

**AERONAUTICAL CHARTING MEETING**  
**Charting Group**  
**Meeting – October 28 - 29, 2020**

**RECOMMENDATION DOCUMENT**

**FAA Control #20-02-345**

**Subject: Wrong Surface Hot Spots and Surface Hot Spot Standardization**

**Background/Discussion:**

After numerous wrong surface events with some being potentially catastrophic, this is one of the FAA's Top 5 Safety Issues.

After numerous internal discussions within the FAA and external Aviation stakeholders, we have recognized the safety risk in the National Airspace System (NAS), associated with a wrong surface alignment and have collaborated on mitigations to address this risk.

This proposal standardizes both surface based and wrong surface hot spots on the Airport Diagrams. A Safety Risk Management Panel (SRMP), was conducted in January 2019. Subsequently a working group of internal and external stakeholders to include Runway Safety, Aeronautical Information Services, Flight Standards, Airports, Air Traffic, NATCA, NBAA, ALPA, RAA and NAFI.

The workgroup members shared the process with external stakeholders and this proposal is the result of their feedback. All members of the workgroup have expressed complete buy in on the proposal as written.

This working group has addressed the standardization of symbology on the airport diagrams to include both surface based and misalignment risk hot spots. In addition, the group addressed concerns brought up during the panel on adding information to the Approach Plates. As a result of the Approach plate addition a NEW Arrival Alert page was created to highlight those approaches to a particular airport that have been problematic.

**Recommendations:**

- Standardize both surface based and wrong surface hotspots.
- Implement three shapes as part of the standardization.
  - Cylinders to represent Wrong Surface Hot Spots
  - Circles or Ovals to represent Surface Based Hot Spots, depending on the size and shape of the area of the confusion.
- Implement the inverted MR on the Airport Diagram in the top left corner to indicate there is a misalignment risk potential.
- Implement the MR on the Approach Plate in the sketch view.
- Define the MR in the Charting Specifications to address a potential for a misalignment risk and points to more information.

- Implement a new Arrival Alert page which aids the pilot in a visual reference of a particular approach.
- Outreach and Education will take place prior to implementation to include the following:
  - Single Topic Video
  - Briefings to Industry stakeholders and Stakeholder Webinars.
  - Presentation to the National Association of Flight Instructors (NAFI)
  - Flight Standards FFAST blasts
  - Webinars
- Proposed implementation in December 2020.

**Comments:**

PowerPoint Presentation is available.

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**MEETING 20-02**

Giovanni Dipierro, FAA/AJI-141, provided a [briefing](#) on new recommendations regarding hot spot symbolization depiction when related to surface misalignment risk, publication of Arrival Alert pages in the Chart Supplement regarding wrong surface risk and the addition of a “MR” (for Misalignment Risk) icon to approach charts. He began his briefing by providing some background and describing the current definition of a hot spot as published in the Chart Supplement and the Terminal Procedures Publication. He said that hot spots today are drawn using varying shapes in order to fit the area of concern and asserted this has resulted in pilot confusion. A workgroup was formed to establish more standardized symbology for existing hot spot depictions on airport diagrams. Giovanni then provided some statistics on wrong surface arrivals and departures ([Slides 6-8](#)). He reported that from 2016 to 2020, there were 1,285 wrong surface arrivals and 851 wrong surface departures documented. The majority of these events were attributable to general aviation (GA) operations and took place during Visual Flight Rules (VFR) conditions.

Giovanni then explained the changes recommended by the workgroup. The group recommended that surface-based hot spots be depicted with a circle or an ellipse symbol and further recommended that a misalignment risk hot spot designation be added and depicted by a

cylindrical symbol. He then showed examples of airport diagrams with the current and the proposed symbology. He proposed that when a misalignment risk is identified, a hot spot locating it be added to the airport diagram (with corresponding explanatory text of the hot spot), an Arrival Alert page be published in the Chart Supplement and that a negative “MR” icon be added to the sketch area of the Instrument Approach Procedures (IAPs) for the subject airport. The “MR” symbol on the approach charts is intended to serve as a cue for users flying that approach to look for the Arrival Alert page in the Chart Supplement and be aware that there is a potential for misalignment risk. He then provided a list of airports proposed to be updated with designations of misalignment risk hot spots. Giovanni explained that outreach and education is planned to ensure pilots fully understand the charting changes.

John Moore, Jeppesen, asked if the decision to move forward with these changes has already been made. He also asked if the Safety Risk Management Panel (SRMP) conducted in November of 2019 has been completed. Giovanni said yes, the SRMP had been completed. John then suggested that in the future, proposals be made at the ACM to get input before subsequent decisions are made. He then explained that according to the published definition of hot spots, they are designed to be used for surface operations. He said this is not the appropriate place for wrong surface landing information. Giovanni said this is not a new concept, wrong surface hot spots have been on the charts for a long time. He said the only thing that is new is the addition of the MR symbol on the IAP. Valerie Watson, FAA/AJV-A250, agreed that the FAA may have published some wrong surface landing risk hot spots, but reminded the group that in discussion at ACM 18-02 ([RD 18-02-326](#)) it was decided, with concurrence by Cheri Walter from Runway Safety, that those were published incorrectly and that the FAA should not be charting a landing risk on an airport diagram. At ACM 18-02 the Airport Mapping Team took an action to coordinate with Runway Safety to correct the verbiage in the errant entries. Valerie voiced that these errant entries should not serve as a precedent to the publication of wrong surface landing or arrival risk on FAA-produced airport diagrams. She emphasized that because the airport diagrams are surface movement charts, there is no expectation that pilots will be looking at the airport diagram for landing runway information. She voiced that, in her opinion, charting on a ground movement product would do little to mitigate a landing risk. Valerie clarified that alerting GROUND traffic that certain taxiway/runway surfaces might be mistaken is legitimate, but claiming that this mitigates a LANDING risk for arriving aircraft does not make sense. John also pointed out the differences in the revised symbols is very subtle and therefore may not be noticed by pilots. Valerie agreed.

