

Unrep Hazard



Prompts Change in Ship's ORM Planning

Navy photo by PH1 Aaron Ansarov

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It started out as a routine underway replenishment in the Middle Pacific between our cruiser and a T-AO. Because this was the first unrep we had conducted in four weeks, everyone up and down the chain of command was talking safety and discussing operational risk management (ORM) to ensure the event went smoothly.

At the time we rendezvoused, the seas were building but still were within limits for the evolution—and we needed the gas! An experienced conning officer brought our ship alongside the oiler without difficulty. Soon, the lines were passed, and the rigs were ten-

sioned. We were beginning to think our fears were for naught, but once the probes were seated, and the fuel started flowing, our preparations were put to the test.

As our ship and the oiler rolled away from each other, the aft fuel probe came unseated because there was too much strain on the cargo whips. In the time required for the probe valve to close automatically, a spray of fuel oil swept back down the deck from both the hose and the bell-mouth receiver. The station line handlers had been positioned with the danger of a parting line in mind—well back from the fuel station, near the aft vertical launch system (VLS). Gusty

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An unrep detail, as outlined in NWP 4-01.4 (Underway Replenishment) or OpNavInst 5100.19D (NavOSH Program Manual for Forces Afloat), doesn't require eye protection. Nevertheless, as a precaution, our fueling-station personnel (riggers, rig captain, safety officer, and fuels operator) working near the probe were wearing eye protection. The intent was to protect against the possibility of fuel splashing during probe hook-up and fuel sampling. Line handlers were not wearing any eye protection or face shields, which allowed some fuel to get in their eyes and mouths and on their skin. Several line handlers and fueling-station personnel also experienced fuel-to-skin exposure.

Unaffected members of the fueling station quickly secured the unseated probe. Medical personnel quickly arrived on station and treated those exposed to the fuel. Minor skin and eye irritation, as well as nausea brought on by swallowing the fuel, were common symptoms among the victims. These symptoms, however, eased in a matter of hours, after the victims had used an eyewash station in nearby sickbay, discarded fuel-soaked clothing and equipment, and showered.

We completed the unrep using the forward station and promptly debriefed afterward. It was estimated that a small amount of fuel had escaped the probe and receiver during the unseating. Distributed by a strong wind, this fuel had managed to affect a dozen fueling-station personnel, but we felt fortunate: There were

no lasting injuries or damaged equipment. We incorporated this new hazard into our ORM planning and implemented additional controls for future underway replenishments.

Future Precautions

Make sure refueling-station personnel, including line handlers, wear eye protection. Some of the rig personnel were wearing vented safety goggles, which protected them from a direct splash but allowed the blown fuel to enter from the side vents. All unrep personnel should wear splash-proof, chemical, protective goggles to prevent any fuel-to-eye exposure in the event the probe unexpectedly unseats.

Consider fuel spray when placing refueling-station personnel. Some station personnel are needed downwind of the probe, but moving the safety officer and signalman upwind of the station could prevent them from getting doused. Line handlers not actively tending a line now are kept out of the projected fuel-spray path at each station.

Note the location of your eyewash stations. The relatively short distance between our aft fueling station and sickbay greatly helped us quickly treat victims. In the case of the forward fueling station, though, the nearest eyewash stations normally are in locked compartments (paint locker on the port side, supply storeroom on the starboard). As a direct result of this experience, these compartments now are unlocked before each unrep to provide ready access.

Strictly adhere to battle-dress standards. This precaution reduced or prevented fuel-to-skin exposure for many of the station personnel. We will continue these standards. Another issue the safety team weighed was the benefits of having extra medical personnel on station during an unrep. We determined, however, that the medical-response time in this event was more than adequate.

In the end, this event served to highlight a hazard that hadn't previously been incorporated into our ORM planning and briefing routine. General safety measures already in place, though, and prompt on-scene actions prevented any lasting casualties. ■

Resources:

- <http://navsci.berkeley.edu/ns12b/Presentations/Ship%20Operations/M%20-%20UNREP.ppt> [*Underway Replenishment*]
- <http://www.fas.org/man/dod-101/navy/docs/swos/deck/STU14~2.html> [*Underway Replenishment Planning*]
- <http://www.safetycenter.navy.mil/orm/generalorm/scenarios/unrep.ppt> [*Scenario (Underway Replenishment)*].