



# Federal Aviation Administration

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## Memorandum

Date: NOV 15 2013

To: Bruce DeCleene, Manager, Flight Technologies and Procedures Division, AFS-400  
Michael J. O'Donnell, Director, Office of Airports Safety and Standards, AAS-001

From: *William S. Davis*  
William S. Davis, Deputy Vice President, Mission Support Services, AJV-0

Subject: Interim Policy Guidance for Mitigation of Penetrations to the 20:1 Visual Area Surface

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**PURPOSE:** To provide consolidated interim policy guidance for FAA staff to address the process related to the discovery, verification, risk assessment, and mitigation of obstacles identified as penetrations to the 20:1 Visual Area Surface (20:1 surface) of instrument approach procedures (IAP).

**ACTION:** When 20:1 surface obstacle/terrain penetrations (penetrations) are discovered within the Visual Area Surface of an IAP (see attachment 1- 20:1 Risk Assessment), action will be taken to evaluate the entire airport to ensure that all 20:1 penetrations for every IAP have been identified. Effective January 6, 2014, use the following process (see attachment 2- 20:1 Mitigation Flow Chart) for the notification, verification, risk assessment, and mitigation of each penetration:

- 1. Notification and Verification.** The Operations Support Group (OSG) Flight Procedures Team (FPT) will notify the airport owner/sponsor and the Airports District Office (ADO) within three business days of being informed of a potential penetration of an IAP. The OSG FPT will request the airport owner/sponsor to verify the validity of each penetration as soon as possible but not to exceed 30 calendar days after notification. The airport owner/sponsor must respond in writing to the OSG FPT with a copy to the ADO (scanned documents are acceptable). This reply is due as soon as possible and shall not be delayed to address mitigation, which is addressed through the compliance process (below). The preferred methods for an airport owner/sponsor to update data regarding trees that have been trimmed are contained in the Office of Airports (ARP) Engineering Brief (EB) #91: Management of Vegetation in the Airport Environment. EB #91 is available at the FAA website link: [http://www.faa.gov/airports/engineering/engineering\\_briefs/](http://www.faa.gov/airports/engineering/engineering_briefs/). If no response is received within the prescribed timeframe, actions must be taken to restrict the IAP visibility minima/night operations as appropriate.

2. **20:1 Penetration Determined Invalid.** If the 20:1 penetration(s) at issue have been determined to be invalid by an airport owner/sponsor, the OSG FPT will notify AeroNav Products and the Aeronautical Information Management Terrain and Obstacle Data (TOD) Team. AeroNav products will update the documentation on the periodic review sheet. The TOD Team will update the obstacle database within 10 business days. No action is required to restrict or modify the subject IAP.
3. **20:1 Penetration Determined Valid.** If the 20:1 penetration(s) at issue is/are valid, one or more of the actions specified in paragraphs 3.1 through 3.3 below is/are required (see attachment 3-Timelines and IAP Restrictions). If any of the timelines are not met, or the airport compliance plan does not remove, light, or lower the obstacle, or if no compliance plan is contemplated (e.g., the airport operator/sponsor elects to not mitigate the obstacle risk), AeroNav Products must restrict the IAP accordingly (e.g., using a Notice to Airmen (NOTAM) or a Procedure Amendment).
  - 3.1 **High Risk.** If the penetration(s) are verified as more than 11.0 feet above the 20:1 surface they are considered as high risk and **immediate action** is required to restrict the IAP visibility to at least 1 statute mile (SM) and if the obstacle is unlighted, restrict night operations. The airport operator/sponsor must submit a compliance plan as soon as possible but no later than 30 calendar days from the date of obstacle validation (by the airport owner/sponsor) to the OSG FPT with a copy to the ADO. The compliance plan must indicate actions to remove, light, or lower the obstruction as soon as possible for FAA to review the removal of restrictions. Appropriate IAP restrictions (above) must remain in force on subject IAP(s) until the Visual Area Surface penetration risk is mitigated.
  - 3.2 **Medium Risk.** If the penetrations are verified as more than 3 feet and up to 11.0 feet above the 20:1 surface they are considered as medium risk and no immediate action is required to restrict the IAP. The airport operator/sponsor must submit a compliance plan as soon as possible but no later than 30 calendar days from the date of obstacle validation (by the airport owner/sponsor) to the OSG FPT with a copy to the ADO. The compliance plan must indicate actions to remove, light, or lower the obstruction as soon as possible but not to exceed 180 calendar days. If the penetrations are not mitigated within the prescribed timeframe, appropriate action must be taken to restrict the IAP.
  - 3.3 **Low Risk.** If the penetration(s) are verified as 3 feet or less above the 20:1 surface, they are considered as low risk and no immediate action is required to restrict the IAP. The airport operator/sponsor must submit a compliance plan as soon as possible but no later than 30 calendar days from the date of obstacle validation (by the airport operator/sponsor) to the OSG (FPT) with a copy to the ADO. The compliance plan must indicate actions to remove, light, or lower the obstruction as soon as possible but not to exceed one year. If the penetrations are not mitigated within the prescribed timeframe, appropriate action must be taken to restrict the IAP.