Lev Prichard, APA, said that their safety team has been involved with this effort. He expressed their disappointment because Allied Pilots disagreed with this plan from the beginning and that dissenting opinion seems to have been disregarded. He emphasized that there can be a potential for misalignment anytime there are parallel runways or taxiways. He also agreed with Valerie that pilots use the airport diagram for taxiing and not for landing. He also questioned the choice of airports on the list to be updated with the new symbology, because he does not see those as the airports that have the biggest wrong surface landing risk. He does not believe the root cause of a wrong surface landing has been properly addressed. In summary, Lev believes that this change will create more problems than it fixes. Giovanni said they are trying to find a way to heighten pilots’ awareness to this risk. He pointed out that wrong surface risk is an Air Traffic Organization (ATO) Top 5 issue. Lev said he recognizes the need to heighten pilots’ awareness to this problem, but this solution is not going to fix it.

Rich Boll, NBAA, asked if they are looking at before-and-after data to determine if the wrong surface landing risk hot spots that are published today are making a difference. Giovanni said they have no way to know if the addition of a hot spot is a mitigating factor. Rich then asked how

the Arrival Alert page will be sourced to ensure that commercial chart providers also receive it for publication. Rich also pointed out that during the discussions at 18-02 there was concern expressed about the proliferation of hot spots on airport diagrams. He asked about the criteria that will be used to determine where hot spots are added and to ensure they don't proliferate. Ray German, FAA/AJI-142, said the plan is for AJV-A to create the Alert page in coordination with Runway Safety and the airport. He said they are still in the process of developing the criteria for when a misalignment risk hot spot will be added. Tom Frakes, FAA/AJI-143, said they recognize they will need to limit the number published hot spots to the most critical risk areas. How this will be determined will be defined in the criteria. Rich stated that he may be able to support this initiative if he is able to first see the criteria that will be used and as long as the proliferation of hot spots is addressed. Chris Diggons, FAA/AJI-144, said that this effort is just one of many that Runway Safety is considering in an attempt to mitigate this problem. He said that not every parallel surface is a misalignment risk. The hot spot will only be shown at locations where these events are actually occurring.

Gary Fiske, FAA/AJV-P310, said that he supports this initiative. He said that wrong surface landings are a huge issue in the National Airspace System (NAS), and he supports using an existing resource to try to mitigate the problem.

Heidi Williams, NBAA, stated that she agrees with Lev and Valerie's earlier comments. She said NBAA participated in the SRMP and said that they did not concur or non-concur, but recommended that the ACM is the appropriate place to work the proposal. She said she has been part of many SRMPs for wrong surface events and not once has the chart been looked at to mitigate the risk. She disagreed that this is a surface issue. She emphasized that concerns are being voiced by industry that need to be considered. Giovanni said that they are surface events, because that is where the incident occurs. Valerie reiterated that the airport diagram is a ground movement chart and there is no expectation that a landing pilot would be looking at the diagram for misalignment risk.

Joe Lintzenich, FAA/AFS-410, Contract Support, stated his agreement with Lev's points and said it is better to train pilots than to put more clutter on the chart.

Bruce McGray, FAA/AFS-420, stated that there has been no data that has been presented that demonstrates adding a hot spot mitigates the risk to landing aircraft. He also said that adding clutter to the chart should not be part of any solution. Chris responded that they have recently begun tracking the effectiveness of hot spots.

Jim Spencer, NGA, noted that there was no data presented regarding the military. He recommended that Runway Safety solicit military input before adding something new or changing the symbology on a significant number of charts. He asked for the justification for changing the symbols and agreed with previous comments that it would not make a difference to pilots. Giovanni said that was the consensus of the workgroup in order to standardize the symbols for consistency across charts.

Jim McClay, AOPA, commented that it would be valuable to carry this discussion forward in this arena, to continue to look at this proposal and also to look at other alternatives to mitigate the wrong surface landing issue.

Valerie emphasized that it is understood by all that wrong surface landing is a huge and important issue. The questions being raised here are whether or not this proposed solution is appropriate and would solve the problem. She asked if a copy of the SRMP final report could be

shared with the audience. Giovanni agreed to share the final report with Valerie so that she can in turn share with the ACM audience.

Gary McMullin, Southwest Airlines, stated that this is an important topic, however when he read the report, he had serious concerns about the effectiveness of the proposal in mitigating risk for arriving aircraft. He asked if pilot input was part of the SRMP because he, on behalf of Southwest, does not see that these proposed changes will have any positive mitigating effect. He stated Southwest does not agree with moving forward with these recommendations. He suggested that a new workgroup be formed that includes pilots to come up with a proper solution. Giovanni responded that many pilots groups were included in the SRMP.

Bruce McGray stated that there should be follow-up at future ACMs before this proposal moves forward. He said that the SRMP overlooked the concerns of the pilots on the panel.

John Moore, Jeppeson, asked what will be done with the feedback received at this meeting. Giovanni said that he would take the ACM feedback to his management and to the workgroup and discuss the next steps. He said that these specific proposals are not a “done deal” but emphasized that doing nothing is not an option.

