

## Bad-Weather CV Approaches

By Lt. Brian Schrum

**T**rapping aboard the carrier has to be the most thrilling challenge experienced by carrier-based naval aviators. The last 15 to 18 seconds of a flight are intense. However, the Case I, II, or III approach leading up to the ball call, at three-quarters of a mile, requires as much concentration and discipline as the trap. Perfecting the skills to operate in this environment puts aviators to the test each day and night, in all weather conditions.

During our squadron ORM sessions, we learn how to identify hazards and risks, make risk decisions, implement controls, evaluate our changes, and offer recommendations to avert disaster and foster a safer evolution. I hope this article spurs ready-room conversations on a topic not often discussed during preflight briefs or squadron LSO lectures: Low-ceiling and low-visibility approach hazards. A recent air-wing recovery showed how inclement weather caused havoc to an unprepared naval aviator and LSO.

I had not given much thought to approach minimums during a Case III arrival to the boat until, as an LSO, I experienced the mass confusion

### ORM Center

Please send your comments, comments or recommendations to:

Tet Wings, Code 11,  
Naval Safety Center,  
375 A St.,  
Norfolk, VA 23511-4295  
(757) 444-2520, ext. 7771 (DSN 5643)  
E-mail: theodore.wiggins@navy.mil



that can occur during bad weather. We often work in a benign weather environment, but we always should be prepared to handle weather contingencies.

We were deployed on board USS *George Washington* (CVN 73) in the Northern Arabian Sea, in support of Operation Enduring Freedom. It was the end of July, and CVW-17 had finished our first week of ops. Throughout the week, a low-pressure system dominated the area with ceilings at 1,000 feet or less, and visibility at two to five miles with mist and haze. Because of the poor weather, we conducted Case III approaches every recovery.

A Case III approach is flown when the weather is less than 1,000-foot ceiling or five-

mile visibility, or during night CV operations. The approach typically consists of marshalling aircraft behind the ship at various altitudes and distances. Each aircraft is given an approach time to sequence to the deck in a safe and expeditious manner. Pilots fly a standard-descent profile, dirty-up, and intercept a 3.5-degree glide slope at three miles—that should lead to an on-and-on start. Once inside seven miles, pilots can reference ILS (bull’s-eye) and/or ACLS (automatic-carrier-landing system or “needles”) to guide them. If the pilot does not have either ILS or ACLS, he then relies upon CATCC (carrier-air-traffic control) azimuth and glide-slope calls, plus his self-contained approach numbers, to get him to an on-and-on start. On

a standard flight, pilots will use all of these aids to get aboard. If one aid is malfunctioning, the approach may be off parameters. If we factor bad weather into the mix, a pilot could have their hands full, as they did on our LSO team's particular wave day.

During these poor conditions, the CAG and squadron paddles step up and keep their fellow aviators off the ramp. Normally, paddles only passes "roger ball" and the occasional "power" calls to approaching aircraft. But, under degraded conditions, a paddles talk-down can be a rewarding experience. Such was the case that July afternoon when weather conditions suddenly deteriorated to one-quarter-mile visibility and ceilings at 350 feet or lower.

Our team was scheduled to wave a midday recovery and found the weather to be a safety factor. Paddles made the call for all aircraft to have their taxi light on, so the aircraft would be visible earlier. Before the first plane arrived at the ball call—at one and a half miles—we would break out and make an arrestment. CATCC called the first jet on and on at three-quarters of a mile, and told the pilot to call the ball. "Clara" was all we heard. Cricket.... Cricket....

The hairs on the back of our collective necks stood straight up. We heard nothing for two or three seconds until, suddenly, a jet appeared out of the haze, only moments away from taking a trap. CAG paddles gave appropriate calls to the pilot and received good responses; he safely trapped. Great, we have one aboard and seven more to go. We brought three more aircraft down before the weather closed in on the ship, and we went below minimums. With more aircraft left to land, we thought about our options. The ship was working blue-water operations, and our nearest suitable divert airfield was 200 miles away.

Aircraft were returning from long missions, some with ordnance aboard, which presented us with low-fuel states and maximum-trap weights. Fuel was airborne but in short supply. The next event's launch was on hold while the ship and air-wing leadership decided what to do. Vulture's row saw more action as people wanted to watch the excitement and experience the deteriorating weather. Meanwhile, four aircraft tried to break out and finish the recovery.

