























APPENDIX B STRUCTURAL DRAWINGS



















APPENDIX C VDCR CORRESPONDENCE



COMMONWEALTH of VIRGINIA

DEPARTMENT OF CONSERVATION AND RECREATION

Frank N. Stovall Deputy Director for Operations

Darryl Glover Deputy Director for Dam Safety, Floodplain Management and Soil and Water Conservation

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July 1, 2022

Kathlynn Lewis Environmental Resources Management, Inc. 919 E. Main St. Richmond, VA 23219

Re: 0505584, Loudoun South 500kV-230kV

Dear Ms. Lewis:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, natural heritage resources have not been documented within the project area including a 100ft buffer. However, several rare plants, which are typically associated with prairie vegetation and inhabit semi-open diabase glades in Virginia, may occur at this location if suitable habitat is present. Diabase glades are characterized by historically fire-dominated grassland vegetation on relatively nutrient-rich soils underlain by Triassic bedrock. Diabase flatrock, a hard, dark-colored volcanic rock, is found primarily in northern Virginia counties and is located within the geologic formation known as the Triassic Basin. Where the bedrock is exposed, a distinctive community type of drought-tolerant plants occurs. Diabase flatrocks are extremely rare natural communities that are threatened by activities such as quarrying and road construction (Rawinski, 1995).

In Northern Virginia, diabase supports occurrences of several global and state rare plant species: Earleaf False foxglove (*Agalinis auriculata*, G3/S1/NL/NL), Purple milkweed (*Asclepias purpurascens*, G5?/S2/NL/NL), American bluehearts (*Buchnera americana*, G5?/S1S2/NL/NL), Downy phlox (*Phlox pilosa*, G5/S1/NL/NL), Torrey's Mountain-mint (*Pycnanthemum torreyi*, G2/S2/NL/NL), Stiff goldenrod (*Solidago rigida var. rigida*, G5T5/S2/NL/NL), and Hairy hedgenettle (*Stachys arenicola*, G4?/S1/NL/NL).

Due to the potential for this site to support populations of natural heritage resources, DCR recommends an inventory for rare plants associated with diabase glades in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources.

DCR-Division of Natural Heritage biologists are qualified to conduct inventories for rare, threatened, and endangered species. Please contact Anne Chazal, Natural Heritage Chief Biologist, at <u>anne.chazal@dcr.virginia.gov</u> or 804-786-9014 to discuss availability and rates for field work.

600 East Main Street, 24th Floor | Richmond, Virginia 23219 | 804-786-6124

In addition, if tree removal is proposed the project may impact Ecological Cores (**C4 and C5**) as identified in the Virginia Natural Landscape Assessment (<u>https://www.dcr.virginia.gov/natural-heritage/vaconvisvnla</u>). Mapped cores in the project area can be viewed via the Virginia Natural Heritage Data Explorer, available here: <u>http://vanhde.org/content/map</u>.

Ecological Cores are areas of at least 100 acres of continuous interior, natural cover that provide habitat for a wide range of species, from interior-dependent forest species to habitat generalists, as well as species that utilize marsh, dune, and beach habitats. Interior core areas begin 100 meters inside core edges and continue to the deepest parts of cores. Cores also provide the natural, economic, and quality of life benefits of open space, recreation, thermal moderation, water quality (including drinking water recharge and protection, and erosion prevention), and air quality (including sequestration of carbon, absorption of gaseous pollutants, and production of oxygen). Cores are ranked from C1 to C5 (C5 being the least significant) using nine prioritization criteria, including the habitats of natural heritage resources they contain.

Impacts to cores occur when their natural cover is partially or completely converted permanently to developed land uses. Habitat conversion to development causes reductions in ecosystem processes, native biodiversity, and habitat quality due to habitat loss; less viable plant and animal populations; increased predation; and increased introduction and establishment of invasive species.

DCR recommends avoidance of impacts to cores. When avoidance cannot be achieved, DCR recommends minimizing the area of impacts overall and concentrating the impacted area at the edges of cores, so that the most interior remains intact.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, DCR represents VDACS in comments regarding potential impacts on statelisted threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please re-submit a completed order form and project map for an update on this natural heritage information if the scope of the project changes and/or six months has passed before it is utilized.

A fee of \$1000.00 has been assessed for the service of providing this information. Please find attached an invoice for that amount. Please return one copy of the invoice along with your remittance made payable to the Treasurer of Virginia, DCR Finance, 600 East Main Street, 24th Floor, Richmond, VA 23219. Payment is due within thirty days of the invoice date. Please note late payment may result in the suspension of project review service for future projects.

The Virginia Department of Wildlife Resources (VDWR) maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <u>http://vafwis.org/fwis/</u> or contact Amy Martin at 804-367-2211 or <u>amy.martin@dwr.virginia.gov.</u>

Should you have any questions or concerns, feel free to contact me at 804-371-2708. Thank you for the opportunity to comment on this project.

Sincerely,

Rem' Hy -

S. René Hypes Natural Heritage Project Review Coordinator

Literature Cited

Rawinski, T.J. 1995. Natural communities and ecosystems: Conservation priorities for the future. Unpublished report for DCR-DNH.

APPENDIX D DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION 14 CODE OF FEDERAL REGULATIONS PART 77. JULY 21, 2010. FINAL RULE: SAFE EFFICIENT USE AND PRESERVATION OF THE NAVIGABLE AIRSPACE



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 77

[Docket No. FAA-2006-25002; Amendment No. 77-13]

RIN 2120-AH31

Safe, Efficient Use and Preservation of the Navigable Airspace

AGENCY: Federal Aviation Administration (FAA), DOT. **ACTION:** Final rule.

SUMMARY: This action amends the regulations governing objects that may affect the navigable airspace. These rules have not been revised in several decades, and the FAA has determined it is necessary to update the regulations, incorporate case law and legislative action, and simplify the rule language. These changes will improve safety and promote the efficient use of the National Airspace System.

DATES: This amendment becomes effective January 18, 2011.

FOR FURTHER INFORMATION CONTACT: For technical questions about this final rule contact Ellen Crum, Air Traffic Systems Operations, Airspace and Rules Group, AJR-33, Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 267-8783, facsimile (202) 267–9328. For legal questions about this final rule contact Lorelei Peter, Office of the Chief Counsel-**Regulations Division**, Federal Aviation Administration, 800 Independence Ave., SW., Washington, DC 20591; telephone (202) 267–3134, facsimile 202-267-7971.

SUPPLEMENTARY INFORMATION:

Authority for This Rulemaking

The Administrator has broad authority to regulate the safe and efficient use of the navigable airspace (49 U.S.C. 40103(a)). The Administrator is also authorized to issue air traffic rules and regulations to govern the flight, navigation, protection, and identification of aircraft for the protection of persons and property on the ground, and for the efficient use of the navigable airspace (49 U.S.C. 40103(b)). The Administrator may also conduct investigations and prescribe regulations, standards, and procedures in carrying out the authority under this part (49 U.S.C. 40113). The Administrator is authorized to protect civil aircraft in air commerce (49 U.S.C. 44070(a)(5)).

Under § 44701(a)(5), the Administrator promotes safe flight of civil aircraft in air commerce by prescribing regulations and minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security. Also, §44718 provides that under regulations issued by the Administrator, notice to the agency is required for any construction, alteration, establishment, or expansion of a structure or sanitary landfill, when the notice will promote safety in air commerce, and the efficient use and preservation of the navigable airspace and airport traffic capacity at public use airports. This statutory provision also provides that, under regulations issued by the Administrator, the agency determines whether such construction or alteration is an obstruction of the navigable airspace, or an interference with air navigation facilities and equipment or the navigable airspace. If a determination is made that the construction or alteration creates an obstruction or otherwise interferes, the agency then conducts an aeronautical study to determine adverse impacts on the safe and efficient use of the airspace, facilities, or equipment.

I. Background

A. Summary of the Notice of Proposed Rulemaking (NPRM)

On June 13, 2006, the FAA published an NPRM that proposed to amend the regulations governing objects that may affect the navigable airspace (71 FR 34028). The FAA proposed to: Establish notification requirements and obstruction standards for transmitting on certain frequencies; revise obstruction standards for civil airport imaginary surfaces to more closely align these standards with FAA airport design and instrument approach procedure (IAP) criteria; revise current definitions and include new definitions; require proponents to file with the FAA a notice of proposed construction or alteration for structures near private use airports that have an FAA-approved IAP; and increase the number of days in which a notice must be filed with the FAA before beginning construction or alteration. The comment period closed on September 11, 2006.

B. Summary of the Final Rule

The following is a discussion of the major changes contained in the final rule. The provisions of the final rule that were modified based on comments the FAA received are discussed in the "Discussion of the Final Rule" section. Most of the amendments implemented by the rule are intended to simplify the existing regulations.

This rule adds § 77.29 to incorporate the specific factors listed in P.L. 100– 223 for consideration during an aeronautical study. The specific factors are listed in Appendix A to this preamble. Including this language in part 77 does not add or remove any of the factors currently considered in an aeronautical study.

This rule provides for an FAA Determination of Hazard or Determination of No Hazard to become effective 40 days after the date of issuance, unless a petition for discretionary review is received by the FAA within 30 days of issuance. In addition, the rule stipulates that a Determination of No Hazard to air navigation will expire 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned. Also, the rule specifies that a Determination of Hazard to Air Navigation does not expire.

This final rule adds information about the processing of petitions for discretionary review. It also excludes determinations for temporary structures and recommendations for marking and lighting from the discretionary review process. Because of the nature of temporary structures, it is not possible to apply the lengthy discretionary review process to these structures. Also, since marking and lighting recommendations are simply recommendations, there is a separate process for a waiver of, or deviation from, the recommendations.

This rule expands the requirements for notice to be sent to the FAA for proposed construction or alteration of structures on or near private use airports that have an IAP. Accordingly, if a private use airport has an FAAapproved IAP, then a construction sponsor must notify the FAA of a proposed construction or alteration that exceeds the notice criteria in § 77.17. This action will give the FAA enough time to adjust the IAP, if needed, and to inform those who use the IAP.

Also, IAPs at private use airports or heliports are not currently listed in any aeronautical publication. Sponsors of construction or alteration at or near a private use airport or heliport should consult the FAA Web site to determine whether an FAA-approved IAP is listed for that airport.¹ If the airport is listed on the Web site, the sponsor must file notice with the FAA.

Lastly, this rule incorporates minor edits to the regulatory text to distinguish

¹ https://oeaaa.faa.gov.

FAA surveillance systems from communication facilities.

C. Summary of Comments

The FAA received approximately 115 comments from individuals, aviation associations, industry spectrum users, airlines, and other aviation businesses. Many commenters, including the Air Transport Association, generally supported the NPRM. Commenters supported specific proposals concerning evaluating the aeronautical impact of proposed construction on IAPs at private use airports; evaluating antenna installations that might affect air traffic or navigation; and the update and reformat of the regulations. Comments that did not support the proposed rule, and suggested changes, are discussed more fully in the "Discussion of the Final Rule" section.