Michael Stromberg, UPS, said that while doing nothing may not be an option, doing the wrong thing isn't going to help the problem and that it is more important to come up with the right solution. He stressed that there needs to be data that demonstrates that a solution will have a positive effect before pilots will support that solution.

Calvin Lott, FAA/AFS-220, stated that landing runway incidents are a navigation error that should be solved through pilot training.

Valerie pointed out that legal liability needs to also be considered. She pointed out that there are hundreds, perhaps thousands, of airports in the NAS that have parallel surfaces, so the first thing that is needed is strong, clear criteria that designates what constitutes a misalignment risk. Waving a red flag at one airport and not at a similarly configured airport could be problematic.

Valerie summarized the discussion and stated that there was consensus of the audience that wrong surface landing risk is a known issue that needs to be addressed. There was also a clear consensus of the audience that did not support the proposal presented here as an appropriate solution.

#### **STATUS: OPEN**

**ACTION:** Giovanni Dipierro, FAA/AJ1-141, will take the ACM feedback back to Runway Safety management for further discussion and will report at the next ACM.

**ACTION:** Giovanni Dipierro, FAA/AJ1-141, will provide the final Safety Risk Management Panel (SRMP) report to Valerie Watson, FAA/AJV-A250, for distribution to the ACM mailing list.

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## MEETING 21-01

Samer Massarueh, FAA/AJV-A223, reviewed the issue. At ACM 20-02, there was consensus of the audience that wrong surface landing risk is a known issue that needs to be addressed. However, there was not consensus of the audience in support of the proposal presented as an appropriate solution. Giovanni Dipierro, FAA/AJI-141, provided a [briefing](#) on what the Runway Safety Group has been working since the last meeting. He summarized that at the last ACM three initiatives were presented: hot spot symbolization specific to wrong surface hot spots (as distinct from hot spots of other causes) on Airport Diagrams, the addition of Arrival Alert Notices in the Chart Supplement, and the addition of a Misalignment Risk (MR) icon on associated Instrument Approach Charts (IAPs). He explained that his office listened to the feedback provided at the last ACM, went back and talked to the stakeholders, and eliminated the proposal to add the MR icon to IAP charts. The proposals to add a wrong surface hot spot symbol to Airport Diagrams and the publication of an Arrival Alert Page in the Chart Supplement remain. Giovanni stated that it is proposed that wrong surface hot spots be added initially to 11 airports ([slide 7](#)). Giovanni said the report from the Safety Risk Management Panel (SRMP) conducted in 2019 is still in the process of being updated and finalized because the items associated with the MR icon had to be removed.

Giovanni showed current and proposed examples ([slides 4-6](#)) with the proposed hot spot shapes and an example Alert Notice at Lincoln Airport (LNK). He said that they have developed "From the Flight Deck" (FTFD) videos and are also working with Flight Standards to develop international and military training to mitigate the risk of wrong surface events. There are also plans for communication and outreach through other means ([slide 8](#)).

Valerie Watson, FAA/AJV-A250, emphasized that the Airport Diagram is a ground movement chart and asked if the publication of the wrong surface hot spot is intended to protect aircraft on the ground. She said that if the intent is to mitigate landing risks, the Airport Diagram is not a landing chart and this is still not the solution. Giovanni said yes, they are warning ground traffic. He said that the incursion happens on the ground so both the ground and approaching aircraft need to be aware of these locations. Valerie repeated that depiction of a wrong surface hot spot on an Airport Diagram does not protect landing aircraft. She said she supports the publication of an Arrival Alert Page in the Chart Supplement. She also said that she thinks the publication of the three hot spot shapes is too subtle and that the differences will not stand out to a pilot.

Scott Jerdan, FAA/AJV-A310, asked which FAA Order governs the identification and removal of hot spots, as well as the submission process. He also asked about the criteria that will be used to add new locations. Giovanni said they will work directly with Aeronautical Information Services (AIS) to coordinate charting changes for the 11 airports. He said they are also currently working with the Office of Airports to create a process document in their Runway Safety Order for the removal of hot spots that are no longer relevant. Valerie commented that a process for hot spot publication and removal does not constitute criteria and asked if solid criteria has or will be developed, both for Hot Spots, Wrong Surface Hot Spots, and Misalignment Risk. If these terms are to be used, she believes solid criteria should exist and be published so that pilots understand the terms. Giovanni said hot spots are typically created as part of the Runway Safety Action Teams (RSATs) and that the criteria is based on data, such as documented repeated incursions. He said they work with facilities to try to mitigate the problem locally, but if that doesn't work, they will try putting it on the Airport Diagram. Valerie asked that Giovanni

share the data that is being used and the criteria the data must meet with the ACM audience. She also emphasized that she wants to make sure that “landing” risk, “approach” risk, and “arrival” risk are not used in the hot spot textual descriptions. The hot spot textual description must be written to address aircraft on the ground, not landing aircraft.

Brent Walker, FAA/AJV-A242, spoke to the current submission process for hot spots. He stated that AIS has a partnership with the Runway Safety Office and emphasized that the wording in the hot spot descriptions does get reviewed.

Rich Boll, NBAA, said he is glad to see the MR icon is not going to be included on the approach charts and thinks putting the Arrival Alert in the Chart Supplement is appropriate. He said he is still not convinced that the other proposed solutions are addressing the issue properly. He expressed concern with calling attention to 11 airports when there are hundreds of airports with similar “misalignment risks”. Rich asked if the data regarding these locations will be monitored so that the list of published wrong surface hot spots published in the future can change. Giovanni said the intent is to look at the data to see if identifying charting wrong surface hot spots is effective or not. If charting them does alleviate the issue, they will work to eliminate the unnecessary hot spots. Rich asked whether they are trying to tighten up the hot spot criteria to eliminate the number of charted hot spots. Giovanni said they are going to look at every hot spot, including the verbiage, and make sure the intent is properly communicated to users. Valerie again asked if specific hot spot criteria would be applied and what that criteria might be. Giovanni said written criteria does not yet exist, but is being worked.

