REVIEW OF MINNESOTA SOARING CLUB MEMBERS FLYING ON JULY 22, 2019

CHARGE OF REVIEW

John Quilling, Manager, Stanton Airport, and George Underhill, President, Minnesota Soaring Club (MSC) charged Stephen Nesser, Chief Flight Instructor, MSC, to examine alleged violations of safe practice by pilots of the MSC that occurred on July 22, 2019.

CONTACTS & INFORMATION GATHERED

John Quilling, Manager, Stanton Airport

Mason Lindenfelser, Flight Instructor, Stanton Airport

Pilot 1, MSC glider pilot

Pilot 2, MSC glider pilot

Dan Shallbetter, MSC glider pilot

Marilyn Meline, MSC glider pilot

Patrick Dale, MSC, glider pilot

IGC flight trace from Pilot 1's July 22, flight (validated for integrity)

IGC flight trace from Pilot 2's July 22, flight (validated for integrity)

MSC flight log of July 22, 2019

Google Earth Pro for measuring distances.

NOAA for METAR of July 22

CONCERN

Mr. Lindenfelser stated that he observed two MSC pilots thermalling in the landing pattern box, as did one of his recently soloed students, and further that radio calls to these pilots made by himself and his students, as these power pilots entered the landing pattern, were not responded to.

Mr. Quilling stated that the MSC pilots in question were Pilot 1 and Pilot 2.

INTERVIEWS

Mr. Lindenfelser stated that he saw two glider pilots flying in the pattern box on July 22. He stated that because the gliders flying that day looked so similar, he was unaware of who the pilots were. Mr. Lindenfelser stated that he did not remember the specific phraseology he used during his radio calls to Pilot 1 and Pilot 2, but that he uses standard terminology asking the glider pilot if they wish him, as a power pilot, to deviate and allow the glider to land first.

Pilot 1 stated that he did not thermal in the landing pattern box. He further stated that while he heard Mr. Lindenfelser make a single transmission to a glider pilot, he did not believe the transmission was intended for him as he was well clear of the pattern box. He stated there was significant radio chatter on Stanton Airport's common traffic advisory frequency (CTAF) on July 22.

Pilot 2 acknowledged that he flew close to the pattern box and wrote, "I am sorry to have created a potentially unsafe situation and will redouble my resolve to not fall to the temptation to save a flight." Pilot 2 denied having received a radio transmission from a power aircraft. He stated that frequency 122.8 was busy on July 22.

Mr. Shallbetter stated that he was flying over Waseca at the time of the incident. He further stated that there was significant radio chatter on frequency 122.8. He stated he heard a single radio transmission from power to a glider, and there may have been a second transmission, but he does not remember what was transmitted.

Ms. Meline stated that she was on the ground awaiting a tow at the time of the incident and heard only one radio transmission from a power pilot to a glider. She noted that frequency 122.8 was crowded on July 22. She does not remember what was transmitted.

Mr. Dale stated that he heard only one radio transmission from a power aircraft to a glider. He, too, noted that 122.8 was active on July 22. He does not remember what was transmitted.

DATA

The MSC flight record reports that five MSC pilots flew gliders on July 22, and they launched in the following order: 1. Mr. Shallbetter, 2. Pilot 1, 3. Pilot 2, 4. Ms. Meline, and 5. Mr. Dale.

The National Oceanic and Atmospheric Administration's METAR for the time the pilots were launching was: METAR KSYN 221855Z AUTO 35007G17KT 10 SM SCT 070 24/08 A3022

Runway 36 was active. The pattern box for when runway 36 is active is a 1.5 mile by 1 mile box that rises from the surface to 2,400 feet MSL. It is located as indicated in turquoise in Illustration 1.