The FAA received substantive comments on the following general areas of the proposal:

- Frequency notification requirements
- Time requirement to file notice with the FAA
- Civil Airport Imaginary Surfaces²
- One Engine Inoperative Procedures (OEI)
- Definitions
- Miscellaneous

II. Discussion of the Final Rule

A. Frequency Notification

The FAA's primary focus during the obstruction evaluation process is safety and efficiency of the navigable airspace. It is critical for the agency to be notified of pending construction of physical objects that may affect the safety of aeronautical operations. (See 49 U.S.C. 44718.) In today's National Airspace System (NAS), however, electromagnetic transmissions can adversely affect on-board flight avionics, navigation, communication, and surveillance facilities. The FAA has extensive authority to prescribe regulations and minimum standards necessary for safety in air commerce. (See 49 U.S.C. § 44701(a)(5).) In addition, the FAA has broad authority to develop policy and plans for the use of the navigable airspace. (See 49 U.S.C. 40103.) The FAA relied on these authorities in proposing the notice requirements for broadcast transmissions in the specified bands. As stated in the proposal, broadcast transmission on certain frequencies can

pose serious safety threats to avionics and ground based facilities. At the same time, the FAA recognizes the authority of the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC) to manage use of the radio spectrum.

The FAA concludes that its proposal to require notice for the proposed frequency bands was too broad. The proposed frequencies from the NPRM are listed in Appendix B to this preamble. The proposed frequencies in the shared (Federal and Non-Federal) bands are managed by an existing process involving several Federal agencies with an interest in spectrum use, which NTIA oversees under the Department of Commerce. It is not the FAA's intent to add a duplicative review and coordination process to that already stated above. In addition, the FAA has determined that some of the proposed frequencies originally listed and not in shared bands do not present concern. Therefore, the agency withdraws the proposed notice and obstruction standards on the shared frequency bands and those frequency bands that, historically, have not posed electromagnetic concerns,³ when operating under typical specifications.

FM broadcast service transmissions operating in the 88.0-107.9 MHz frequency band pose the greatest concern to FAA navigation signals. The FAA, FCC and NTIA are collaborating on the best way to address this issue. A resolution of this issue is expected soon. Therefore, the proposals on FM broadcast service transmissions in the 88.0–107.9 MHz frequency band remain pending. The FAA will address the comments filed in this docket about the proposed frequency notice requirements and proposed EMI obstruction standards when a formal and collaborative decision is announced.

This rule does include evaluating electromagnetic effect (§§ 77.29 and 77.31), and it codifies the agency's current practices of studying the effects on aircraft navigation and communication facilities. These amendments in no way should be construed to affect the authority of NTIA and the FCC.

B. Time Requirement To File Notice With the FAA

Automation improvements to the FAA's obstruction evaluation program allow the public to file notices of

proposed construction electronically, which facilitates the aeronautical study process and has reduced the overall processing time for these cases. The FAA proposed to require that notices of proposed construction or alterations must be filed with the FAA at least 60 days before construction starts or the application filing date for a construction permit, whichever is earliest. The current rule requires 30 days, which the FAA found inadequate for cases to be processed, particularly if additional information, via public comment period, was necessary to complete the study. At the time the FAA published the NPRM, the automation system was in the early stages, and the full benefits of the automation were not yet known. Commenters were split on their support of this proposal, depending on their interests. Comments from the aviation industry largely supported the extended time period. Comments filed by the building industry, however, opposed the extended time period, saying it was too long and would cause undue delay.

The FAA has seen great success with the automation system and concludes that requiring notice to be filed 60 days before construction or the permit application is not necessary. There are cases where circulating the proposal for public comment may be necessary and, consequently, these cases may require up to 45 days for processing. Therefore, the FAA adopts the requirement that notice must be filed with the FAA for proposed construction or alteration at least 45 days before either the date that construction begins, or the date of the construction permit application, whichever is earliest.

Because applications are required within 45 days of construction, the FAA, Department of Defense, and Department of Homeland Security should work together to conduct timely reviews. To that end, the FAA will respond to inquiries from applicants regarding the status of applications, the reason(s) for any delay, and the projected date of completion. As appropriate, the FAA will engage with other Federal Agencies such as the Department of Defense, the Department of Homeland Security, the Department of Energy, and the Department of Interior to expedite any further regulatory modifications and improvements to 14 CFR Part 77 to ensure there is a predictable, consistent, transparent, and timely application process for the wind industry.

Several commenters recommended separate notice requirements for reviewing a temporary structure that might be necessary under emergencytype circumstances. An example

² Civil airport imaginary surfaces are established surfaces based on the runway that are used to identify objects that may impact airport plans or aircraft departure/arrival procedures or routes. Section 77.19 describes five types of imaginary surfaces: horizontal, conical, primary, approach and transitional.

³ 54–88 MHz; 150–216 MHz; 406–430 MHz; 931– 940 MHz; 952–960 MHz; 1390–1400 MHz; 2500– 2700 MHz; 3700–4200 MHz; 5000–5650 MHz; 5925–6225 MHz; 7450–8550 MHz; 14.2–14.4 GHz.

submitted in the comments was a construction crane that was necessary to replace air conditioning units on the roof of factories. The commenters contend that it is neither logical nor feasible to shut down a factory for 30 days while the FAA studies this temporary structure.

Situations like the one presented by these commenters are not uncommon. Regardless of whether the structure is temporary, it remains critical for the FAA to have notice of tall structures that can affect aeronautical operations. In most cases, the proponent of the structure contacts the FAA Obstruction Evaluation (OE) specialist and identifies the need for a quick review, for which the agency readily responds. While the FAA regrets any past delay in taking quick action on a particular case, the agency declines to set-up special procedures to address such cases. On the FAA's OE Web site,⁴ the agency lists the contact information for the FAA specialist. If a sponsor is concerned with the time frame for the FAA's review, the agency encourages the sponsor to contact the FAA specialist directly.

C. Civil Airport Imaginary Surfaces

The NPRM proposed, for a visual runway used by small aircraft or restricted to day-only instrument operations, that the width of the imaginary approach surface expand uniformly to 1,250 ft. If the runway is a visual runway, used by other than small aircraft or for instrument night circling, the surface width expands uniformly from 1,500 ft. to 3,500 ft. If the runway is a non-precision instrument or precision instrument runway, the surface width expands uniformly to 4,000 ft. and 16,000 ft., respectively. Other changes include removing approach surface widths of 1,500 ft. and 2,000 ft., and increasing the width for some non-precision runways from 2,000 ft. to 4,000 ft. The NPRM also proposed expanding the width of the primary approach surface of a non-precision instrument runway or precision instrument runway from 500 feet to 1,000 ft.

Many commenters opposed the proposed expansion of the primary surface. They argued that the proposed expansion would require airport operators to remove existing structures that would fall within the proposed expanded surface, which would result in a financial burden to airport owners and managers. Southwest Airlines, on the other hand, supported the proposal and stated the ability to study and review more proposed structures is positive for airport safety.

Several comments stated that the imaginary surfaces in part 77 do not comport clearly with the surfaces used for obstacle clearance under the United States Standard for Terminal Instrument Procedures (TERPS) and, therefore, makes the part 77 surfaces useless as a project planning tool for airport development.

Similarly, another commenter argued that the Required Navigation Performance (RNP) lateral protection area is greater than the width of the primary surface and the RNP procedures TERPS surface is outside the part 77 imaginary surface. The commenter contends that an obstacle can adversely impact an RNP procedure, but not be characterized as an obstruction. This commenter recommends that the imaginary surfaces be expanded to include RNP procedures.

Several commenters specifically questioned whether current obstructions that fall within the newly expanded primary surface could impact an instrument procedure and result in the airport losing the instrument procedure. One airport authority was concerned about marking and lighting recommendations for existing structures that will now fall under the expanded primary surface.

The FAA proposed these changes to more closely align regulatory provisions in part 77 with TERPS criteria and airport design standards. The inconsistency between IAP criteria, airport design standards, and part 77 surfaces has been a source of confusion for both airport managers and the FAA. These specific proposals would not have altered the notice criteria. Instead, the proposals were meant to identify more proposed structures as obstructions that the FAA could study to determine if they would adversely affect the NAS.

However, since publication of the NPRM, the FAA has begun a coordinated effort to consolidate all agency requirements for the treatment of obstacles in the airport environment. Once completed, the new requirements will form the basis for revised civil airport imaginary surfaces. Thus, it would not be prudent to codify the proposals. Further, amending or expanding any of the civil airport imaginary surfaces at this time would not be in the best interest of the public. The FAA, therefore, withdraws all proposed modifications to the civil airport imaginary surfaces, including the chart format. The FAA will keep the civil airport imaginary surfaces rule as

it is currently described in 14 CFR 77.25.

D. One Engine Inoperative Procedures

The NPRM specifically states that OEI procedures were not a part of the rulemaking. The NPRM further notes that the FAA has tasked the Airport **Obstruction Standards Committee** (AOSC) with examining this issue. Comments from the Air Transport Association, individual airlines, local airport authorities, and aviation organizations, asked the FAA to address OEI procedures. These comments have been forwarded to the AOSC for consideration. As appropriate, the FAA will advise the aviation industry and other interested persons, through the AOSC, of any policy changes.

E. Definitions

The NPRM proposed replacing the term "utility runway" with the phrase "runway used by small aircraft". In addition, the NPRM proposed amending the definitions for precision, nonprecision, and visual runways, as these definitions were no longer up-to-date with industry practices. The term "utility runway" is not widely used in industry so the NPRM proposed replacing the term. In addition, the NPRM proposed amending the definitions for precision and nonprecision runways to address approaches that use other than ground based navigational aids, such as flight management systems (FMS) and global navigation satellite systems (GNSS). Because of technological advances, the former definitions for precision and non-precision runways are no longer accurate.

By removing the term "utility runway", commenters stated the portions of the rule that include the term became confusing. They note that the runway classifications and corresponding widths for the primary and approach surfaces in the tables in § 77.19(d)(e) are difficult to understand.

Several commenters confused the proposed definitions for precision and non-precision instrument runways with the definitions for precision and nonprecision instrument approach procedures.⁵ One commenter suggested the non-precision runway definition should exclude a runway that has a developed instrument approach procedure with visibility minimums of

⁴ https://oeaaa.faa.gov.

⁵ The FAA proposed definitions for the terms "precision instrument runway" and "non-precision instrument runway" to be based on the use of visibility minimums, rather than approach procedure classification, given that visibility is the critical factor during the visual portion of the approach.

one statute mile. This commenter contends that many small, general aviation airports have published procedures with one mile visibility under the current obstruction criteria of a utility runway. The commenter also notes that if the FAA adopts the proposal to limit non-precision runways to procedures with visibility minimums of one statute mile, then these small airports would need to have the more demanding primary surfaces and approach criteria. The commenter further says this could result in financial hardship for these airports and the airports may need to double the designated airspace around the runway. Another commenter stated that the new definition for a non-precision runway conflicts with FAA Advisory Circular 150/5300-13, Airport Design.

