On 02/18/2020 at approximately 1445, Rotorcraft Flight Instructor J. Gray and rotorcraft pilot trainee Deputy M. Bonin departed The Hillsborough County (FL) Sheriff's Office Aviation ramp located on the southern end of Tampa Executive Airport (KVDF), in an Airbus AS350B2 helicopter, registration #N188FS, call sign SO4. The purpose of the flight was to conduct emergency procedures training, specifically autorotations with a power recovery, in preparation of M. Bonin obtaining a commercial rotorcraft rating. Prior to departure, it was briefed between CFI Gray and pilot trainee Bonin that the conduct of the training would involve CFI Gray reducing the throttle located between the pilot and copilot seats, to the idle position (when the throttle gate is engaged in the idle gate detent) and pilot trainee Bonin initiating the maneuver by lowering the collective and adjusting the cyclic to obtain the proper autorotation airspeed, 60 to 65 knots indicated. Completion of the maneuver would involve CFI Gray advancing the throttle to the flight position as the helicopter reached 200 AGL as indicated by the radar altimeter. Trainee Bonin would then initiate a deceleration at the appropriate altitude and terminate the maneuver at a 3 to 5 foot hover height.

With CFI J. Gray in the left seat, and pilot trainee M. Bonin in the right seat/pilot station manipulating the flight controls, helicopter SO4 proceeded to the Peter O' Knight Airport (KTPF) to conduct the autorotation training. Upon arrival at KTPF, CFI J. Gray and pilot trainee M. Bonin conducted approximately 8 to 10 practice autorotations with power recovery, both straight-in and left turn 180 degrees, without incident or concerns. Upon completing the training, SO4 left the Peter O' Knight Airport with pilot trainee M. Bonin on the flight controls, and proceeded back to Tampa Executive Airport. While enroute back to Tampa Executive Airport, M. Bonin tuned in the Airport AWOS and received the weather information. He then tuned in the appropriate traffic advisory frequency for the destination airport. On the advisory frequency, we heard an aircraft announce he was several miles to the east of the airport and was planning for a left downwind entry for landing on runway 18. There was also an airplane on parallel taxiway Alpha for runway 18 that was taxing to the hold short line for runway 18 departure. Prior to arriving at Tampa Executive Airport, CFI J. Gray advised pilot trainee M. Bonin that we would execute a right 180 degree autorotation from 1000ft MSL, with a power recovery to the departure end of runway 18. Pilot trainee Bonin made the appropriate radio call announcing our intention to enter a right downwind for runway 18, and our intention to perform a simulated engine failure to that runway. Upon arrival at the airport, M. Bonin entered a right downwind for runway 18 at an altitude of 1000ft MSL from just south of the airport over the east side of the canal, west of runway 18. At approximately 1549 hours, when the helicopter was abeam of the intended termination point, CFI J. Gray announced he was reaching for the throttle which is located on the floor between the pilot and copilot seats. CFI Gray depressed the gate release and retarded the throttle to the idle position. As pilot trainee Bonin initiated the autorotation descent and made a right turn towards the previously discussed termination point, the low rotor RPM advisory horn, which is a continuous sounding horn, activated indicating that the rotor RPM was below 360. The normal operating RPM for the rotor during an autorotation is 360-410 RPM. There was no initial concern reference the low rotor RPM horn activation, because usually the rotor RPM increases back to the normal range due to centrifugal force when performing a 180 degree autorotation, provided the collective is in the full down position. During this particular maneuver however, the low rotor RPM horn did not extinguish, and sounded throughout the entire 180 degree turn. When M. Bonin completed the turn, the helicopter was lined up over Taxiway Alpha which is the parallel taxiway for runway 18/36. The helicopter was also approaching

400ft AGL with the low rotor RPM horn still activated. At this point CFI Gray and pilot trainee Bonin determined that the maneuver should be terminated and a go around initiated. CFI Gray announced he was reaching for the throttle to restore full engine power. After grabbing the throttle, CFI Gray depressed the gate release and advanced the throttle to the full power position. Immediately after completing this task, M. Bonin announced that he had no power. Fearing that the helicopter was experiencing a condition where the engine was unable to recover the rotor RPM due to the amount of pitch/lift of the rotor blades, CFI Gray reached back to the throttle, released the gate and moved the throttle to ensure that the throttle was in the full power position. It is during this movement of the throttle, that CFI Gray believes that he inadvertently moved the throttle past the idle position, to the point that actually shut down the engine. However, CFI Gray did not initially realize that the engine was shut down because the low rotor RPM horn was active, and he did not detect the change of the engine noise going from the idle setting to shutoff. Also CFI Gray did not look at the engine instruments located on the Vehicle and Engine management Display (VEMD) and was unable to see the digital NR/N2 gage showing the status of the engine RPM arc. As the helicopter continued the descent with the low rotor RPM horn activated, M. Bonin requested that CFI Gray "get on the controls". CFI Gray left the throttle in the full power position and took the controls to facilitate an actual autorotation landing under low rotor RPM/engine out conditions. Due to this low rotor RPM condition, CFI Gray determined that the best course of action would be to conduct a run on landing with little to no deceleration. CFI Gray learned this particular technique for low rotor RPM autorotations while attending Airbus factory training in Texas. CFI Gray, with M. Bonin assisting, maneuvered the helicopter towards the intersection of taxiway Alpha One where it connects to a large asphalt aircraft parking ramp, while maintaining a level attitude. The helicopter touched down on the asphalt parking ramp and skidded approximately 183ft till reaching the end of the ramp and coming to a stop just off of the ramp in a small, marshy ditch. Once the helicopter stopped, CFI Gray did not hear or see any indications that the engine was still running. CFI Gray moved the throttle to the cut off position, while M. Bonin secured all of the radios, electrical systems and turned the battery off. They assessed each other for any potential injuries, which there were none, and then exited the helicopter to assess and external damage and begin the appropriate notifications.

Jeffery J Gray

Certificate#[redacted]