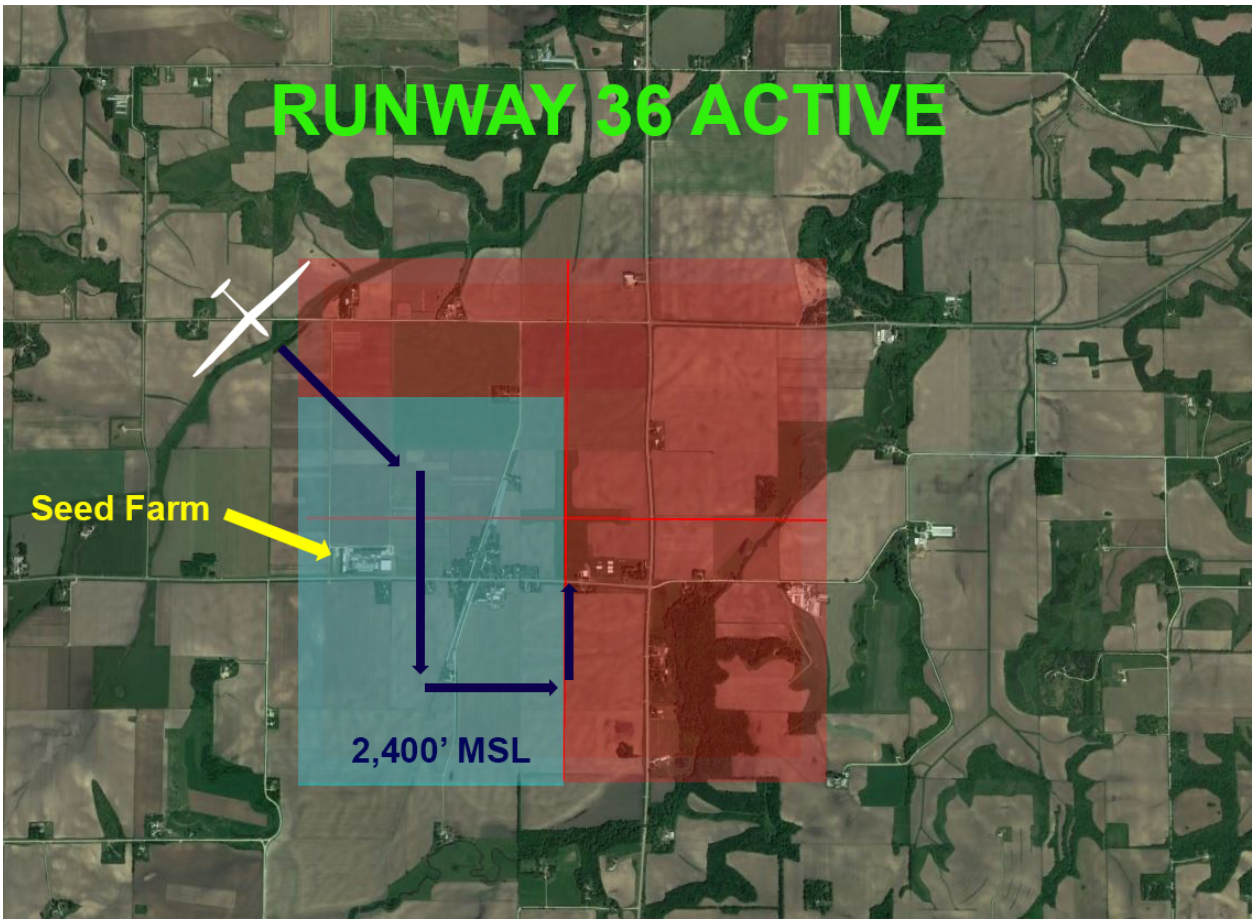

Illustration 1. Pattern box for when runway 36 is active.

Illustration 2 is the portion of Pilot 1's IGC flight trace from July 22 that shows his nearest thermalling to Stanton Airport (the pattern box is overlaid in turquoise):