Commenters also indicated that the new definition and associated surfaces would take runways that currently qualify as utility into the non-precision category. They say these modifications could result in unfunded economic burdens on outlying airports with IAPs to utility runways that experience lower traffic densities. Additionally, commenters noted that many of these airports are configured with minimal infrastructure and could face significant airport expansion to obtain IAP services if the runway is categorized as nonprecison.

Several commenters also stated that the proposed definitions of precision and non-precision runways try to redefine the current precision and nonprecision instrument procedures because satellite technology could, in the future, enable non-precision approaches to become precision approaches.

Although the FAA proposed to revise these definitions, on further review, the agency has determined it should not revise them at this time. The definitions were proposed to support implementing satellite-based navigation. However, as the satellite-based navigation program has evolved during development of this rulemaking, the agency has learned of unintended consequences of the proposed definitions. For example, changing the runway definition creates infrastructure requirements that may be needed as the technology evolves. The FAA believes a more measured approach is needed before making any changes to the definitions. Thus, the agency will not adopt the proposed revisions to the definitions in this final rule.

F. Extension to a Determination of No Hazard

The NPRM proposed a provision for which an extension to the expiration date for a Determination of No Hazard may be granted. Specifically, it proposed that for structures not subject to FCC review, a Determination of No Hazard can be extended for a maximum of 18 months, if necessary. If more than 18 months is necessary, then a new aeronautical study would be initiated. For structures that require an FCC construction permit, the NPRM proposed that a Determination of No Hazard can be extended for up to 12 months, provided the sponsor submits evidence that an application for a construction permit was filed within 6 months of the date of issuance. The NPRM also proposed that if the FCC extends the original FCC construction completion date, the sponsor must request an extension of the FAA's Determination of No Hazard.

Many commenters found that the two time periods (18 and 12 months) were confusing. The FAA's review of this matter concluded that it is not necessary to continue the distinction between structures subject to FCC review from structures that do not need this review, simply to extend the expiration date. Therefore, for simplification and standardization, the FAA amends the time period for extensions to determinations of structures to 18 months, regardless of whether an FCC construction permit is necessary.

In addition, the FAA unintentionally omitted a section of the current rule from the NPRM. That section states that if the FCC denies a construction permit, the final determination expires on the date of the denial. The FAA has reinserted that section in this final rule.

G. Effective Date

The effective date of this final rule is 180 days from the date the rule is published in the **Federal Register**. The FAA needs this time to amend the automation system it uses to evaluate obstructions, amend relevant FAA orders, train employees, and educate the public.

H. Miscellaneous

One commenter said the requirement to file notice should extend to structures that would penetrate an imaginary surface relative to a planned or proposed airport. Specifically, this commenter seeks to incorporate the imaginary surfaces for evaluating obstructions under § 77.19(a) in the notice requirements for structures that are on or around a planned airport.

Section 77.9 requires notice for construction on an existing airport or an airport under construction. This section specifies an imaginary surface extending from the runway (in increments of 20,000 feet, 10,000 ft., or 5,000 ft., depending on the length of the airport's runway or heliport) at a specific slope for which notice is required if it would penetrate one of the surfaces for either an existing airport or an airport under construction. The above referenced surfaces, for which the longest surface would extend approximately 3.78 miles from the end of the runway, do not apply to a planned airport for which construction has yet to begin.

The effect of this commenter's request would be to require notice for up to approximately 3.5 miles (for the longest runway) for any construction that penetrates the 100 to 1 surface for a planned or proposed airport.

This comment is outside the scope of the NPRM. The essence of this comment would be a new notice requirement for planned or proposed airports. To accommodate this comment without providing the public an opportunity to comment on its impact would violate the Administrative Procedure Act.

Notwithstanding the above scope issue, to apply the imaginary surface from the notice requirements to planned or proposed airports would be difficult to implement. A planned or proposed airport can be at varying stages of development, with runway(s) location and configuration undetermined, navigational aids not sited, and instrument approach and departure procedures yet to be developed. It would be impossible for the FAA to study (and apply the obstruction standards) with any degree of certainty, to a proposed structure when the above listed airport issues are not defined. In addition, airport development can be subject to environmental laws and lengthy processes with alternative plans that must be analyzed. The FAA cannot "reserve" airspace on such speculative plans. The agency does study the impact of structures that are identified as obstructions on planned or proposed airports that are on file with the FAA. As the details of a planned airport become part of the "plan on file" with the FAA or the Airport Layout Plan, on which the FAA can rely, the FAA includes those details during the study.

Several commenters questioned the proposed removal of the regulatory provisions addressing antenna farms and whether any antenna farms currently exist. The FAA has not established any antenna farm area. Moreover, the regulations governing structures addresses the FAA needs here. Thus, this rule removes the provisions governing antenna farms.

One commenter questioned why an object that is shielded by another structure is not subject to the notice requirements. This commenter contends that if the structure that shields an unreported structure is dismantled, there is no record of the first structure, nor is there any requirement to notify the FAA of this structure if the shielding structure is dismantled.

Section 77.15(a) provides that notice is not required for a structure if the shielding structure is of a substantial and permanent nature and is located in a congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation. This exception does not apply in areas where there are only one or two other structures. The FAA has not experienced a situation like the one described by the commenter that can be attributed to this exception. This rule does expand the current supplemental notice requirements in §77.11, and specifies that if a construction or alteration is abandoned, dismantled, or destroyed, notice must be provided to the FAA within 5 days after the construction is abandoned, dismantled, or destroyed. In the rare case where a shielding structure is abandoned, dismantled, or destroyed, the proponent must notify the FAA so that appropriate actions concerning adjacent structures can be initiated.

Prior to this rule, part 77 provided that a proposed or existing structure was an obstruction to air navigation if it was higher than 500 ft. above ground level (AGL). The minimum altitude to operate an aircraft over non-congested areas is 500 feet above the surface.⁶ Consequently, an aircraft could be operating at 500 ft. AGL and encounter a structure that was 500 ft. AGL that might not have been studied by the FAA during the obstacle evaluation process. The FAA adopts the proposal that lowers the height of a structure identified as an obstruction from above 500 ft. to above 499 ft. Accordingly, all structures that are above 499 ft. tall will be obstructions, and the FAA will study them to determine their effect on the navigable airspace. This will ensure that all usable airspace at and above 500 ft. AGL is addressed during the aeronautical study and that this airspace

is protected from obstructions that may create a hazard to air navigation.

III. Paperwork Reduction Act

The Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. According to the 1995 amendments to the Paperwork Reduction Act (5 CFR 1320.8(b)(2)(vi)), an agency may not collect or sponsor the collection of information, nor may it impose an information collection requirement unless it displays a currently valid Office of Management and Budget (OMB) control number. As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), the FAA submitted a copy of the new information collection requirements(s) discussed below to OMB for its review. Notice of OMB approval for this information collection will be published in a future Federal **Register** document.

Title 49 U.S.C. 44718 states, "By regulation or by order when necessary, the Secretary of Transportation shall require a person to give adequate public notice, in the form and way the Secretary prescribes, of the construction, alteration, establishment, or expansion, of a structure or sanitary landfill when public notice will promote:

(1) safety in air commerce; and(2) the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports."

This final rule implements the requirement for notification by requiring that notice be submitted to the FAA for proposed construction or alteration of structures on or near private use airports that have an IAP. Accordingly, if a private use airport has an FAAapproved IAP, then a construction sponsor is required to notify the FAA of a proposed construction or alteration that exceeds the notice criteria in §77.17. This action will give the FAA adequate time to adjust the IAP, if needed, and to inform those who use the IAP. While IAPs at private use airports or heliports are not currently listed in any aeronautical publication, sponsors of construction or alteration at or near a private use airport or heliport can consult the FAA Web site⁷ to determine whether an FAA-approved IAP is listed for that airport. If the airport is listed on the Web site, the sponsor must file notice with the FAA. The intent of these changes is to

improve safety and promote the efficient use of the National Airspace System.

The FAA estimates that on average, 3,325 Form 7460–1s would be filed annually. It is estimated to take 19 minutes, or 0.32 hours, to fill out each form. Hence, the estimated hour burden is: 0.32 hours \times 3,325 = 1,064 hours.

The average cost for a firm to prepare the form itself is approximately \$40 per form. It is estimated that 20 percent of the forms filed would be filed this way. Thus, the estimated average annual reporting burden for companies to process this form in-house would be: (FAA Form 7460–1) \$40 × 665 = \$26,600.

The average cost for a company to outsource this function to a contractor is approximately \$480 per report. It is estimated that 80 percent of the forms filed would be filed this way. Thus, the estimated average annual reporting burden for companies to outsource this function is: (FAA Form 7460–1) \$480 \times 2,660 = \$1,276,800.

It is estimated that roughly 30 percent of firms filing FAA Form 7460–1 will need to perform a site survey to complete the form. The cost of a site survey is \$790. Thus, the estimated annual reporting burden for companies who require a site survey would be: (FAA Form 7460–1) \$790 \times 998 = \$788,420.

Hence, the total annual cost to firms that fill out FAA Form 7460–1 is \$2.091.820.

In the proposed rule, the FAA asked for comments on the information collection burden. You may view the FAA's specific request in the proposed rule.⁸ The FAA received comments from multiple commenters. The following is a summary of the comments with the FAA's response:

Several commenters stated that the FAA underestimated the costs, in terms of time and paperwork, associated with preparing a Form 7460–1, as well as the costs of filing an OE notice, so the FAA should revise its estimates. One commenter surveyed its members and the survey indicated that the cost of processing a Form 7460–1 in-house was \$406 and took about 1.6 hours per form. Further, the average hourly labor cost was found to be \$36 per hour. The commenter also stated that in addition to maps, a site survey is needed to complete Form 7460–1, which ensures the accuracy of the location and costs an average of \$768. Another commenter supported the notion of including the cost of a site survey in the cost estimation for filing a Form 7460–1. Another commenter suggested that the

⁶ 14 CFR Section 91.119(c) provides that "Except when necessary for takeoff and landing, no person may operate an aircraft below the following altitudes: (b) Over other than congested areas. An altitude of 500 feet above the surface except over open water or sparely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."

⁷ https://oeaaa.faa.gov.

⁸71 FR 34028; June 13, 2006.

FAA increase its estimate for processing a Form 7460–1 in-house to \$40.

The FAA omitted the cost of a site survey in the preliminary analysis because a site survey is not required to complete a Form 7460–1. However, a site survey must be completed if it is requested by the FAA's Flight Procedure Office. The agency has revised the cost analysis to reflect the wider range of costs as supplied by the commenters. The FAA also revised its cost and paperwork analyses to include the cost of filing a form in-house, as well as the costs of a site survey.