Gary McMullin, Southwest Airlines, reported that all the pilots he shared this proposal with disagreed with adding wrong surface hot spots to the Airport Diagram. He emphasized that the Diagram is a taxi chart and has nothing to do with flying. He said that adding these additional locations is going to take away from what the publication of a hot spot is meant to accomplish. Hot spots have already proliferated to the point of no longer having a great deal of meaning for the pilot. He also said that the shapes of the hot spot locations aren’t going to matter to pilots. Giovanni said he will take this feedback to back to his office and encouraged Southwest to participate in the RSATs. Gary emphasized he believes pilot education is what is most important to ensure pilots comply with their landing clearance, not adding additional hot spots to taxi charts.

John Moore, Jeppesen, applauded the effort, but thinks Giovanni’s group is not using the Airport Diagram for its intended purpose. Additionally, he thinks they are using the wrong terminology. Hot spots are for ground movement, but the wrong surface hot spots clearly seem to be intended for airborne traffic. John thinks they should stop now and find a different solution.

Bruce McGray, FAA/AFS-420, said that Flight Standards has significant issues with this entire effort. He said this is the wrong solution using the wrong data. Bruce said perhaps a working group should be created to bring flight operations expertise into the process. He emphasized that “misalignment” means something different to a pilot from how it is being used in this proposal. Giovanni said terms can mean different things to different people. He said the original SRMP talked about adding an MR icon to the approach charts. He said they have started fresh since the discussion at the last ACM, so he’s not sure what Bruce is objecting to. Valerie clarified that the main objective of this proposal is still to publish wrong surface hot spots on a ground movement chart as a mitigation for landing aircraft and repeated the ACM audience did not support that at the previous meeting.

Bill de Groh, APA, voiced agreement that the addition of a wrong surface hot spot to the Airport Diagram is inappropriate. He stated that when too many hot spots are charted, pilots become desensitized and they become meaningless. He said that looking at the data to understand the root causes for the incursions could help with coming up with other and better ways to mitigate the problem.

Doug Willey, ALPA, said that each pilot does things a little differently. He cautioned that the ACM audience should be careful about talking for all pilots and speaking for the whole community. He pointed out that some pilots may consult Airport Diagrams for information other than ground movements.

Lynette McSpadden, FAA/AJR-B3, stated that in the current chart example on slide 7, the entire runway is circled to indicate a landing risk. She pointed out that there is already a precedent for showing wrong surface risk on an Airport Diagram.

Anthony Schneider, FAA/AJI-1, said that they have clearly heard that pilots want to reduce the number of hot spots that are being published and he stated that is one of the goals of this initiative. He stated that the 11 airports identified for wrong surface hot spots were based on the number of incidents that were occurring. He agrees they need to identify the root causes and define their criteria, but in the meantime they are trying a variety of solutions to try to mitigate the problem. He stated that Flight Standards as well as much of industry have concurred with the current proposal. He said that while he heard Bruce's comments, he doesn't necessarily think all of Flight Standards shares that opinion since they are part of the Surface Safety Group on the National Runway Safety Council. He said they would like to try this approach at the 11 airports and if the resulting data shows that charting the hot spot has no effect, they will remove them. He said he will take the feedback that this audience does not agree with adding wrong surface hot spots on the Airport Diagrams and talk about it internally and with the Runway Safety Council and Surface Safety Group. He added that they are still open to other ideas.

Valerie suggested removing the word "Arrival" on slide 7, and instead changing it to "Wrong Surface Hot Spots," since only ground traffic is being warned by their publication. She also pointed out that though there is ACM support for publishing the Arrival Alert page in the Chart Supplement, the remainder of the proposal was again not supported by the audience, particularly if the intent is to mitigate risk to landing aircraft and not aircraft on the ground.

#### **STATUS: OPEN**

**ACTION:** Giovanni Dipierro, FAA/AJI-141, will take the ACM feedback back to Runway Safety management for further discussion and will report at the next ACM.

**ACTION:** Giovanni Dipierro, FAA/AJI-141, will provide the final Safety Risk Management Panel (SRMP) report to Valerie Watson, FAA/AJV-A250, for distribution to the ACM mailing list.

#### **MEETING 21-02**

The proponent of this agenda item was not in attendance. Discussion was tabled until the April 22-01 meeting. Prior to the ACM, Giovanni Dipierro, FAA/AJI-141, provided the following Safety



Risk Management Documents for ACM review: [Arrival Alerts Page](#) and [Hot Spot Symbology Standardization](#).

**STATUS: OPEN**

**ACTION:** Giovanni Dipierro, FAA/AJI-141, will provide an update on the proposal to publish Wrong Surface Hot Spots and Arrival Alert pages.

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**MEETING 22-01**

Note: The original proponents of this issue, Giovanni Dipierro and Ray German from the FAA Runway Safety Program Office (AJI-14) were not in attendance at this or the previous meeting.