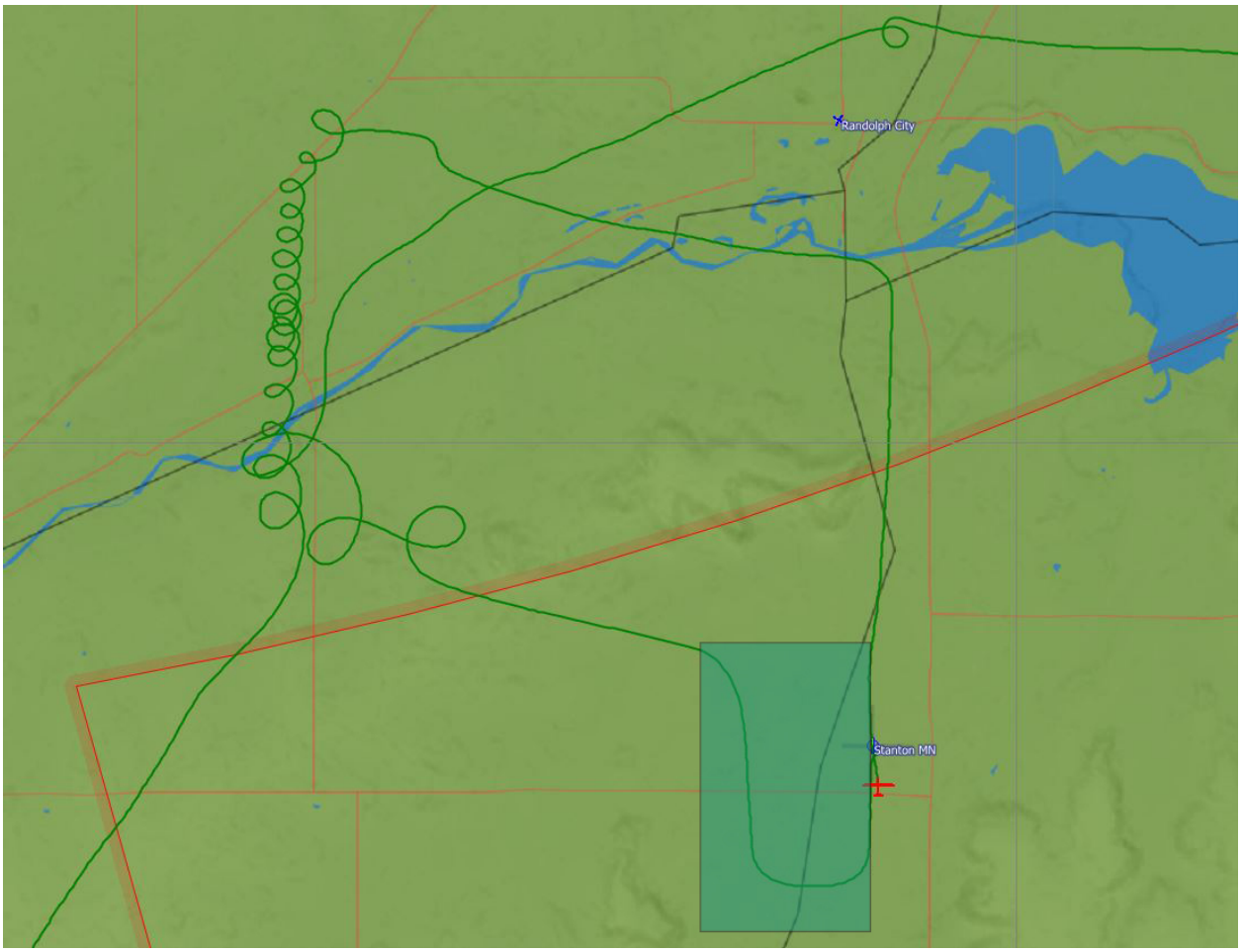

Illustration 2. Pilot 1's IGC trace of July 22.

The distance from the northwest corner of the pattern box to the closest point of thermalling is approximately 2.3 miles based on the ruler function of Google Earth Pro. Further, Pilot 1 was flying at over 5,000 feet MSL at that time.

Illustration 3 is Pilot 2's IGC flight trace from July 22 that shows his nearest thermalling to Stanton Airport (the pattern box is overlaid in turquoise):