4. **Alternate Mitigation.** The actions specified above do not preclude application of currently approved methods to mitigate 20:1 penetrations (e.g., use of Visual Glideslope Indicator (VGSI) or mitigation based on full-scale deflection, etc.).
5. **Additional Guidance.** This memo applies only to penetrations to existing IAP identified as of the effective date of this memo and is not intended to be used to revise or invalidate previously issued guidance restricting IAP. Obstacles/penetrations reported by FAA Flight Inspection Services aircrews are considered as outside the scope of this memorandum. Penetrations reported by FAA Flight Inspection Services are considered as having been verified and assessed; thus, may result in immediate action to restrict an IAP.
6. **Unusual Circumstances.** Unusual circumstances which prevent compliance with timelines (above) must be submitted by the airport operator/sponsor in writing to the OSG FPT with a copy to the ADO within 10 business days of initial notification. Approval to deviate from the timelines may be granted with consensus of the signatories to this memorandum or their designees. The OSG FPT in coordination with the ADO will respond to airport owner/sponsor submittals no later than 30 calendar days from receipt.
7. **Compliance.** The OSG FPT in coordination with the ADO will monitor the compliance plan and will brief the status during monthly Regional Airspace and Procedures Teams (RAPT) meetings. A standardized report will be used by the OSG FPT and included on the AeroNav Products IFP Gateway. As improved survey data is provided or notification is received that the obstacle is removed, lighted, or lowered to a height below the surface, the OSG FPT will notify AeroNav Products and Aeronautical Information Management Terrain and Obstacle Data (TOD) Team. AeroNav Products will update the documentation on the periodic review sheet. The TOD Team will update the obstacle database within 10 business days. Restrictions imposed on the respective IAP will be removed as appropriate.


**Implementation:** This guidance will be effective on January 6, 2014. Further, this guidance will be reevaluated within 180 calendar days and adjusted as necessary. For the period from the date of this memorandum until January 6, 2014, a national review team will determine the appropriate action for each penetrating case and advise accordingly. Our long term goal is to work with airports to achieve and sustain compliance to the required obstacle surfaces by January 2016.

**Approval/Disapproval:**

Approve:   
Disapprove:

  
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Bruce DeCleene, Manager,  
Flight Technologies and Procedures Division

Date: 11/15/13

Approve:   
Disapprove:   
  
\_\_\_\_\_  
Michael J. O'Donnell, Director,  
Office of Airport Safety and Standards