A few commenters claimed that the FAA underestimated the time and paperwork costs associated with filing additional notices. Another commenter believed that the FAA underestimated the paperwork burden that will be placed on radio spectrum users.

The FAA completed a paperwork reduction package for the proposed rule, which did show the estimated paperwork costs. The paperwork costs were also shown in the initial regulatory evaluation and were available for review in the docket. However, the FAA has elected not to adopt the radio frequency notice requirements in this final rule. As a result, there will be no additional paperwork burden placed on radio spectrum users at this time.

A commenter stated that requiring applicants to provide notice to the FAA 60 days in advance could also increase the number of filings because of the rule change. Another commenter stated that extending the notice period for all proposed projects will cause undue delay in securing FAA approval and will delay the ability of utilities to develop new sites.

The FAA has reduced the filing time period from 60 days to 45 days. This should mitigate the delay expected by the commenters and allow them to continue their operations without much change. Thus, the FAA does not expect any delays in construction or operational deficiencies resulting from the final rule.

International Compatibility

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified no new differences with these proposed regulations.

IV. Regulatory Evaluation, Regulatory Flexibility Determination, International Trade Impact Assessment, and Unfunded Mandates Assessment

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 directs that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a Federal mandate likely to result in the expenditure by state, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this final rule. Readers seeking greater detail should read the full regulatory evaluation, a copy of which is in the docket for this rulemaking.

In conducting these analyses, the FAA has determined that this final rule has benefits that justify its costs and is not economically significant under Executive Order 12866; however, it is otherwise "significant" because of concerns raised by the National Telecommunications and Information Administration (NTIA) and the Federal Communications Commission (FCC) regarding the FAA's evaluation of potential electromagnetic effect during aeronautical studies. The final rule, if adopted, will not have a significant economic impact on a substantial number of small entities, will not create unnecessary obstacles to international trade, and will not impose an unfunded mandate on state, local, tribal governments, or on the private sector.

This final rule amends 14 CFR part 77. These amendments refer to the rules for obstruction evaluation standards, aeronautical studies, and notice provisions about objects that could create hazards to air navigation. The FAA estimates the cost of this final rule to private industry will be approximately \$20.9 million (\$14.1 million, present value) over the next 10 years. The estimated cost of the final rule to the FAA will be approximately \$18.7 million (\$12.6 million, present value) over the next 10 years. Therefore, the total cost associated with the final rule will be approximately \$39.6 million (\$26.8 million, present value) over the next 10 years.

The final rule will enhance protection of aircraft approaches from unknown obstructions and unknown alteration projects on or near private use airports with FAA-approved instrument approach procedures (IAPs). The FAA contends that these qualitative benefits justify the costs of the final rule.

Final Regulatory Flexibility Analysis

The Regulatory Flexibility Act of 1980 establishes "as a principle of regulatory issuance that agencies shall endeavor, consistent with the objective of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the business, organizations, and governmental jurisdictions subject to regulation." To achieve that principle, the Act requires agencies to solicit and consider flexible regulatory proposals and to explain the rationale for their actions. The Act covers a wide range of small entities, including small businesses, not-for-profit organizations and small governmental jurisdictions.

Agencies must perform a review to determine whether a proposed or final rule will have a significant economic impact on a substantial number of small entities. If the determination is that it will, the agency must prepare a regulatory flexibility analysis (RFA) as described in the Act.

However, if an agency determines that a proposed or final rule is not expected to have a significant economic impact on a substantial number of small entities, section 605(b) of the 1980 Act provides that the head of the agency may so certify and an RFA is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

While the FAA does not maintain data on the size of businesses that file notices, the FAA estimates that approximately 40 percent of the OE notices will be filed by small businesses (comprised of business owners and private use airport owners) as defined by the Small Business Administration. Thus, in 2010 when the rule is expected to take effect, the FAA expects approximately 2,400 more OE notices will be filed by affected parties. Of those applications filed, approximately 960 notices are estimated to be filed by small businesses (using 40 percent assumption).

For those small businesses that are inexperienced in submitting the necessary paperwork, the FAA believes they would either hire a consultant or spend as much as the consultant fee (\$480) in staff time to understand, research, complete, and submit the form(s). For the purpose of this regulatory flexibility assessment, the FAA assumes that it will cost all small entities approximately \$480 per case to meet the requirements of part 77.

It is unlikely that any individual small entity will file more than three OE notices in a calendar year. As a result, the FAA estimates that in virtually all cases, the cost of this rule to small businesses will not exceed \$1500 per small entity, a cost the FAA does not consider significant. Therefore, as the FAA Administrator, I certify that this rule will not have a significant economic impact on a substantial number of small entities.

International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96–39), as amended by the Uruguay Round Agreements Act (Pub. L. 103–465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as the protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. The FAA has assessed the potential effect of this final rule and determined that it will have only a domestic impact and, therefore, will not create unnecessary obstacles to the foreign commerce of the United States.

Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Pub. L. 104–4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (in 1995 dollars) in any one year by state, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a "significant regulatory action." The FAA currently uses an inflation-adjusted value of \$136.1 million in lieu of \$100 million. This final rule does not contain such a mandate; therefore, the requirements of Title II of the Act do not apply.

Executive Order 13132, Federalism

The FAA has analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. The FAA determined that this action will not have a substantial direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, does not have federalism implications.

Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

Regulations That Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a "significant energy action" under the executive order because it is not a "significant regulatory action" under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

Availability of Rulemaking Documents

You can get an electronic copy of rulemaking documents using the Internet by—

1. Searching the Federal eRulemaking Portal (*http://www.regulations.gov*);

2. Visiting the FAA's Regulations and Policies Web page at *http:// www.faa.gov/regulations policies/*; or

3. Accessing the Government Printing Office's Web page at *http:// www.gpoaccess.gov/fr/index.html.*

You can also get a copy by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM–1, 800 Independence Avenue, SW., Washington, DC 20591, or by calling (202) 267–9680. Make sure to identify the amendment number or docket number of this rulemaking.

Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477–78) or you may visit *http://DocketsInfo.dot.gov*.

Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. If you are a small entity and you have a question regarding this document, you may contact your local FAA official, or the person listed under the **FOR FURTHER INFORMATION CONTACT** heading at the beginning of the preamble. You can find out more about SBREFA on the Internet at http://www.faa.gov/ regulations policies/rulemaking/ sbre act/.

Appendix A to the Preamble

Under regulations (49 U.S.C. 44718) prescribed by the Secretary, if the Secretary decides that constructing or altering a structure may result in an obstruction of the navigable airspace or an interference with air navigable airspace, the Secretary shall conduct an aeronautical study to decide the extent of any adverse impact on the safe and efficient use of the airspace, facilities, or equipment. In conducting the study, the Secretary shall consider factors relevant to the efficient and effective use of the navigable airspace, including—

(A) The impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules;

(B) The impact on arrival, departure, and en route procedures for aircraft operating under instrument flight rules;

(C) The impact on existing public use airports and aeronautical facilities;

(D) The impact on planned public use airports and aeronautical facilities; and

(E) The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures.

Appendix B to the Preamble

The NPRM proposed that notice must be filed with the FAA for any construction of a new, or modification of an existing facility, *i.e.*—building, antenna structure, or any other man-made structure, which supports a radiating element(s) for the purpose of radio frequency transmissions operating on the following frequencies:

- (i) 54–108 MHz (ii) 150-216 MHz (iii) 406-430 MHz (iv) 931-940 MHz (v) 952-960 MHz (vi) 1390–1400 MHz (vii) 2500-2700 MHz (viii) 3700-4200 MHz (ix) 5000-5650 MHz (x) 5925-6525 MHz (xi) 7450-8550 MHz
- (xii) 14.2-14.4 GHz (xiii) 21.2–23.6 GHz

In addition, the NPRM proposed that any changes or modification to a system operating on one of the previously mentioned frequencies when specified in the original FAA determination, including:

- (i) Change in the authorized frequency;
- (ii) Addition of new frequencies;

(iii) Increase in effective radiated power (ERP) equal or greater than 3 decibels;

(iv) modification of radiating elements, including: (A) Antenna mounting locations(s) if increased 100 feet or more irrespective of whether the overall height is increased; (B) changes in antenna specification (including gain, beam-width, polarization, pattern); and (C) change in antenna azimuth/bearing (e.g. point-to-point microwave systems).

List of Subjects in 14 CFR Part 77

Administrative practice and procedure, Airports, Airspace, Aviation safety, Navigation (air), Reporting and recordkeeping requirements.

V. The Amendment

■ In consideration of the foregoing, the Federal Aviation Administration amends Chapter I of title 14, Code of Federal Regulations by revising part 77 to read as follows:

PART 77—SAFE, EFFICIENT USE, AND PRESERVATION OF THE NAVIGABLE AIRSPACE

Subpart A—General

Sec.

- 77.1 Purpose.
- 77.3 Definitions.

Subpart B-Notice Requirements

- 77.5 Applicability.
- 77.7 Form and time of notice.
- 77.9 Construction or alteration requiring notice.
- 77.11 Supplemental notice requirements.

Subpart C—Standards for Determining **Obstructions to Air Navigation or** Navigational Aids or Facilities

- 77.13 Applicability.
- 77.15 Scope.
- 77.17 Obstruction standards.
- 77.19 Civil airport imaginary surfaces.
- 77.21 Department of Defense (DOD) airport imaginary surfaces.
- 77.23 Heliport imaginary surfaces.

Subpart D—Aeronautical Studies and **Determinations**

77.25 Applicability.

Initiation of studies. 77.27

- 77.29 Evaluating aeronautical effect.
- 77.31 Determinations.
- Effective period of determinations. 77.33 77.35 Extensions, terminations, revisions
- and corrections.

Subpart E—Petitions for Discretionary Review

77.37 General.

77.39 Contents of a petition.

77.41 Discretionary review results.

Authority: 49 U.S.C. 106 (g), 40103, 40113-40114, 44502, 44701, 44718, 46101-46102, 46104.

Subpart A—General

§77.1 Purpose.

This part establishes:

(a) The requirements to provide notice to the FAA of certain proposed construction, or the alteration of existing structures;

(b) The standards used to determine obstructions to air navigation, and navigational and communication facilities:

(c) The process for aeronautical studies of obstructions to air navigation or navigational facilities to determine the effect on the safe and efficient use of navigable airspace, air navigation facilities or equipment; and

(d) The process to petition the FAA for discretionary review of determinations, revisions, and extensions of determinations.

§77.3 Definitions.

For the purpose of this part: Non-precision instrument runway means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document.

Planned or proposed airport is an airport that is the subject of at least one of the following documents received by the FAA:

(1) Airport proposals submitted under 14 CFR part 157.

(2) Airport Improvement Program requests for aid.

(3) Notices of existing airports where prior notice of the airport construction or alteration was not provided as required by 14 CFR part 157.