Jeff Rawdon, FAA/AFS-420, [briefed](#) the audience on the proposal to publish wrong surface hot spot Arrival Alert Notices and associated Airport Diagram wrong surface symbology. He shared that Flight Standards initially submitted a non-concur to the Safety Risk Management Document (SRMD) proposing this publication strategy. However, after Flight Standards division management met with Runway Safety, they agreed to withdraw the non-concur to allow the program to proceed as a one-year test. Flight Standards collaborated with Runway Safety in order to provide the authorization for Aeronautical Information Services (AJV-A) to publish test Arrival Alert Notices and specific wrong surface hot spot symbology at 11 airports outside of Interagency Air Committee (IAC) Specifications. Flight Standards issued a memorandum authorizing AJV-A to (a) publish Arrival Alert Notices (AANs) for the 11 test airports in the Chart Supplement and, (b) depict associated wrong surface “cylindrical” hot spot symbology on applicable Airport Diagrams. The test will begin with the 19 May 2022 publication date. An IAC specification change proposing permanent and NAS-wide wrong surface hot spot symbology has been proposed.

The test publication is authorized for the 11 airports indicated on [slide 4](#). [Slide 5](#) is an example of an AAN. The relevant hot spots are depicted on the AAN, which includes descriptive text to explain the issue at that location. A note in the Airport/Facility Directory (A/FD) entry of associated airport will refer users to the AAN as shown on [slide 7](#). [Slide 6](#) shows the revised depiction of the wrong surface hot spots on the Airport Diagram. Wrong surface hot spots will be identified with a cylindrical symbol at the ends of the runways to refer users to the Hot Spot Tabulation for a detailed description ([slide 8](#)). Jeffrey Lamphier, FAA/AJV-A240, reported no new hot spot descriptions were received for the 11 test airports.

Jeff reported that Runway Safety has initiated community outreach including updates to the Runway Safety website, podcasts, YouTube videos, From the Flight Deck (FTFD) videos, etc. Flight Standards will soon be issuing an Information for Operators (InFO) to describe the specifics of the test. Jeff explained that six months after the initiation of the test, Runway Safety and Flight Standards will conduct a review of the test progress. If success is demonstrated, the offices will work together to determine the next steps in pursuit of permanent implementation.

To submit feedback on the test publication of wrong surface hot spot Arrival Alert Notices and associated Airport Diagram symbology, visit the following website and click the feedback link at the bottom of the page: [https://www.faa.gov/airports/runway\\_safety/](https://www.faa.gov/airports/runway_safety/).

John Collins, ForeFlight, asked if the reference to the AANs in the A/FD could be a hyperlink. Valerie Watson, FAA/AJV-A250, responded that the Special Notice reference in the Airport Remarks is the current method that is used to alert pilots that such notices are published in the back of the Chart Supplement. She understands that a hyperlink would be helpful, but AJV-A is unable to provide that at this time.

Rich Boll, NBAA, asked what metrics the test is going to use and how success will be measured. Jeff said Runway Safety is putting the criteria together and will continue to monitor runway safety concerns. The 11 airports are known to have fairly regular runway confusion issues, so success would be a quantifiable decrease in the number of such instances. They also want to gather pilot feedback. Rich asked if Runway Safety is planning to follow up with these 11 airports or query the operators at those locations regarding the usefulness of the changes before opening this up to wider use in the National Airspace System (NAS). Jeff said Runway Safety focused on these 11 because they are the airports with the most concerns and any future addition of airports to this program would be identified by Runway Safety based on safety data.

Jim McClay, AOPA, stated that AOPA does not have concerns with the new AANs, but rather with the changes to the Airport Diagrams. He said AOPA is concerned with the way this issue was pushed forward over unanimous objections raised at ACMs 20-02 and 21-01. He expressed concerns with the precedent this sets with the way issues are raised and audience objections are ignored. Jim also said he has concerns about the terminology that is being used. "Misalignment risk" is not the same as "wrong surface" and AOPA feels they should be defined and handled separately. He thinks these issues should have been addressed before the initiation of this test because it will now be much more difficult to readdress these concerns later.

Mike Stromberg, IPA/UPS, asked what Jeppesen/third party providers will do with the test hot spot information. Jeff Rawdon explained that this test will be conducted via FAA-produced Arrival Alert Notices and Airport Diagrams. He explained an IAC Requirement Document (RD) specification change proposal has been submitted for wrong surface hot spot changes, but has not yet been approved. The RD would formalize the test aspect discrimination between "Ground Movement Hot Spots" and "Wrong Surface Hot Spots". The RD specifies that Ground Movement Hot Spots are to be shown by circles or ovals and Wrong Surface Hot Spots are to be shown by cylinders.

Aaron Jacobson, Jeppesen, said he agrees with what Jim McClay said about how this issue was handled by Runway Safety in light of previous ACM discussion. He said his offices have concerns regarding the terminology and with including approach/arrival information on Airport Diagrams. He said Jeppesen will not make any changes in response to the test, but will follow the FAA's guidance on any permanent specification changes. Jeff said Runway Safety should be able to report on the success of the test by the next ACM and could then pursue more permanent and NAS-wide changes in place. Valerie pointed out that permanent changes are still contingent on approval of the IAC specification change.

Mike Crim, GA pilot, asked if the new wrong surface hot spots should be more clearly distinguished from a regular hot spot by labeling or naming them something other than a hot spot. Valerie said the decision was made by Runway Safety to call out the wrong surface hot spots by depicting them with a cylindrical shape and by publishing the associated AANs. Mike pointed out that the shape difference between a cylinder and an ellipse is very subtle and an education piece is going to be very important if pilots are expected to notice the distinction. Jeff said the information about the changes to the shapes will be in the InFO and if eventually

approved, in the Aeronautical Chart Users' Guide. He encouraged Mike to also provide his feedback through the Runway Safety feedback link.