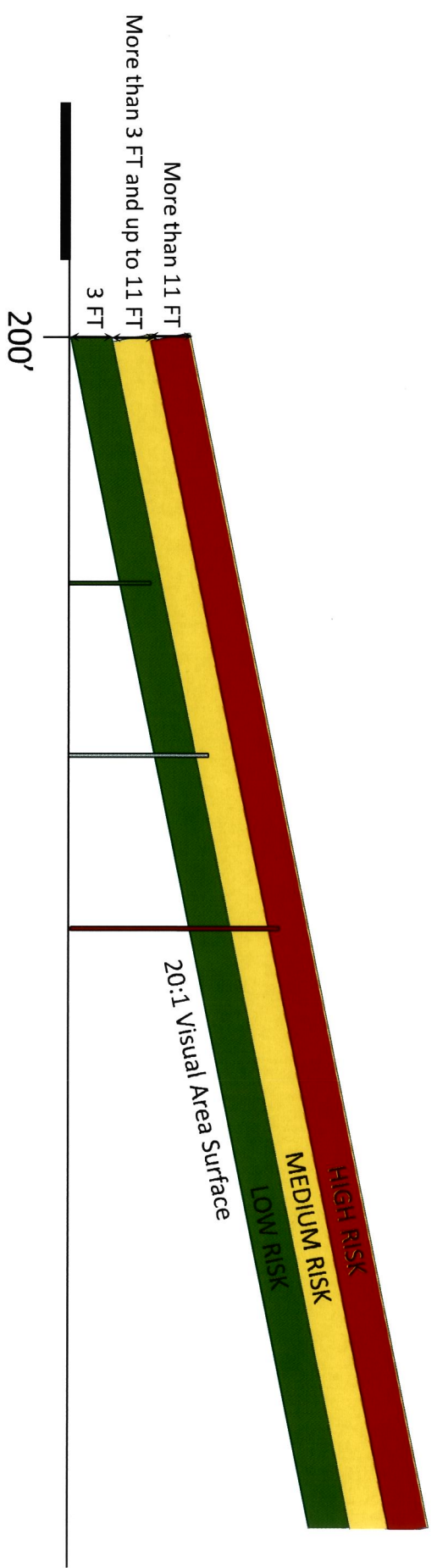
Date: 11/15/13

**Attachments:**

- Attachment 1 – 20:1 Risk Assessment
- Attachment 2 – 20:1 Mitigation Flow Chart
- Attachment 3 – Timelines and IAP Restrictions



# Attachment 1. 20:1 RISK ASSESSMENT



**HIGH RISK**  
 (more than 11 feet)

- Immediately restrict IAP visibility to at least 1 SM and if unlighted restrict night operations (e.g., using a Notice to Airmen (NOTAM) or a Procedure Amendment
- Submit compliance plan as soon as possible but no later than 30 days
- IAP restrictions will remain until penetration(s) are mitigated

