



This Was

The chief temporarily stopped the fuel flow by shoving a raw potato into the fuel dump tube.

By LCdr. Steve Ryan

It was after taps with no good movies showing, and we weren't flying. So, like any good aviator, I was in my rack when awakened by a 1MC announcement about a major fuel leak in the helicopter hangar. My first thought was, "Where are the DFM lines in a cruiser's hangar?"

I groggily put on my flight suit and hustled topside. While climbing the ladder leading to the hangar, I knew we were in trouble when I saw people rushing about the hangar. The flying squad was forming, and one Sailor was establishing communication with DC central while another unreeled an AFFF hose.

It then also dawned on me DFM was not the problem. My helicopter was leaking gallons of fuel onto the hangar deck!

My maintenance people were circling the helicopter analyzing the problem. I walked around the aircraft's starboard side and saw two petty officers on the deck near the helicopter's fuel dump tube. They had a bale of rags and two buckets filled with what smelled like kerosene. One Sailor had his hand stuck in the dump tube as JP-5 dripped

around it into one of the buckets. He looked like the little boy with his finger in the dike.

I got out of the way as my maintenance chief explained what happened. He said that, as external power was being applied to the aircraft to complete a maintenance inspection, fuel began draining from the dump tube. The leak didn't stop when power was secured, or even after disconnecting the battery. Fortunately, a quick-thinking petty officer stuffed rags into the dump tube to clog it and slow the fuel drainage.

We now inspected the cockpit. The designated external-power circuit breakers had been pulled, but the fuel-dump switch was on. We immediately turned it off, yet fuel continued to flow. My chief finally was able to temporarily stop the fuel flow through ingenuity and with some galley help. He sent a petty officer get a raw potato from the crew's mess, then the chief carved it to fit and shoved it up the dump tube, which stopped the leak.

We now could determine how to best secure the fuel dump system and clean the spill. About 20 minutes had passed since I had arrived on scene, and after quickly talking with the night maintenance workers, we concluded the fuel dump switch had somehow been accidentally turned on. An airman working in the cockpit apparently noticed the shear-wire on the fuel-dump cover was loose. He had removed it and went to the maintenance shop for repair materials. While he was gone, the plane captain asked another airman to energize external power.

a No-Drill

Fuel Spill

To ensure the required circuit breakers were pulled for external power applications, the second airman moved some publications from the circuit breaker panel and accidentally turned on the unprotected fuel-dump switch. He didn't check switch positions before applying power. The AC-powered fuel dump pump did not activate since its circuit breaker is usually pulled before external power applications. Meanwhile, the DC-powered dump valve circuit breaker was not pulled so when power was applied, the valve opened because the dump switch was on, and the valve-circuit breaker was closed. With the valve open, gravity drew fuel out of the dump tube.

We had to now clean the spill before attempting to close the fuel dump valve. The flying squad used absorbent pads to clean up the remaining fuel, and the rags were put into plastic bags. Buckets of drained fuel were removed from the hangar, and the space was ventilated. Once the on-scene leader was confident the fire hazard was eliminated, the battery was connected, DC power was energized, and the dump valve closed when the dump switch was secured.

After a lengthy investigation, we submitted a Hazard Report and recommended NATOPS and maintenance manual changes. Several things had come to light.

First, we discovered there is no specific direction about which aircraft circuit breakers must be opened before maintenance. Second, pulling circuit breakers is not addressed during plane captain training, which is a nice way of saying, "We've always done it that way." The only required checks before applying external power is to confirm switches are either in the "off" or "normal" positions. An upcoming publication change will correct this.



Even turning off the fuel dump switch, which was in the "on" position, didn't stop the fuel from flowing out of the fuel dump tube.

Since that night, I've learned some other lessons. For instance, if written directives are incomplete, inaccurate, or vague, they will seldom be corrected without recommendations or feedback from fleet operators. I also learned it's important to educate Sailors to not accept the "this is the way it has always been done" mindset.

Teach your people to identify procedural errors and to alert the chain of command about them. Quickly recommend corrections to the appropriate authority, but do so via the chain of command.

We averted a catastrophe, thanks to a quick and thorough response. Had we had a fire next to the helicopter, there would have been a mishap report instead of this *Fathom* article. I also was pleased to discover training really does pay off. A few weeks earlier during work-ups, our ship conducted a helo fuel-spill drill. This training undoubtedly taught us how to promptly and effectively control such a situation. 🌐

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