Mike Stromberg asked if the AANs will be available for third party providers to publish in their electronic applications. He pointed out that Runway Safety needs to track what charts (FAA or 3<sup>rd</sup> party) were being used during this test period. They will need to determine if an increase or decrease in runway incidents is experienced by actual users of the test material or is unrelated to use of that material. He voiced that because many pilots will not be using the FAA publications, success determinations may prove difficult. This is essentially only a test for users of FAA products and Runway Safety's success data will need to account for that.

Rich pointed out that in past issues, the use of a test was rejected because it was the FAA's policy that the NAS not be used as a test arena. Because, based on the precedent set in the handling of this issue, if running tests in the NAS is now acceptable as FAA policy, he would like to leave open the possibility to have the FAA reconsider adding a test Attention All Users (AAUP) at Teterboro (TEB) for ACM issue 19-01-331.

John Barry, FAA/AIR-622, pointed out that what is being called a cylinder is actually a racetrack symbol. He thinks making that small change to the terminology might help alleviate some of the confusion. Valerie agreed that "cylinder" is normally understood to be a 3-dimensional figure and that perhaps better terminology could be used. She asked John to provide this input through the Runway Safety feedback link. Jeff said the issue of the symbol name has been discussed, however since "cylinder" was used in the SRMD, Runway Safety didn't want to change the terminology.

John Collins, ForeFlight, said most pilots that look at the Airport Diagram example ([slide 6](#)) would not notice that there is something new or different about it. He also doesn't think they'll go into the A/FD to look for the AAN. He suggested that something more should be added to the Airport Diagram to alert pilots to the wrong surface concern.

John Moore, Jeppesen, stated that documented concerns that will be published in the ACM minutes should go to Runway Safety and attendees should not have to separately submit feedback to their website. He voiced disappointment that Flight Standards and the charting offices have allowed Runway Safety to drive these changes through. He repeated others' concerns about the NAS being used as a test arena. He voiced he doesn't understand why the FAA would do a public test in the NAS instead of running it through the Department of Transportation Volpe Center for human factors testing. He pointed out that Runway Safety needs to attend the ACM to hear the concerns being raised. (As mentioned, no representatives of Runway Safety have attended since April of 2021.) Kevin Allen, American Airlines, agreed that Volpe should conduct a safety analysis before the FAA proceeds with this test. Jeff said that there have been no concerns that this test will have any impact on flight safety. No information is being taken away, but additional information is being provided with the AANs and the added symbology. Valerie said in defense of the charting office, a test like this has never been done before and concerns were raised by her organization, however AJV-A has been directed by Flight Standards to run the test so users can expect it to begin with the May 19 chart cycle. John said he thinks it is incumbent on the chairs of the ACM to engage with the Runway Safety office regarding the ACM's feedback. Jeff agreed and said that those conversation will occur.

Bill Tuccio, Garmin, agrees that Runway Safety should be participating in this meeting, but he also expressed that he thinks this is a reasonable effort by the FAA and does not think it compromises safety.

Rich Boll, NBAA, agreed with John Moore and thinks it is disappointing that Runway Safety and Flight Standards did not take the advice and input of the ACM participants into account. He also pointed out that he has often raised the issue of the proliferation of hot spots in the NAS. He asked if any work is being done to remove unnecessary hot spots. Valerie said Runway Safety had committed to looking into removing unnecessary hot spots at a previous ACM, but that is not part of this effort.

Mark Mentovai, Manhattan Flight Club, thinks if this is being viewed as a test, which is without precedent, the FAA will not get valuable data since no one knows the test is being conducted. Pilots won't notice that anything on the chart has changed. The sample size of both airports and operators is too small. The FAA has done the test a disservice by conducting it this way and Mark doesn't think the FAA will get statistically significant data. He expects the data will show something should be changed, but if so how will those changes and follow up testing be done? Testing on the flying public without notifying them of the changes will not elicit solid test results. If the FAA truly wants to assess a positive safety impact, a proper test needs to be conducted.

Bill Tuccio pointed out that Runway Safety has not communicated that these changes are part of a test in any of the guidance on their website. Valerie said Charting and Flight Standards pointed that out to Runway Safety. She reiterated that regardless of the absence of clarification by Runway Safety that this is a test, charting is proceeding based on a signed memorandum from Flight Standards that only authorizes the charting changes for the 11 airports for a test period of one year.

Aaron Jacobson, Jeppesen, asked if there is criteria that identifies a wrong surface risk. He is concerned that once these hot spots are in use, they will start to proliferate. Jeff stated he is not aware of documented criteria for what constitutes a wrong surface risk. He repeated his belief that widespread proliferation of wrong surface hot spots is not expected to occur. He stated Runway Safety is only planning to roll this out to airports with recurring documented problems determined based on a threshold of incidents.

Mark Mentovai suggested consideration of issuing a Charting Notice that includes language that makes clear the changes are a test. Jeffrey Lamphier said that was not part of the test plan. He said they discussed it but it was not considered necessary and the InFO was the agreed upon mechanism for public notice of the test. Valerie said AJV-A has the freedom to issue a Charting Notice to communicate the same information that is to be included in the InFO. Jeff Rawdon agreed but said Flight Standards would have to approve the language of the Charting Notice. Jeff Rawdon will share the InFO language and work with and Jeffrey Lamphier to draft a Charting Notice.

Valerie summarized that the test will begin with the 19 May 2022 publication date at the 11 airports identified. There is a permanent specification change proposal that has been submitted to the IAC and she will report on its status at the October ACM, but would not expect either acceptance or rejection of the proposal until test result have been assessed and published. She expects Runway Safety will be at the next ACM to report on the test progress. She asked the audience again to communicate their concerns directly to Runway Safety via the feedback link on their website. She also repeated Jeff Rawdon's commitment to communicating the concerns expressed at this meeting to Runway Safety when he meets with them.