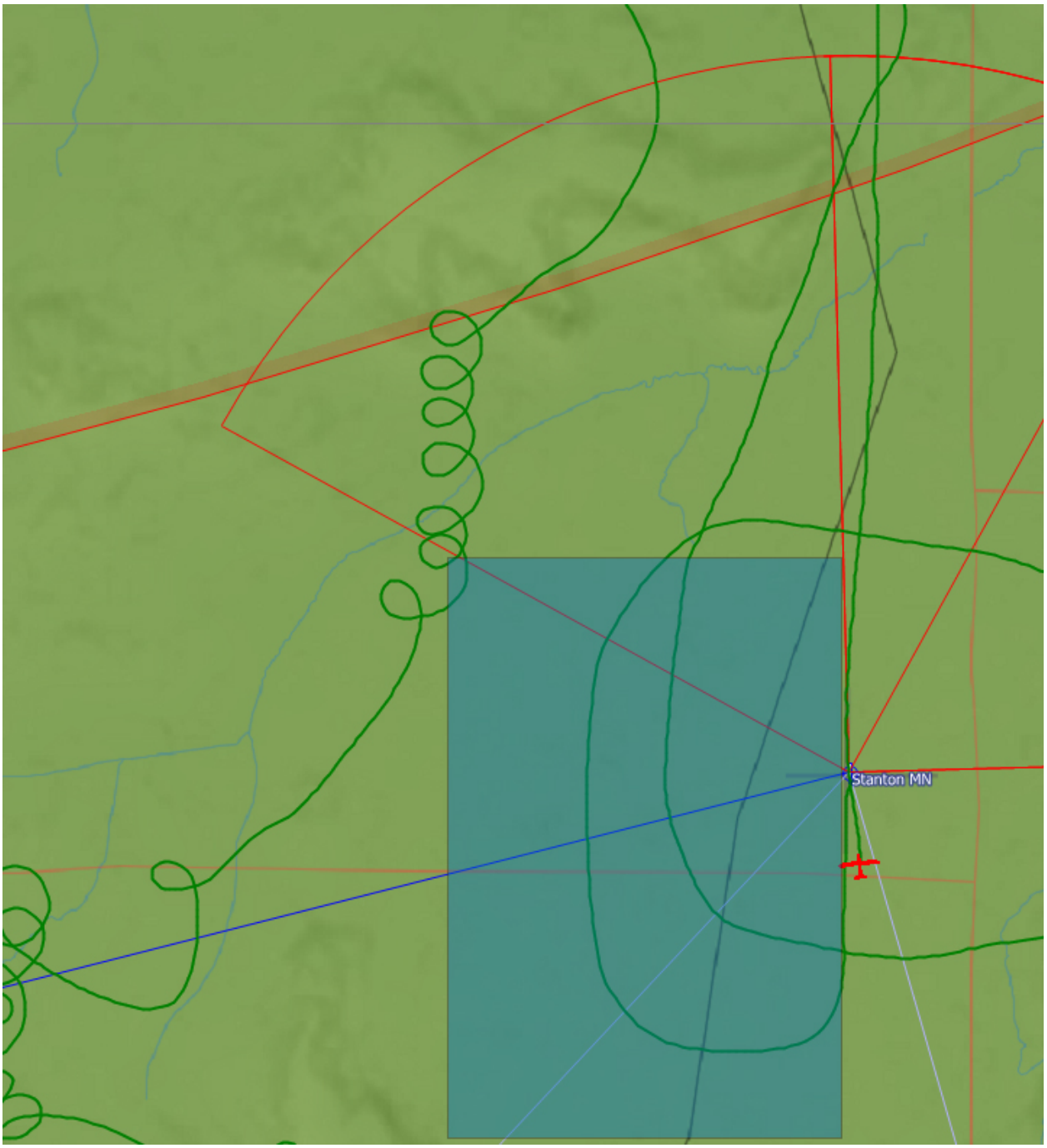

Illustration 3. Pilot 2's IGC flight trace from July 22.

Laterally, Pilot 2 thermalled in the pattern box. Illustration 4 shows Pilot 2's altitude when laterally in the pattern box. The altitude indicated, of 2,571 feet MSL, is the lowest he was during the time he was flying laterally over the pattern box.