4) Airport layout plans.

(5) DOD proposals for airports used only by the U.S. Armed Forces.

(6) DOD proposals on joint-use (civilmilitary) airports.

(7) Completed airport site selection feasibility study.

Precision instrument runway means a runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated by an FAA-approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

Public use airport is an airport available for use by the general public without a requirement for prior approval of the airport owner or operator.

Seaplane base is considered to be an airport only if its sea lanes are outlined by visual markers.

Utility runway means a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

Visual runway means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority.

Subpart B—Notice Requirements

§77.5 Applicability.

(a) If you propose any construction or alteration described in § 77.9, you must provide adequate notice to the FAA of that construction or alteration.

(b) If requested by the FAA, you must also file supplemental notice before the start date and upon completion of certain construction or alterations that are described in §77.9.

(c) Notice received by the FAA under this subpart is used to:

(1) Evaluate the effect of the proposed construction or alteration on safety in air commerce and the efficient use and preservation of the navigable airspace and of airport traffic capacity at public use airports;

(2) Determine whether the effect of proposed construction or alteration is a hazard to air navigation;

(3) Determine appropriate marking and lighting recommendations, using FAA Advisory Circular 70/7460-1, Obstruction Marking and Lighting;

(4) Determine other appropriate measures to be applied for continued safety of air navigation; and
(5) Notify the aviation community of the construction or alteration of objects that affect the navigable airspace, including the revision of charts, when necessary.

§77.7 Form and time of notice.

(a) If you are required to file notice under § 77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports. (2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose; (3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

§77.11 Supplemental notice requirements.

(a) You must file supplemental notice with the FAA when:

(1) The construction or alteration is more than 200 feet in height AGL at its site; or

(2) Requested by the FAA.

(b) You must file supplemental notice on a prescribed FAA form to be received within the time limits specified in the FAA determination. If no time limit has been specified, you must submit supplemental notice of construction to the FAA within 5 days after the structure reaches its greatest height.

(c) If you abandon a construction or alteration proposal that requires supplemental notice, you must submit notice to the FAA within 5 days after the project is abandoned.

(d) If the construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Subpart C—Standards for Determining Obstructions to Air Navigation or Navigational Aids or Facilities

§77.13 Applicability.

This subpart describes the standards used for determining obstructions to air navigation, navigational aids, or navigational facilities. These standards apply to the following:

(a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used and any permanent or temporary apparatus.

(b) The alteration of any permanent or temporary existing structure by a change in its height, including appurtenances, or lateral dimensions, including equipment or material used therein.

§77.15 Scope.

(a) This subpart describes standards used to determine obstructions to air navigation that may affect the safe and efficient use of navigable airspace and the operation of planned or existing air navigation and communication facilities. Such facilities include air navigation aids, communication equipment, airports, Federal airways, instrument approach or departure procedures, and approved off-airway routes.

(b) Objects that are considered obstructions under the standards

described in this subpart are presumed hazards to air navigation unless further aeronautical study concludes that the object is not a hazard. Once further aeronautical study has been initiated, the FAA will use the standards in this subpart, along with FAA policy and guidance material, to determine if the object is a hazard to air navigation.

(c) The FAA will apply these standards with reference to an existing airport facility, and airport proposals received by the FAA, or the appropriate military service, before it issues a final determination.

(d) For airports having defined runways with specially prepared hard surfaces, the primary surface for each runway extends 200 feet beyond each end of the runway. For airports having defined strips or pathways used regularly for aircraft takeoffs and landings, and designated runways, without specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for aircraft takeoffs and landings, a determination must be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those determined pathways must be considered runways, and an appropriate primary surface as defined in § 77.19 will be considered as longitudinally centered on each such runway. Each end of that primary surface must coincide with the corresponding end of that runway.

(e) The standards in this subpart apply to construction or alteration proposals on an airport (including heliports and seaplane bases with marked lanes) if that airport is one of the following before the issuance of the final determination:

(1) Available for public use and is listed in the Airport/Facility Directory, Supplement Alaska, or Supplement Pacific of the U.S. Government Flight Information Publications; or

(2) A planned or proposed airport or an airport under construction of which the FAA has received actual notice, except DOD airports, where there is a clear indication the airport will be available for public use; or,

(3) An airport operated by a Federal agency or the DOD; or,

(4) An airport that has at least one FAA-approved instrument approach.

§77.17 Obstruction standards.

(a) An existing object, including a mobile object, is, and a future object

would be an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 499 feet AGL at the site of the object.

(2) A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an airport traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:

(1) 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.

(2) 15 feet for any other public roadway.

(3) 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.

(4) 23 feet for a railroad.

(5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

§77.19 Civil airport imaginary surfaces.

The following civil airport imaginary surfaces are established with relation to

the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach procedure existing or planned for that runway end.

(a) *Horizontal surface*. A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by SW.inging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

(1) 5,000 feet for all runways designated as utility or visual;

(2) 10,000 feet for all other runways. The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000foot arc shall be disregarded on the construction of the perimeter of the horizontal surface.

(b) *Conical surface*. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

(c) *Primary surface.* A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of the primary surface is:

(1) 250 feet for utility runways having only visual approaches.

(2) 500 feet for utility runways having non-precision instrument approaches.

(3) For other than utility runways, the width is:

(i) 500 feet for visual runways having only visual approaches.

(ii) 500 feet for non-precision instrument runways having visibility minimums greater than three-fourths statue mile.

(iii) 1,000 feet for a non-precision instrument runway having a nonprecision instrument approach with visibility minimums as low as threefourths of a statute mile, and for precision instrument runways. (iv) The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.

(d) Approach surface. A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

(1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:

(i) 1,250 feet for that end of a utility runway with only visual approaches;

(ii) 1,500 feet for that end of a runway other than a utility runway with only visual approaches;

(iii) 2,000 feet for that end of a utility runway with a non-precision instrument approach;

(iv) 3,500 feet for that end of a nonprecision instrument runway other than utility, having visibility minimums greater that three-fourths of a statute mile;

(v) 4,000 feet for that end of a nonprecision instrument runway, other than utility, having a non-precision instrument approach with visibility minimums as low as three-fourths statute mile; and

(vi) 16,000 feet for precision instrument runways.

(2) The approach surface extends for a horizontal distance of:

(i) 5,000 feet at a slope of 20 to 1 for all utility and visual runways;

(ii) 10,000 feet at a slope of 34 to 1 for all non-precision instrument runways other than utility; and

(iii) 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.

(3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

(e) *Transitional surface.* These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

§77.21 Department of Defense (DOD) airport imaginary surfaces.

(a) *Related to airport reference points.* These surfaces apply to all military airports. For the purposes of this section, a military airport is any airport operated by the DOD.

(1) Inner horizontal surface. A plane that is oval in shape at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.

(2) *Conical surface*. A surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.

(3) *Outer horizontal surface*. A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

(b) *Related to runways.* These surfaces apply to all military airports.

(1) *Primary surface.* A surface located on the ground or water longitudinally centered on each runway with the same length as the runway. The width of the primary surface for runways is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000-foot width may be reduced to the former criteria.

(2) *Clear zone surface.* A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.

(3) Approach clearance surface. An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.

(4) *Transitional surfaces.* These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

§77.23 Heliport imaginary surfaces.

(a) *Primary surface.* The area of the primary surface coincides in size and shape with the designated take-off and landing area. This surface is a horizontal plane at the elevation of the established heliport elevation.

(b) *Approach surface.* The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

(c) *Transitional surfaces*. These surfaces extend outward and upward from the lateral boundaries of the primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

Subpart D—Aeronautical Studies and Determinations

§77.25 Applicability.

(a) This subpart applies to any aeronautical study of a proposed construction or alteration for which notice to the FAA is required under § 77.9.

(b) The purpose of an aeronautical study is to determine whether the aeronautical effects of the specific proposal and, where appropriate, the cumulative impact resulting from the proposed construction or alteration when combined with the effects of other existing or proposed structures, would constitute a hazard to air navigation.

(c) The obstruction standards in subpart C of this part are supplemented by other manuals and directives used in determining the effect on the navigable airspace of a proposed construction or alteration. When the FAA needs additional information, it may circulate a study to interested parties for comment.

§77.27 Initiation of studies.

The FAA will conduct an aeronautical study when:

(a) Requested by the sponsor of any proposed construction or alteration for which a notice is submitted; or

(b) The FAA determines a study is necessary.

§77.29 Evaluating aeronautical effect.

(a) The FAA conducts an aeronautical study to determine the impact of a proposed structure, an existing structure that has not yet been studied by the FAA, or an alteration of an existing structure on aeronautical operations, procedures, and the safety of flight. These studies include evaluating:

(1) The impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules;

(2) The impact on arrival, departure, and en route procedures for aircraft operating under instrument flight rules;

(3) The impact on existing and planned public use airports;

(4) Airport traffic capacity of existing public use airports and public use airport development plans received before the issuance of the final determination;

(5) Minimum obstacle clearance altitudes, minimum instrument flight rules altitudes, approved or planned instrument approach procedures, and departure procedures;

(6) The potential effect on ATC radar, direction finders, ATC tower line-ofsight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems;

(7) The aeronautical effects resulting from the cumulative impact of a proposed construction or alteration of a structure when combined with the effects of other existing or proposed structures.

(b) If you withdraw the proposed construction or alteration or revise it so that it is no longer identified as an obstruction, or if no further aeronautical study is necessary, the FAA may terminate the study.

§77.31 Determinations.

(a) The FAA will issue a determination stating whether the proposed construction or alteration would be a hazard to air navigation, and will advise all known interested persons.

(b) The FAA will make determinations based on the aeronautical study findings and will identify the following:

(1) The effects on VFR/IFR aeronautical departure/arrival operations, air traffic procedures, minimum flight altitudes, and existing, planned, or proposed airports listed in §77.15(e) of which the FAA has received actual notice prior to issuance of a final determination.

(2) The extent of the physical and/or electromagnetic effect on the operation of existing or proposed air navigation

facilities, communication aids, or surveillance systems.

(c) The FAA will issue a Determination of Hazard to Air Navigation when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard and would have a substantial aeronautical impact.

(d) A Determination of No Hazard to Air Navigation will be issued when the aeronautical study concludes that the proposed construction or alteration will exceed an obstruction standard but would not have a substantial aeronautical impact to air navigation. A Determination of No Hazard to Air Navigation may include the following:

(1) Conditional provisions of a determination.

(2) Limitations necessary to minimize potential problems, such as the use of temporary construction equipment.

(3) Supplemental notice requirements, when required.

(4) Marking and lighting

recommendations, as appropriate. (e) The FAA will issue a

Determination of No Hazard to Air Navigation when a proposed structure does not exceed any of the obstruction standards and would not be a hazard to air navigation.

§77.33 Effective period of determinations.