**STATUS: OPEN**

**ACTION:** Jeff Rawdon, FAA/AFS-420, and Jeffrey Lamphier, FAA/AJV-A240, will collaborate on the publication of a Charting Notice to announce the initiation of the Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbolology test.

**ACTION:** Jeff Rawdon, FAA/AFS-420, and Runway Safety, FAA/AJI-141, will provide an update on the test of Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbolology.

**ACTION:** Valerie Watson, FAA/AJV-A250, will report on the proposed Interagency Air Committee (IAC) specification change for the wrong surface hot spot symbolology.

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**MEETING 22-02**

Jeff Rawdon, FAA/AFS-420, reported that the test of Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbolology started on 19 May 2022. He said one condition of the test was a mid-term review of test progress, which will happen in three weeks. Flight Standards has issued [an Information for Operators \(InFO\)](#) and AJV-A published a [Charting Notice](#) to explain the test. He said a twelfth airport was added to the test and will be published on 29 December 2022.

Giovanni Dipierro, FAA/AJI-141, said his office will share data from the test with Flight Standards the first week of December. He reported that in looking at some of the airports involved in the test it appears the number of wrong surface events has gone down. He said they have been socializing the proposal with industry and are gaining support, especially for the Arrival Alert Notices.

**STATUS: OPEN**

**ACTION:** Jeff Rawdon, FAA/AFS-420, and Giovanni Dipierro, FAA/AJI-141, will provide an update on the test of Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbolology.

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**MEETING 23-01**

Jeff Rawdon, FAA/AFS-420, reported that Flight Standards met with Runway Safety in December 2022 to do a six month review of the one year test of Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbolology. At that time, it was reported that the test results were positive and they would plan to continue the test until May 18, 2023. If the test results continued to be positive, he said they would plan to implement the proposal.

Scott Proudfoot, FAA/AJI-1550, reported that since the test started on May 19, 2022, the team tracked and documented all wrong surface events that occurred at the 12 test facilities. The

team then evaluated the events to determine what went wrong. They saw an overall decrease in number of wrong surface events, with the exception of two airports that had no changes and one where the number increased slightly. It was determined the Arrival Alert Notices and changes to the Airport Diagram did not cause problems and, if anything, assisted pilots.

Scott noted it is hard to collect and analyze relevant data since it is hard to know whether the Arrival Alert Notices assisted in safe arrivals or were utilized when there was a wrong surface event. In the past few months, the team did a lot of outreach at the test airports, asking pilots whether they were aware of and using the new products. They discovered that they need to improve their outreach. He noted that pilots based at the airports already know the risks for that airports, so one challenge the team had was how to contact transient pilots not based at those airports. However, when they were able to contact pilots, the verbal feedback received was that when pilots know about the Arrival Alert Notices, they said they found them to be helpful.

The team also discovered that some of the airports were included in the test based on old data and did not have problems with wrong surface events anymore, such as Rochester and McKinney. Going forward, Scott thinks the best way to handle determining whether an airport would benefit from Arrival Alert Notices and symbology on the Airport Diagrams would be to use data only from the last two years. For example, Reno and Boise should be added but other airports could be removed from the list of airports.

Jeff Rawdon asked what feedback the team received about the addition of wrong surface hot spot symbology to the Airport Diagram. Scott said the feedback received from pilots is that the distinctive symbology makes it much clearer and easier to understand.

Jim McClay, AOPA, said at the last few ACMs there was not pushback from industry on the Arrival Alert Notices but there has been pushback on the changes to the Airport Diagrams. There is wide agreement that pilots do not look at the Airport Diagrams for arrival information, so he does not think it makes sense to put the information there. Secondly, he thinks there is a downside to combining two different terms – misalignment risks and wrong surface hot spots. Conflating the two terms is confusing and he thinks they should be treated differently.

Scott agreed with Jim about the terminology issue and said he thinks misalignment risk is more accurate. He disagreed with Jim's position regarding adding the symbology to the Airport Diagram. He thinks anything that can help a pilot recognize a potential misalignment risk is beneficial. Jennifer Hendi, FAA/AJV-A250, said it has been pointed out in past meetings that pilots do not use the Airport Diagram to mitigate landing issues because it is a ground movement chart. Jim agreed and said he also thinks the problem is more a matter of precedent. He is concerned this could lead to the addition of more information to the Airport Diagram that is outside its stated purpose. Scott asked where a pilot would look for this information. Jim said for general aviation, most pilots are looking at electronic flight bags (EFBs) and there might be some opportunities there to highlight risks at particular airports. Bennie Hutto, NATCA, said he agrees that pilots will look at information added to EFBs.

Jeff Rawdon pointed out that with the IAP Chart Modernization effort, information previously charted on the airport sketch will be moved to the Airport Diagrams, so maybe in the future pilots will use them more.

Rich Boll, NBAA, also noted that through the work of the Chart Modernization Workgroup, Airport Diagrams will be made available for all airports. He then asked Scott whether the improvements seen at the airports were because of the Arrival Alert Notices and symbology on the Airport Diagrams or because of the outreach that was done by Runway Safety. He noted

that the results will be more clear a few years down the road and will show whether the proposed changes were a success or not. He said the FAA has an obligation to follow up on all wrong surface events to make sure the products were used. He also thinks the FAA should make sure the Arrival Alert Notices and symbology on the Airport Diagram are truly a success before spreading them across the National Airspace System (NAS).