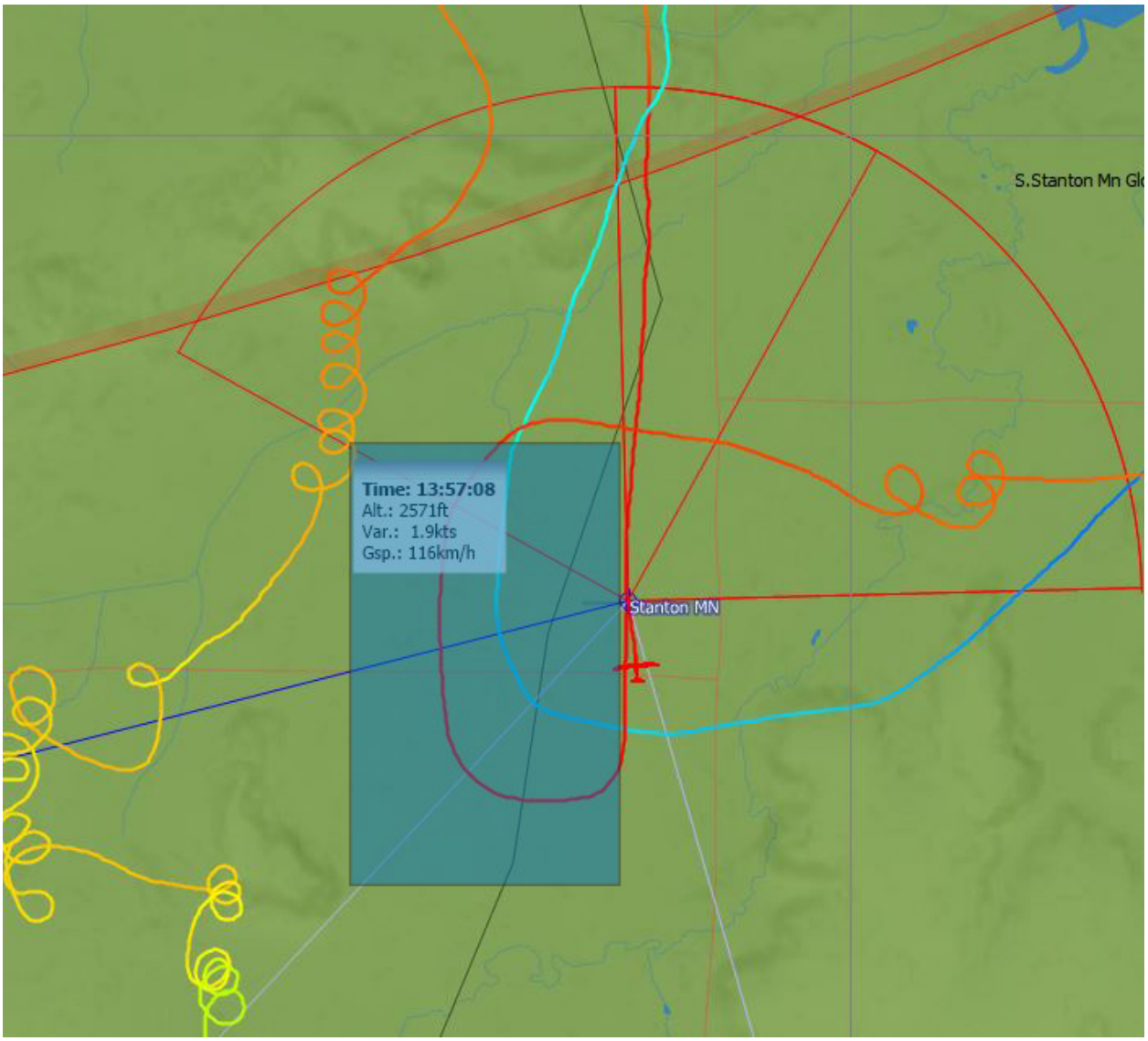

Illustration 4. Pilot 2's altitude.

So as to prevent any confusion about Pilot 2's flyover of the center of the pattern box, his altitude indivacted by the turquoise line is more than 4,600 feet MSL.

ANALYSIS

Pilot 1's IGC file indicates he was more than two miles from Stanton Airport when thermalling, and did not violate the pattern box.

Pilot 2's IGC file indicate he was laterally over the north west corner of the pattern box, but no less than 150' above the pattern box. He did not violate the pattern box. However, because he

was close to the pattern box he indicated he would redouble efforts to assure that he stayed well clear of the pattern box when thermalling.

The issue of the glider pilots failing to respond to radio calls is more difficult to assess because: 1. There is no recorded evidence of the radio calls, 2. Individual memories of the calls, or lack thereof, are subject to error and forgetting, 3. Transmissions are stepped on and an individual believing they are transmitting may not be doing so, especially on a busy day such as July 22, and 4. No one remembers the exact wording of the single transmission that was heard.

