

OLD FAITHFUL

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Old faithful ... it's the best way to describe Mr. Boeing's venerable B-52. The Big Ugly has been flying for over 50 years and slated to fly for another 40. Although technological advances have given the Combat Air Force newer assets such as the B-2 and the F/A-22, the B-52 is and will be an integral part of our arsenal for another generation. It is obvious to all those who watch CNN or study history that the

Buff brings powerful elements of firepower and psychological warfare to bear upon the enemy. Those fortunate enough to fly the B-52 are reassured to know that not only will you get the job done, but the old lady will get you home.

On 30 March 2003, we took off from the Forward Operating Location (FOL) known as "Dogwood 30" on an interdiction sortie over central Iraq. Our crew consisted of senior instructors; four of the five were former Fly-

ing Training Unit instructors, three of which were USAF Weapons School Graduates. Although this was our first Operation IRAQI FREEDOM combat mission, we were all intimately familiar with the Area of Operation (AOR). Combined, we had over 9,000 B-52 and 700 combat hours experience in the airplane. On this day, we planned, briefed, and arrived at the jet to preflight our 27 MK-82s and 12 GBU-31V1 Joint Direct Attack Munitions (JDAMs). We were to drop on our JDAM targets in Baghdad, and then we were to roll into an alert interdiction mission with our 500-pound MK-82s.

The aircraft maintenance forms identified the #7 engine was shut down on the previous flight, and the Offensive Avionics System (OAS), our navigation and bombing computer, experienced a Radar Interface Unit problem. Maintenance checked out both systems and found no problems. Both of these pieces of information became very important later.

As with most safety incidents, the chain started with something exceptionally simple. Following the first of three planned air refuelings, the #7 engine flamed out. (It was later determined the fuel control unit failed.) We attempted a restart but we were unsuccessful. The loss of this particular engine resulted in a loss of one of our four generators and one of the hydraulic pumps. The remaining generators still

met our go/no-go criteria with virtually no limitations to the electrical system. Since the engine did not seize, windmilling hydraulics provided ample hydraulic pressure to the outboard spoilers, minimizing the control problem of an outboard engine being shut down. The loss of thrust provided the first opportunity for the crew to implement Operational Risk Management (ORM). In addition to passing the official Mission Equipment Subsystems List for employment, we also gave it our ORM sanity check. The Buff has outstanding redundant capabilities with only small limitations. With seven engines still providing full thrust, to drop 12 externally carried GBU31V1 JDAMs from over 35,000 feet, the thrust-to-drag ratio is greatly decreased. In light of this, the crew identified and discussed several factors before pressing with the attack. After addressing all concerns, and identifying ways to mitigate their possible impacts, the crew unanimously elected to continue. After the second air refueling, we entered the AOR. As we checked in with AWACS, the controller informed us our Suppression of Enemy Air Defense (SEAD) package, of EA-6Bs and F-16CJs, was cancelled.

Once again the crew ran the ORM decision matrix. The expertise and experience of our Electronic Warfare Officer, the capabilities of the Buff's electronic suite against the anticipated threats, and the lack of previous radar engagements since the war began drove our decision to press on.

Through our Night Vision Goggles and low-light television system, it seemed like the Fourth of July outside, because there were tracers everywhere below us. We completed our checklists

on the way to the JDAM targets, which were southeast of Baghdad International Airport. The Initial Point to target run-in was very quiet. Everyone knew what to do, working synergistically as a crew. The navigator updated the headings to the JDAMs Launch Acceptability Region, while the pilots identified and maneuvered for missiles

run, briefed it, and turned to prosecute. Since the forms had a write-up about a Radar Interface Unit problem, the radar navigator knew the OAS might not automatically release our weapons. The telltale sign is the bomb doors won't open when they should. With this in mind, he watched the doors light like a hawk. Sure enough, the doors didn't open.

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and anti-aircraft artillery off our 9 o'clock position. The only sound came from jet noise and the constant strike frequency radio chatter.

On the bomb run, we defeated multiple ballistic surface to air missile launches while releasing all 12 JDAMs on the Republican Guard Medina division. As the offense team monitored the threat rings we were flying through, the copilot saw a missile at our 4 o'clock. He saw the booster, and he saw that it was turning toward us. He then called out a second missile. The Electronic Warfare Officer said, "We're being targeted by an SA-3." This was where pre-strike analysis of the 7-engine performance characteristics paid huge dividends. To max perform the airplane, we used a larger altitude block than normal, maneuvering in the vertical and the horizontal. There's only so much you can do with a 2-G rated airplane.

After defeating the threat, we rolled into our alert interdiction close air patrol area and were directed via 9-line to deliver our internal load on an ammo storage area. Once we plotted the coordinates, we saw the target was back inside the Baghdad threat complex. We fragged out our bomb

He opened the doors manually and grabbed the pickle switch. When the bombing system read zero seconds to go, he pickled off the bombs. Again, proper coordination among the crew and anticipation of potential malfunctions ensured flawless execution.

As we headed south for our last air refueling, the #8 engine oil pressure dropped to zero forcing us to shut it down. We were now 12 hours into the sortie and facing 2-engine out, night air refueling in the weather. Despite this, we performed the 6-engine air refueling taking on the 100,000 pounds of fuel required to recover at the FOL.

Post air refueling, we ran through the required emergency procedures and reviewed the flight control and thrust considerations for landing a 6-engine aircraft. Comfortable with our roles and responsibilities regarding the landing, we coordinated for the emergency landing, and at some time past the 15-hour point, landed uneventfully. Our memorable 16-hour combat mission highlighted how ORM, crew coordination, and a plane like the B-52 can get the combat mission done successfully and without compromising safety. ▶

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Photo by TSgt Richard Freeland