Bill Tuccio, Garmin, said he thinks the Arrival Alert Notice is an excellent resource, but he would never find it because it is buried in the Chart Supplement. John Collins, ForeFlight, pointed out that ForeFlight's airport view includes the Arrival Alert Notice and the hot spots from the Airport Diagram.

Mike Stromberg, UPS IPA, pointed out that most wrong surface events are VFR and general aviation. He thinks the FAA is trying to get people who normally do not look at those specific charts to look at them to solve the problem.

Scott showed an example of the Arrival Alert Notice and Airport Diagram from Flying Cloud. He said they pass out these products everywhere they might run into Flying Cloud pilots. The feedback received has been positive.

Rich suggested ForeFlight partner with the FAA to put these supplemental products into ForeFlight. John Collins said he can facilitate that conversation, but noted ForeFlight has already made the Arrival Alert Notices more accessible. Steve Madigan, Garmin, agrees with adding the information into Garmin and thinks there is a lot of value in adding information to EFBs. Mike agreed and also suggested reaching out to airports for a list of people who rent hangars as another means of finding GA pilots.

Kevin Carter, NGA, asked whether there was coordination with DoD. He noted there is no language to explain the symbology, and noted that the DoD Flight Information Products do not publish the information. Jeff Lamphier, FAA/AHV-A240, said it hasn't yet been published in DoD products because this information was added as a test via memo for specific locations in FAA publications.

Jennifer thanked Scott for his presentation and summarized that the test will be complete on May 18, 2023. Flight Standards is meeting with Runway Safety after the completion of the test and will then decide whether to continue the program. Jeff Rawdon noted that even after the end of the test, it is probable users will continue to see the test Arrival Alert Notices and symbology on the Airport Diagrams in the publications beyond the test period due to the timing of the end of the test and subsequent charting cycle dates.

## **STATUS: OPEN**

**ACTION:** Jeff Rawdon, FAA/AFS-420, and Scott Proudfoot, FAA/AJI-1550, will provide an update on the plan for publication of Wrong Surface Hot Spot Arrival Alert Notices and Associated Airport Diagram Symbology.

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**MEETING 23-02**

Jeff Rawdon, FAA/AFS-420, reported that the one-year test of arrival alert notices (AANs) and associated wrong surface hot spot airport diagram symbology officially concluded last May. As a result, the AANs were accepted and will be published in the Chart Supplement for the 12 airports included in the test in the next charting cycle. In the future, they will be added to and removed from other airports as deemed necessary. The Interagency Air Committee (IAC) specification changes for AANs have been approved. The cylinder symbology for wrong surface hot spots was not accepted. Going forward, hot spot symbology will be standardized to circles and ellipses and there will not be wrong surface landing hot spots. After 30 November 2023, the two Flight Standards memos and the Information for Operators (InFO) that were issued will be canceled. Jeff showed an [example](#) from Lincoln, Nebraska. Jeff recommended closing this issue.

Aaron Jacobson, Jeppesen/Boeing, asked what the criteria was for determining the results of the tests. Jeff said the effort included surveys and other forms of feedback. They also socialized the test on social media and conducted public outreach by talking to pilots at aviation gatherings and at the local airports where the AANs were published. He said it was hard to be quantitative with the results since you don't know what wrong surface events didn't happen because of the change, but the qualitative feedback they received was positive.

John Collins, ForeFlight, said ForeFlight manually added these AANs for the 12 airports. He asked if, going forward, there will be an automated means of obtaining this information. Jeff Lamphier, FAA/AJV-A240, said this information will be delivered as part of the Chart Supplement XML Phase II enhancements once they are available. It will be in the XML code as a secondary airport package and on their web search page as a secondary PDF download. It will include everything associated with the airport. This method will be available in early 2024. Rich Boll, NBAA, pointed out that in the meantime the list of AANs can be found on Runway Safety's website: [https://www.faa.gov/airports/runway\\_safety/hotspots/aan](https://www.faa.gov/airports/runway_safety/hotspots/aan). Mark Mentovai, Manhattan Flight Club, said he has been able to extract the data from the Chart Supplement package. He said he will email the details to John.

Jennifer Hendi, FAA/AJV-A250, asked Jeff Lamphier if he has received any new or revised AANs from Runway Safety for the November cycle. Jeff said they have not received any yet, but Runway Safety is working them, and it will be handled through their usual submission process.

Joel Dickinson, FAA/AFS-410, noted that an expiration date and Runway Safety's email address is included on the AAN example that was shown. He asked if that information would remain or if it was just for the test. Jeff Lamphier said the expiration date was only for the test. He said he will talk with Runway Safety about whether to include their email. He also pointed out that the Chart Supplement team is working to identify owners of all special notices. They are working to add a block at the bottom of all notices to identify the office of primary responsibility that is responsible for managing, updating, and sending the notice to the Chart Supplement team for publication.

Rich Boll, NBAA, asked if Runway Safety plans to continue to update the list of AANs on their webpage. He also asked that Flight Standards consider updating the InFO with the results of the test and to refer pilots to the Runway Safety website for the list of airports and to the Chart



Supplement for the AANs. Jeff Rawdon said he can take that recommendation back to discuss internally.

Jeff Lamphier said a Charting Notice was posted to announce that the test concluded and that AANs will be provided in the Chart Supplement with the standardized hot spot symbols (circle and ellipse). Jeff Rawdon asked Rich if that was sufficient. Rich said he still would like to see an InFO because they are more widely received by operational audiences than Charting Notices. Jeff Rawdon said he will follow up with Rich on whether a new InFO should be issued. Rich agreed and said he is fine with closing this issue.

**STATUS: CLOSED**