Let's stop right here and ask the question, "With the weather minimums continuing to drop, just how far along an approach can we wave an aircraft without a paddles contact?"

"Paddles contact" refers to a call the LSOs can make to "grab" an aircraft from CATCC and talk him down to

the landing area. To help answer this question, here are some ORM controls for the bad-weather hazard:

1. Weather minimums for our approach.
  - a. For an ACLS approach and ILS with PAR monitor, the minimums are 260 feet, one-half-mile visibility.
  - b. If ACLS and ILS are not working, minimums are 660 feet, one and one-quarter miles for jets and 460 feet, one mile for props.
2. CAG and squadron paddles experience levels.
3. Individual pilot training and experience levels.
4. CATCC equipment and crew experience.
5. LSO platform equipment.
6. Ship's instrument-approach equipment.

What was the status of these controls during our recovery? Approach minimums, like those we fly with at our destination airfields back home, are hard and fast. Just like at the field, if we don't see our landing area and cannot complete a safe landing, we wave off—as mandated in OPNAV 3710. Both CAG paddles were on the platform, providing experienced inputs throughout the event. The pilots were mostly cruise-experienced and made informed, judicious decisions as the pilots-in-command. CATCC was doing its best to provide glide slope and azimuth calls and had been working Case III control for two months of our cruise. The LSO-platform equipment operated properly, with the exception of the LSO HUD used for platform correlation of the ACLS. With this subsystem inoperative, it took away one item the LSOs could have used to help wave the aircraft. Finally, bull's-eye was down as the ship was awaiting a part to fix it. Four aircraft remained airborne, and we continued to push our approach minimums.

A COD diverted before getting the opportunity to fly the approach. A Hawkeye was given a talkdown approach by CATCC that had him flying to the starboard side of the ship, despite being called on-and-on. A judicious waveoff call from CAG paddles kept him from getting too close for comfort. Our last Hornet made his way to the ball call. After four agonizing seconds went by, with no sight of him, we waved him off. We never saw him break out of the haze but heard him climb off the port side. Fortunately, everyone had enough fuel to make it to our nearest divert field. The weather eventually cleared later in the day, and it was ops normal once again.

How far can we wave an aircraft in deteriorating weather conditions? The textbook answer is as far as the approach minimums allow. If CATCC does not hear "paddles contact" or "roger ball" from the LSOs,

CATCC is instructed to keep glide slope and azimuth calls coming until the aircraft reaches weather minimums.

What if no divert was available? Our plan was to tank every available aircraft in extremis, even calling in big-wing tanking to help until the ship found clear sea space. If a clear area was not found, and no tanking was available, then we were to bring the aircraft lower than the minimums allowed, or to have the pilot eject near the ship.

How about Hornet pilots flying a Mode 1 approach (basically an autopilot approach to the carrier deck)? The letter of the law states that even Mode 1s can only be flown to ACLS approach minimums. A deviation would require a waiver from higher authority.

After evaluating the day's events, I believe we had, and continue to have, controls in place that are more than adequate to respond to adverse-weather conditions. However, we do have to make sure the controls are operating correctly. The responsibility relies on great communication between the pilots, LSOs and the ship. As LSOs, we have to train the air wing and keep

them up to speed on CV specifics, including approach minimums.

Pilots must be familiar with how far to take an approach before waving off and must have the confidence in paddles to bring them aboard when they hear "paddles contact." Through good ORM, this knowledge may save your life one day. Fly a good, solid instrument approach in bad weather; this can mean the difference between getting aboard or spending the night at your divert.

CATCC tends to take the heat for many issues regarding the Case III approach. The key to addressing any issues with CATCC is to stop by and fill out a pilot-debrief form. That stop in CATCC will get the techs on the case and repairs in the works. Timely feedback will assist the ship in making changes just like a well-written aircraft gripe.

As a paddles, I gained valuable experience on the platform, waving in adverse weather conditions. I also gained an even bigger appreciation for our jobs as naval aviators. 🦅

Lt. Schrum flies with VFA-83.

Because of the poor weather,  
we conducted Case III approaches  
every recovery.