(a) A determination issued under this subpart is effective 40 days after the date of issuance, unless a petition for discretionary review is received by the FAA within 30 days after issuance. The determination will not become final pending disposition of a petition for discretionary review.

(b) Unless extended, revised, or terminated, each Determination of No Hazard to Air Navigation issued under this subpart expires 18 months after the effective date of the determination, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(c) A Determination of Hazard to Air Navigation has no expiration date.

§77.35 Extensions, terminations, revisions and corrections.

(a) You may petition the FAA official that issued the Determination of No Hazard to Air Navigation to revise or reconsider the determination based on new facts or to extend the effective period of the determination, provided that:

(1) Actual structural work of the proposed construction or alteration, such as the laying of a foundation, but not including excavation, has not been started; and

(2) The petition is submitted at least 15 days before the expiration date of the Determination of No Hazard to Air Navigation.

(b) A Determination of No Hazard to Air Navigation issued for those construction or alteration proposals not requiring an FCC construction permit may be extended by the FAA one time for a period not to exceed 18 months.

(c) A Determination of No Hazard to Air Navigation issued for a proposal requiring an FCC construction permit may be granted extensions for up to 18 months, provided that:

(1) You submit evidence that an application for a construction permit/ license was filed with the FCC for the associated site within 6 months of issuance of the determination; and

(2) You submit evidence that additional time is warranted because of FCC requirements; and

(3) Where the FCC issues a construction permit, a final Determination of No Hazard to Air Navigation is effective until the date prescribed by the FCC for completion of the construction. If an extension of the original FCC completion date is needed, an extension of the FAA determination must be requested from the Obstruction Evaluation Service (OES).

(4) If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

Subpart E—Petitions for Discretionary **Review**

§77.37 General.

(a) If you are the sponsor, provided a substantive aeronautical comment on a proposal in an aeronautical study, or have a substantive aeronautical comment on the proposal but were not given an opportunity to state it, you may petition the FAA for a discretionary review of a determination, revision, or extension of a determination issued by the FAA.

(b) You may not file a petition for discretionary review for a Determination of No Hazard that is issued for a temporary structure, marking and lighting recommendation, or when a proposed structure or alteration does not exceed obstruction standards contained in subpart C of this part.

§77.39 Contents of a petition.

(a) You must file a petition for discretionary review in writing and it must be received by the FAA within 30 days after the issuance of a determination under § 77.31, or a revision or extension of the determination under § 77.35.

(b) The petition must contain a full statement of the aeronautical basis on which the petition is made, and must include new information or facts not previously considered or presented during the aeronautical study, including valid aeronautical reasons why the determination, revisions, or extension made by the FAA should be reviewed.

(c) In the event that the last day of the 30-day filing period falls on a weekend or a day the Federal government is closed, the last day of the filing period is the next day that the government is open.

(d) The FAA will inform the petitioner or sponsor (if other than the petitioner) and the FCC (whenever an FCC-related proposal is involved) of the filing of the petition and that the determination is not final pending disposition of the petition.

§77.41 Discretionary review results.

(a) If discretionary review is granted, the FAA will inform the petitioner and the sponsor (if other than the petitioner) of the issues to be studied and reviewed. The review may include a request for comments and a review of all records from the initial aeronautical study.

(b) If discretionary review is denied, the FAA will notify the petitioner and the sponsor (if other than the petitioner), and the FCC, whenever a FCC-related proposal is involved, of the basis for the denial along with a statement that the determination is final.

(c) After concluding the discretionary review process, the FAA will revise, affirm, or reverse the determination.

Issued in Washington, DC, on July 13, 2010.

J. Randolph Babbitt,

Administrator.

[FR Doc. 2010–17767 Filed 7–20–10; 8:45 am] BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 97

[Docket No. 30734; Amdt. No. 3382]

Standard Instrument Approach Procedures, and Takeoff Minimums and Obstacle Departure Procedures; Miscellaneous Amendments

AGENCY: Federal Aviation Administration (FAA), DOT. **ACTION:** Final rule.

SUMMARY: This establishes, amends, suspends, or revokes Standard Instrument Approach Procedures (SIAPs) and associated Takeoff Minimums and Obstacle Departure Procedures for operations at certain airports. These regulatory actions are needed because of the adoption of new or revised criteria, or because of changes occurring in the National Airspace System, such as the commissioning of new navigational facilities, adding new obstacles, or changing air traffic requirements. These changes are designed to provide safe and efficient use of the navigable airspace and to promote safe flight operations under instrument flight rules at the affected airports.

DATES: This rule is effective July 21, 2010. The compliance date for each SIAP, associated Takeoff Minimums, and ODP is specified in the amendatory provisions.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of July 21, 2010.

ADDRESSES: Availability of matters incorporated by reference in the amendment is as follows:

For Examination—

1. FAA Rules Docket, FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591;

2. The FAA Regional Office of the region in which the affected airport is located;

3. The National Flight Procedures Office, 6500 South MacArthur Blvd., Oklahoma City, OK 73169; or

4. The National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: http://www.archives.gov/ federal_register/ code_of_federal_regulations/ ibr locations.html.

Availability—All SIAPs and Takeoff Minimums and ODPs are available online free of charge. Visit http:// www.nfdc.faa.gov to register. Additionally, individual SIAP and Takeoff Minimums and ODP copies may be obtained from:

1. FAA Public Inquiry Center (APA– 200), FAA Headquarters Building, 800 Independence Avenue, SW., Washington, DC 20591; or

2. The FAA Regional Office of the region in which the affected airport is located.

FOR FURTHER INFORMATION CONTACT: Harry J. Hodges, Flight Procedure Standards Branch (AFS–420), Flight Technologies and Programs Divisions, Flight Standards Service, Federal Aviation Administration, Mike Monroney Aeronautical Center, 6500 South MacArthur Blvd., Oklahoma City, OK 73169 (Mail Address: P.O. Box 25082, Oklahoma City, OK 73125) Telephone: (405) 954–4164.

SUPPLEMENTARY INFORMATION: This rule amends Title 14 of the Code of Federal Regulations, Part 97 (14 CFR part 97), by establishing, amending, suspending, or revoking SIAPS, Takeoff Minimums and/or ODPS. The complete regulators description of each SIAP and its associated Takeoff Minimums or ODP for an identified airport is listed on FAA form documents which are incorporated by reference in this amendment under 5 U.S.C. 552(a), 1 CFR part 51, and 14 CFR part 97.20. The applicable FAA Forms are FAA Forms 8260-3, 8260-4, 8260-5, 8260-15A, and 8260-15B when required by an entry on 8260–15A.

The large number of SIAPs, Takeoff Minimums and ODPs, in addition to their complex nature and the need for a special format make publication in the Federal Register expensive and impractical. Furthermore, airmen do not use the regulatory text of the SIAPs, Takeoff Minimums or ODPs, but instead refer to their depiction on charts printed by publishers of aeronautical materials. The advantages of incorporation by reference are realized and publication of the complete description of each SIAP, Takeoff Minimums and ODP listed on FAA forms is unnecessary. This amendment provides the affected CFR sections and specifies the types of SIAPs and the effective dates of the associated Takeoff Minimums and ODPs. This amendment also identifies the airport and its location, the procedure, and the amendment number.

The Rule

This amendment to 14 CFR part 97 is effective upon publication of each separate SIAP, Takeoff Minimums and ODP as contained in the transmittal. Some SIAP and Takeoff Minimums and textual ODP amendments may have been issued previously by the FAA in a Flight Data Center (FDC) Notice to Airmen (NOTAM) as an emergency action of immediate flight safety relating directly to published aeronautical charts. The circumstances which created the need for some SIAP and Takeoff Minimums and ODP amendments may require making them effective in less than 30 days. For the remaining SIAPS and Takeoff Minimums and ODPS, an effective date at least 30 days after publication is provided.

Further, the SIAPs and Takeoff Minimums and ODPS contained in this amendment are based on the criteria contained in the U.S. Standard for Terminal Instrument Procedures

APPENDIX E WETLAND AND WATERBODY DESKTOP SUMMARY



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October 27, 2022



Ms. Bettina Rayfield, Manager Virginia Department of Environmental Quality Office of Environmental Impact Review P.O. Box 1105 Richmond, Virginia 23218

Subject: Wetland and Waterbody Desktop Summary 500-230 kV Wishing Star Substation, 500 kV and 230 kV Mars-Wishing Star Lines, 500-230 kV Mars Substation, and Mars 230 kV Loop Project New SCC Filing

Dear Ms. Rayfield:

Environmental Resources Management ("ERM"), on behalf of Virginia Electric and Power Company ("Dominion Energy Virginia," "Dominion" or the "Company"), conducted a desktop wetland and waterbody review of publicly available information for the proposed 500-230 kV Wishing Star Substation, 500 kV and 230 kV Mars-Wishing Star Lines, 500-230 kV Mars Substation, and Mars 230 kV Loop Project (Project) located within Loudoun County, Virginia. Field delineations were not performed as part of this analysis and would be required to verify the accuracy and extent of aquatic resource boundaries. Attachment 1 depicts the general location of the proposed Project. Attachment 2 illustrates the wetland boundaries that were identified as part of the desktop review.

Dominion Energy Virginia is filing an application with the State Corporation Commission (SCC) for the following:

- Construct a new 500-230 kV substation in Loudoun County, Virginia, within existing Company-owned right-of-way and on property obtained by the Company ("Wishing Star Substation"). The 500-230 kV source to the Wishing Star Substation will be created by cutting the Company's existing 500 kV Brambleton-Mosby Lines #546 and #590 into the Wishing Star Substation at Structures #546/26 and #590/1893 just south of the Company's existing Brambleton Substation. The tie-in of Lines #546 and #590 to the Wishing Star Substation will result in (i) 500 kV Brambleton-Wishing Star Line #589 and (ii) 500 kV Brambleton-Wishing Star Line #501.
- Construct a new approximately 3.55-mile overhead 500 kV single circuit transmission line with a 230 kV single circuit transmission line underbuilt on predominantly new right-of-way. The new transmission lines will originate at the 500 kV and 230 kV buses of the proposed Wishing Star Substation and continue east to a new 500-230 kV Mars Substation, resulting in (i) 500 kV Mars-Wishing Star Line #527, and (ii) 230 kV Mars-Wishing Star Line #2291 (the "Mars-Wishing Star Lines"). From the proposed Wishing Star Substation, the Mars-Wishing Star Lines will extend generally east to the proposed Mars Substation, where the Mars-Wishing Star Lines will terminate. The proposed Mars-Wishing Star Lines will be constructed on new right-of-way predominantly 150 feet in width (approximately 2.67 miles of the 3.55-mile total length) to support a 5-2 configuration primarily on dulled galvanized steel double circuit three-pole or two-pole H-frame structures. The new 500 kV line will utilize three-phase triple-bundled 1351.5 ACSR conductors with a summer

transfer capability of 4,357 MVA; the new 230 kV line will utilize three-phase twin-bundled 768.2 ACSS/TW/HS type conductor with a summer transfer capability of 1,573 MVA.