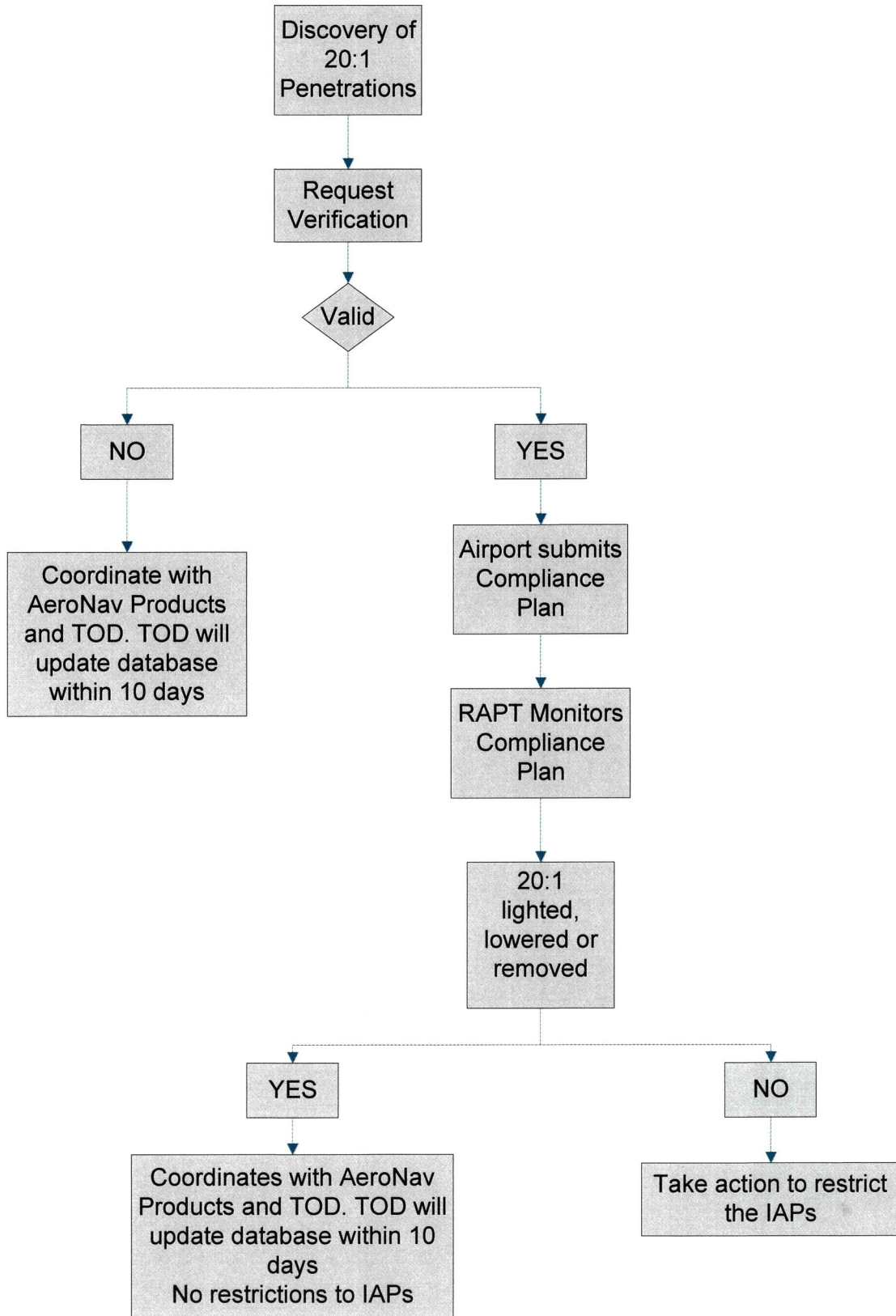
**MEDIUM RISK**  
 (more than 3 feet and up to 11 feet)

- No immediate IAP actions
- Submit compliance plan as soon as possible but no later than 30 days
- Mitigate penetrations as soon as possible but not to exceed 180 days

**LOW RISK**  
 (3 feet or less)

- No immediate IAP actions
- Submit compliance plan as soon as possible but no later than 30 days
- Mitigate penetrations as soon as possible but not to exceed one year

# Attachment 2. 20:1 Mitigation Flow Chart



## Attachment 3. Timelines and IAP Restrictions

11/15/2013

<b>RISK CATEGORIES</b>	Obstacle Penetrates 20:1 by:	Verification Timelines	IAP Restrictions if 20:1 are valid	Compliance Plan Timelines
HIGH	More than 11 feet	Not to exceed 30 days	Immediately restrict IAP visibility and If unlighted restrict night operations (e.g., using a Notice to Airmen (NOTAM) or a Procedure Amendment	IAP Restrictions will remain until penetration(s) are mitigated
MEDIUM	More than 3 feet and up to 11 feet	Not to exceed 30 days	No immediate action	30 days for Compliance Plan & 180 days to light, lower, or remove
LOW	3 feet or less	Not to exceed 30 days	No immediate action	30 days for Compliance Plan & 1 year to light, lower, or remove

NOTE: Verification and compliance timelines should be completed as soon as possible but not to exceed the appropriate number of calendar days. If any of the timelines are not met or the obstructions cannot be removed, lighted or lowered the IAP will be restricted immediately.

IAP                      Instrument Approach Procedure  
VIS                      Visibility