

(a) A meeting was chaired by Sh. Kishan Narayanrao Jawale, IAS, at the Collectorate on 29 Jul 24. The meeting was attended by Sh. Sandesh Shirke, RDC Raigad District, team of CGPRT(W), along with Comdt R Dhaulakandi, Station Commander, ICGS Murud Janjira and reps from M/s JSW, M/s T & T Salvage, M/s BMC Lines & M/s Viraj Clean Seas. During the meeting the present situation was assessed and probable threats to shoreline and ecosystem were also discussed. The rep of M/s T & T Salvage informed about future course of action towards fuel transfer and preparedness in case of oil spill.

(b) During the meeting DIG MM Syed, Oi/C, CGPRT(W) apprised the gathering about the ill effects of oil spill quoting previous instances of oil spill from MV Wakashio in Mauritius and Ennore oil spill and pressurized the owner & the salvor to show more agility in their actions and submit a date-wise detailed action plan to respond to the situation. The Officer also spoke about the sensitive mangroves located nearby and recommended to undertake protective booming around the sensitive zone as a precautionary measure. Further, representatives of M/s Clean Seas were requested to augment the mobilisation of shoreline cleanup equipment on site.

(c) The District Magistrate instructed the owner and the salvor to take all appropriate actions towards prevention of Marine Environment and warned them that appropriate action under Disaster Management Act, 2005 will be initiated against them in case of any complacency in dealing with this emergency.

(Abhinav Srivastava)
Commandant (JG)
Technical Officer
for Officer-In-Charge