- Construct a new 500-230 kV substation in Loudoun County, Virginia on property obtained by the Company ("Mars Substation").
- Construct two new approximately 0.57-mile overhead 230 kV double circuit lines on two sets of double circuit structures from Mars Substation to cut in locations on the Company's existing 230 kV Cabin Run-Shellhorn Road Line #2095 and 230 kV Poland Road-Shellhorn Road Line #2137, between Structures #2095/72 / #2137/82 and #2095/73 / #2137/83 resulting in (i) 230 kV Cabin Run-Mars Line #2287, (ii) 230 kV Celestial-Mars Line #2261, (iii) 230 kV Mars-Shellhorn Road Line #2095, and (iv) 230 kV Mars-Sojourner Line #2292 (the "Mars 230 kV Loop"). Where the Mars 230 kV Loop cuts into Lines #2095 and #2137, two new two-pole double circuit structures will be installed within existing right-of-way in order to loop the new lines into the Mars Substation and then back to the existing Lines #2095/#2137 corridor. While the cut-in location is within existing right-of-way, the proposed Mars 230 kV Loop will be constructed on new 160-foot-wide right-of-way supported by a combination of dulled galvanized steel double circuit monopoles and two-pole structures situated side-by-side in the right-of-way and will utilize three-phase twin-bundled 768.2 ACSS/TW type conductor with a summer transfer capability of 1,573 MVA.

There is an immediate need for the Project to maintain and improve electric service to customers in the eastern Loudoun load area ("Eastern Loudoun Load Area"), which is generally to the north and west of the Dulles Airport and is inclusive of Data Center Alley ("DCA"); to address significant load growth in the Eastern Loudoun Load Area; and to resolve identified NERC reliability violations. The Company considered the facilities required to construct and operate the Project, the length of new rights-of-way that will be required, the amount of existing development in each area, the potential for environmental impacts on communities, and the relative cost of the Project.

The purpose of this desktop analysis was to identify and evaluate potential impacts of the Project on wetlands and waterbodies (streams, creeks, runs, and open water features). In accordance with Virginia Department of Environmental Quality ("DEQ") and the SCC's Memorandum of Agreement, the evaluation was conducted using various data sets that may indicate wetland location and type. The information summarized in this report is being submitted to the DEQ as part of the DEQ Wetland Impacts Consultation.

This assessment did not include the field investigations required for wetland delineations in accordance with the U.S. Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region (Version 2.0).

Project Study Area and Potential Routes

The Project lies within a part of Loudoun County just west of the Dulles Airport. A study area was developed encompassing an area containing the Project origin and termination points: Wishing Star Substation to the west and the new 500-230 kV Mars Substation to the east. The study area is bounded by the following features:

• Brambleton Substation, Evergreen Mills Road, and Old Ox Road to the north;

- Route 50 (formerly John Mosby Highway; renamed Little River Turnpike in 2020) to the south;
- Dulles Airport to the east; and
- The Company's existing 500 kV Brambleton-Mosby Line #546 and 230 kV Brambleton-Loudoun Line #2094 to the west.

The study area is shown in Attachment 1.

Dominion identified an approximately 3.55-mile overhead proposed route for the Mars-Wishing Star Lines ("Mars-Wishing Star Lines Proposed Route" or "Route 5"), as well as five overhead alternative routes ("Mars-Wishing Star Lines Alternative Routes 1, 2, 3, 4 and 6"). For the Mars 230 kV Loop, the Company identified one approximately 0.57-mile overhead proposed route ("Mars 230 kV Loop Proposed Route").

Proposed Route Alternatives

Mars-Wishing Star Lines

Alternative Route 1

Alternative Route 1 of the proposed Mars-Wishing Star Lines is approximately 3.63 miles in length. Route 1 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-ofway of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.2 mile before turning northeast and crossing over the existing right-of-way and Broad Run. Approximately 0.1 mile after crossing Broad Run, the route turns east for 0.5 mile before turning northeast and paralleling the south side of Evergreen Mills Road for 0.3 mile. The route then crosses Loudoun County Parkway just south of the intersection with Evergreen Mills Road before turning southsoutheast for 0.2 where it crosses Broad Run again. The route turns southeast for 0.3 mile before crossing Old Ox Road then continues southeast for 0.7 mile, paralleling the north side of Dulles International Airport's West Perimeter Road. The route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230 kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Alternative Route 2

Alternative Route 2 of the proposed Mars-Wishing Star Lines is approximately 3.64 miles in length. Route 2 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-of-way of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.2 mile before turning northeast and crossing over the existing right-of-way and

Broad Run. Approximately 0.1 mile after crossing Broad Run, the route turns east for 0.5 mile before turning southeast. The route continues southeast for 0.2 mile, crossing Broad Run again, then turning east to parallel the north side of the existing right-of-way for 0.3 mile. Before crossing Loudoun County Parkway, the route turns northeast for 0.1 mile. The route turns southeast for 0.4 mile and crosses Old Ox Road and continues southeast for 0.7 mile, paralleling the north side of Dulles International Airport's West Perimeter Road. The route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230 kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Alternative Route 3

Alternative Route 3 of the proposed Mars-Wishing Star Lines is approximately 3.62 miles in length. Route 3 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-ofway of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.5 mile before turning northeast and crossing over the existing right-of-way. After crossing the existing right-of-way, the route crosses Broad Run continues northeast for 0.7 mile and parallels the south side of Evergreen Mills Road. The route then crosses Loudoun County Parkway just south of the intersection with Everareen Mills Road before turning south-southeast for 0.2 where it crosses Broad Run again. The route turns southeast for 0.3 mile before crossing Old Ox Road and southeast for 0.7 mile, paralleling the north side of Dulles International Airport's West Perimeter Road. The route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230 kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Alternative Route 4

Alternative Route 4 of the proposed Mars-Wishing Star Lines is approximately 3.63 miles in length. Route 4 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-of-way of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.5 mile before turning northeast and crossing over the existing right-of-way. After crossing the existing right-of-way, the route crosses Broad Run continues northeast for 0.4 mile before turning southeast. The route then continues southeast for 0.2 mile, crossing Broad Run again, then turning east to parallel the north side of the existing right-of-way for 0.3 mile. Before crossing Loudoun County Parkway, the route turns northeast for 0.1 mile then southeast for 0.4 mile and crosses Old Ox Road. After crossing Old Ox Road, the continues southeast for 0.7 mile, paralleling the north side of Dulles International Airport's West Perimeter Road. The route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230

kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Alternative Route 5

Alternative Route 5 of the Mars-Wishing Star Lines is approximately 3.55 miles in length. Route 5 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-of-way of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.5 mile before turning northeast and crossing over the existing right-of-way. After crossing the existing right-of-way, the route turns east and parallels the north side of the right-of-way for 0.6 mile. Before crossing Loudoun County Parkway, the route turns to the northeast for 0.1 mile. The route then turns southeast for 0.4 mile and crosses Old Ox Road. After crossing Old Ox Road, the route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230 kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Alternative Route 6

Alternative Route 6 of the proposed Mars-Wishing Star Lines is approximately 3.56 miles in length. Route 6 originates at the proposed Wishing Star Substation located on the east side of the 500 kV Brambleton-Mosby Lines #546 and #590 at a junction located between Structures #546/26 / 2094/220 and #590/1893 / 2045/25 just south of the Company's existing Brambleton Substation. The route heads east for about 0.6 mile just south Broad Run, crossing Arcola Mills Road then Belmont Ridge Road. After crossing Belmont Ridge Road, the route turns slightly to the southeast where it meets the south side of the existing right-of-way of Dominion Energy Virginia's Lines #2172 and #2183. Continuing east, the route parallels the existing right-of-way for about 0.2 mile before turning northeast and crossing over the existing right-of-way. After crossing the existing right-of-way, the route turns east and parallels the north side of the right-of-way for 0.9 mile. Before crossing Loudoun County Parkway, the route turns northeast for 0.1 mile then southeast for 0.4 mile and crosses Old Ox Road. After crossing Old Ox Road, the continues southeast for 0.7 mile, paralleling the north side of Dulles International Airport's West Perimeter Road. The route then splits in two with the 500 kV line heading east for 0.2 mile where it crosses Carters School Road and enters the west side of the proposed Mars Substation. The 230 kV line continues southeast for 0.2 mile where it crosses Carters School Road and then turns north entering the south side of the proposed Mars Substation.

Mars 230 kV Loop

The Mars 230 kV Loop is approximately 0.57 mile in length. Beginning at the proposed Mars Substation, the route travels north across forested land that is planned for future data center development. The route parallels Carters School Road for 0.5 mile before terminating at the cut location along the Company's existing Cabin Run-Shellhorn Road Line #2095. The cut in location is located just east of the intersection of Carters School Road and Old Ox Road.

The Mars 230 kV Loop will be constructed on new 160-foot-wide right-of-way supported by primarily a combination of double circuit monopoles and two-pole structures situated side-by-side in the right-of-way

with a minimum structure height of approximately 100 feet, a maximum structure height of approximately 115 feet, and an average proposed structure height of approximately 103 feet, based on preliminary conceptual design, not including foundation reveal and subject to change based on final engineering design.

Desktop Evaluation Methodology

The area of effect considered for this study consists of the proposed rights-of-way identified above within which the electric transmission lines would be constructed and operated. Data sources used for this review include the following, each of which is described briefly below:

- USA National Agricultural Imagery Program (NAIP) Natural Color Images, Virginia, 1-meter pixel resolution, photo date 2020 (NAIP 2022a)
- USA NAIP Imagery: Color Infrared NAIP Infrared Images, Virginia, 1-meter pixel resolution, photo date 2020 (NAIP 2022b)
- U.S. Geological Survey (USGS) 7.5-minute current (USGS 2022a)
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) mapping (2021) (USFWS 2022)
- U.S. Department of Agriculture-Natural Resources Conservation Service (USDA-NRCS) Soil Survey Geographic (SSURGO) database (NRCS 2022)
- USGS National Hydrography Dataset (NHD; USGS 2022b)

Natural Color and Infrared Aerial Photography

Recent (2018-2020) natural color aerial photography was used to provide a visual overview of the Project area and to assist in evaluating current conditions. Infrared aerial photography was used to identify the potential presence of wetlands based on signatures associated with the levels of reflectance. For example, areas that are inundated with water appear very dark (almost black) due to the low level of reflectance in the infrared spectrum. The presence of these dark colors can be used as a potential indicator of hydric or inundated soils that are likely associated with wetlands (NAIP 2022a and NAIP 2022b).

USGS Topographic Maps

The recent (2014) USGS topographic maps show the topography of the area. The USGS topographic maps also depict other important landscape features such as forest cover, development, buildings, agricultural areas, streams, lakes, and wetlands (USGS 2022a).