Mr. Lindenfelser stated that he made two transmissions, and a soloed student pilot made a single transmission to gliders. The majority of glider pilots interviewed heard a single transmission. Everyone stated that this transmission was not responded to.

Because I do not know which glider was transmitted to, my analysis must be based on supposition. With that weakness I mind, I suggest the following:

1. Most gliders look the same to airplane pilots, and therefore airplane pilots usually transmit to "glider" at some location. There is potential for miscommunication in this lack of specificity, especially on a busy gliding day or if the transmitter says something on the line of "glider at Stanton Airport" when multiple gliders are flying at Stanton Airport.

2. On days with significant air traffic all or a portion of a transmission may be stepped on.

3. Glider pilots, while having some right-of-way over power traffic may confuse this right-of-way with a requirement that power must always deviate.

4. Glider pilots, when low, are sometimes mentally taxed and may attend less to radio transmissions. This is not an excuse, but a statement of the human condition.

Safety mandates that CTAF radio transmissions be monitored within proximity of an airport, and that attention to these transmissions be increased as the airport is neared. That is why there is an MSC rule that the CTAF be monitored when a glider is within five miles of Stanton Airport. All glider pilots stated they were monitoring frequency 122.8 on July 22.

Experience suggests that radio transmissions are not always transmitted due to failure of equipment. Further, experience suggests that radio transmissions are not always received due to failure of equipment and having transmissions stepped on.

Mr. Quilling is aware of how busy frequency 122.8 is and has taken steps to change Stanton's CTAF to a less busy frequency.

Gliders should respond to radio calls, and when in doubt if the transmission is intended for them, should seek clarification on the radio.

Evidence suggests that an MSC glider pilot failed to respond to at least one radio transmission from a power pilot. The evidence does not indicate who this pilot was.

SUMMARY

Safety is vital to MSC and Stanton Airport. Safety is enhanced by communication and cooperation. MSC and Stanton Airport's cooperation and mutual respect were evidenced throughout this investigation. I want to commend Mr. Quilling and Mr. Lindenfelser for their cooperation and fairness and respect in relaying their concerns.

Similarly, all five members of the MSC that were flying on July 22 fully and completely cooperated with this investigation. It is not easy being a subject of an investigation, and Pilot 1's and Pilot 2's willingness to, immediately and without limitations, release their IGC files is commendable.

While there were no violations of flying in the pattern box, Pilot 2 flew within 150 feet of said box—uncomfortably close. He has acknowledged this and has promised to fly with greater discretion. Accordingly, I am not recommending further action against Pilot 2 on this issue.

The failure to respond to a radio call, or calls, is more difficult to address because an offender cannot be identified, the request from the power aircraft pilot cannot be remembered, and therefore the specifics that propel a change are unavailable. In view of these limitations, additional training of student and licensed pilots by both MSC and Stanton Airport flight instructors could serve to prevent a recurrence.

RECOMMENDATIONS

1. That the MSC continue to prioritize the importance of flying in the pattern box only when transitioning into the landing pattern or landing by:

    A. Teaching all students about the boundaries of this pattern box.
    B. Emphasizing the pattern box in flight reviews.
    C. Restating the rules and visual limits during annual safety meetings.

2. That Stanton Airport management and MSC continue to work closely to identify and investigate all alleged violations of the pattern box and take prompt action to address any violations so that the culture of MSC be one of maximum safety.

3. That MSC pilots continue to monitor Stanton's CTAF frequency when within 5 miles of Stanton Airport, and as radio chatter allows, make periodic announcements of their position and intent when below 2,920' MSL.

4. That both Stanton Airport and MSC flight instructors redouble their emphasis on radio use, both transmission and monitoring, to increase situational awareness and communication between aircraft.

5. That MSC's Chief Flight Instructor write a newsletter article about radio monitoring and response for publication in the MSC Newsletter as well as address this issue during the annual safety meeting.

6. That Stanton Airport management continue their efforts to change Stanton's CTAF frequency to a less busy frequency, and that the MSC board of directors support this change.

Respectfully submitted,

Stephen Nesser, CFI
Chief Flight Instructor
Minnesota Soaring Club
August 12, 2019