USFWS National Wetland Inventory Mapping

NWI maps provide the boundaries and classifications of potential wetland areas as mapped by the USFWS (USFWS 2022). However, NWI data is based primarily on aerial photo interpretations with limited ground-truthing and may represent incorrect boundaries or wetland cover types. NWI data can be unreliable in some areas, especially in forested landscapes, when aerial photography is used as the major data source. The classifications of the majority of the NWI polygons in the study area appear to be accurate based on a review of the cover types observed in the aerial photography. However, in areas where there was an obvious discrepancy between the NWI classification and the aerial photography, ERM modified the

classification to more accurately reflect current conditions. In order to acknowledge ERM's adjustment of NWI classifications where appropriate, all of the wetland types referenced in this assessment are referred to as "assigned wetland cover types" regardless of whether the cover type was actually modified from the NWI classification.

USDA-NRCS Soils Data

Soils in the study area were identified and assessed using the SSURGO database, which is a digital version of the original county soil surveys (NRCS 2022). The attribute data within the SSURGO database provides the proportionate extent of the component soils and their properties (e.g., hydric rating) for each soil map unit. The soils in the study area were grouped into three categories based on the hydric rating of the component soils within each map unit: hydric, partially hydric, and non-hydric. Hydric soils were defined as those where the major component soils, and minor components in some cases, are designated as hydric. Hydric components in these map units account for more than 80 percent of the map unit. Partially hydric soils include map units that only contain minor component soils that are designated as hydric. The partially hydric map units in the Project area contain 10 percent or less hydric soils. The remaining map units do not contain any component soils that are designated as hydric. Areas mapped as hydric or partially hydric have a higher probability of containing wetlands than areas with no hydric soils.

USGS National Hydrography Dataset

The National Hydrography Dataset (NHD) dataset contain features such as lakes, ponds, streams, rivers, and canals (USGS 2022b). The waterbodies mapped by the NHD appeared generally consistent with those visible on the USGS maps and aerial photography.

Probability Analysis

ERM used a stepwise process to identify probable wetland areas along the proposed routes, as follows:

- Infrared and natural color aerial photography was used in conjunction with USGS topographic maps and soils maps to identify potential wetland areas. Boundaries were assigned to the areas that appeared to exhibit wetland signatures based on this review and a cover type was determined based on aerial photo interpretation. For the purpose of the study, these areas are referred to as Interpreted Wetlands.
- 2. To further determine the probability of a wetland occurring within a given location, the Interpreted Wetland polygon shape files were digitally layered with the NWI mapping and soils information from the SSURGO database.
- 3. The probability of a wetland occurring was assigned based on the number of overlapping data layers (i.e., indicators of potential wetland presence) that occurred in a particular area.

The criteria assigned to each probability are outlined in Table 1.

Table 1: Criteria Used to Rank the Probability of Wetland Occurrence

Probability	Criteria				
High	Areas where layers of hydric soils, Interpreted Wetlands, and NWI data overlap				
Medium/High	NWI data overlaps hydric soils; or				
	NWI data overlaps Interpreted Wetlands with or without partially hydric soils; or				

	Hydric soils overlap Interpreted Wetlands
Medium	Interpreted Wetlands with or without overlap by partially hydric soils
Medium/Low	Hydric soils only; or NWI data with or without overlap by partially hydric soils
Low	Partially hydric soils only
Very Low	Non-hydric soils only

Wetland and Waterbody Crossings

The desktop analysis provides a probability of wetlands and waterbody occurrence within each route. As stated above, field delineations were not performed and would be required to verify the accuracy and extent of aquatic resource boundaries. A range of wetland occurrence probabilities are reported by this study from very low to high. The probability of wetland occurrence increases as multiple indicators begin to overlap towards the "high" end of the spectrum. The medium, medium-high and high probability category are the most reliable representation of in-situ conditions, due to overlapping data sets, and these categories are reported in the summary below as a percentage of the total acreage of each route. Attachment 2 depicts the interpreted wetlands displayed on color base map images.

Results

Results of the probability analysis are presented in Table 2 below. Summaries of impacts by route are provided in the sections following the table. Impacts associated with the proposed Mars and Wishing Star Substations are included in the impacts for the routes 1-6.

Probability	Total right-of- way Acres ^c	Wetland and Waterbody type (acres)						
		PEM	PFO	PSS	PUB	Riverine		
		Emergent	Forested	Scrub-	Freshwater	Stream		
MARS-WISHING STAR LINES								
Alternative Route 1								
High	0.86	0.02	0.61	0.03	NA	0.20		
Medium/High	9.47	4.18	3.99	0.81	0.12	0.37		
Medium	11.70	2.87	6.45	0.70	1.04	0.64		
Medium/Low	0.05	NA	NA	NA	NA	0.05		
Low	NA	NA	NA	NA	NA	NA		
Very Low	NA	NA	NA	NA	NA	NA		
Alternative Route 2								
High	0.86	0.02	0.61	0.03	NA	0.20		
Medium/High	8.70	4.18	3.02	0.81	0.20	0.50		
Medium	12.27	2.70	6.06	0.70	1.58	1.22		
Medium/Low	0.14	NA	NA	NA	NA	0.14		
Low	NA	NA	NA	NA	NA	NA		
Very Low	NA	NA	NA	NA	NA	NA		
Alternative Route 3								
High	0.84	0.02	0.57	0.03	NA	0.22		
Medium/High	9.34	3.81	4.73	0.16	0.35	0.29		
Medium	8.91	3.00	4.37	0.49	0.50	0.55		

Table 2: Summary of the Probabilities of Wetland and Waterbody Occurrence alongProject Route Alternatives ^{a, b}

Probability Medium/Low Low Very Low Alternative Route 4 High	0.17 NA NA 4 0.84	PEM Emergent NA NA NA	PFO Forested NA NA	PSS Scrub- NA NA	PUB Freshwater NA	Riverine Stream 0.17					
Medium/Low Low Very Low Alternative Route 4 High	0.17 NA NA 4 0.84	Emergent NA NA NA	Forested NA NA	NA NA	Freshwater NA	Stream 0.17					
Medium/Low Low Very Low Alternative Route 4 High	0.17 NA NA 4 0.84	NA NA NA	NA NA	NA NA	NA	0.17					
Low Very Low Alternative Route 4 High	NA NA 4 0.84	NA NA	NA	NA		-					
Very Low Alternative Route 4 High	NA 4 0.84	NA	ΝΙΔ		NA	NA					
Alternative Route 4	4 0.84		NA	NA	NA	NA					
High	0.84	Alternative Route 4									
,		0.02	0.57	0.03	NA	0.22					
Medium/High	8.57	3.81	3.76	0.16	0.42	0.42					
Medium	9.57	2.83	4.07	0.49	1.04	1.13					
Medium/Low	0.26	NA	NA	NA	NA	0.26					
Low	NA	NA	NA	NA	NA	NA					
Very Low	NA	NA	NA	NA	NA	NA					
Alternative Route 5											
High	1.24	0.02	0.91	0.03	NA	0.27					
Medium/High	7.78	3.85	2.77	0.16	0.08	0.92					
Medium	8.60	2.83	2.82	0.49	0.55	1.91					
Medium/Low	0.50	NA	0.00	NA	NA	0.49					
Low	NA	NA	NA	NA	NA	NA					
Very Low	NA	NA	NA	NA	NA	NA					
Alternative Route 6	Alternative Route 6										
High	1.24	0.02	0.91	0.03	NA	0.28					
Medium/High	9.69	4.30	3.93	0.16	0.08	1.23					
Medium	8.62	2.71	2.86	0.49	0.55	2.01					
Medium/Low	0.59	NA	0.05	NA	NA	0.55					
Low	NA	NA	NA	NA	NA	NA					
Very Low	NA	NA	NA	NA	NA	NA					
MARS 230 kV LOO	OP										
Proposed Route											
High	NA	NA	NA	NA	NA	NA					
Medium/High	0.87	NA	0.76	NA	NA	0.11					
Medium	1.59	NA	1.59	NA	NA	NA					
Medium/Low	NA	NA	NA	NA	NA	NA					
Low	NA	NA	NA	NA	NA	NA					
Very Low	NA	NA	NA	NA	NA	NA					

NA а

The numbers in this table have been rounded for presentation purposes; as a result, the totals may not reflect the sum of the addends. b Substation wetlands and waterbodies and the 230 kV split are included within each route

Total acres may not total the sum of wetland and waterbody types because some of the lower probability rankings do not overlap with NWI с or interpreted wetlands, and therefore do not have a wetland/waterbody type associated with them.

Wetland Crossings

Mars-Wishing Star Lines

Alternative Route 1

The length of the corridor for Route 1 is approximately 3.63 miles and encompasses a total of approximately 91.87 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and substation footprint will encompass approximately 23.98 percent (22.03 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Alternative Route 2

The length of the corridor for Route 2 is approximately 3.64 miles and encompasses a total of approximately 92.08 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and Substation footprint will encompass approximately 23.80 percent (21.92 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Alternative Route 3

The length of the corridor for Route 3 is approximately 3.62 miles and encompasses a total of approximately 91.68 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and Substation footprint will encompass approximately 20.83 percent (19.09 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Alternative Route 4

The length of the corridor for Route 4 is approximately 3.63 miles and encompasses a total of approximately 91.90 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and Substation footprint will encompass approximately 20.66 percent (19.0 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Alternative Route 5

The length of the corridor for Route 5 is approximately 3.55 miles and encompasses a total of approximately 92.77 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and Substation footprint will encompass approximately 18.98 percent (17.61 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Alternative Route 6

The length of the corridor for Route 6 is approximately 3.56 miles and encompasses a total of approximately 92.88 acres (including the 0.34 mile and 3.36 acres of the Wishing Star to Mars 230 kV split and 30 acres for the proposed Wishing Star and Mar Substations). Based on the methodology discussed above, the right-of-way and substation footprint will encompass approximately 21.06 percent (19.56 acres) of land with a medium or higher probability of containing wetlands and waterbodies.

Mars 230 kV Loop Proposed Route

The length of the corridor for the 230 kV Loop is approximately 0.57 miles and encompasses a total of approximately 10.34 acres of right-of-way. Based on the methodology discussed above, the right-of-way

will encompass approximately 22.70 percent (2.35 acres) of land with a medium or higher probability of containing wetlands and waterbodies

Waterbody Crossings

ERM identified and mapped waterbodies in the study area using similar publicly available GIS databases as those used to identify and map wetlands. All proposed routes would cross perennial and intermittent waterbodies. The majority of waterbodies are tributaries to the perennial Broad Run. Mars-Wishing Star routes 1-6 cross perennial Broad Run and Cabin Branch. Routes 5 and 6 also cross the South Fork Broad Run, as well as other unnamed perennial and intermittent tributaries to Broad Run. There are three open waterbodies crossed by the routes. Routes 1 and 2 cross one open waterbody excavated between 2012 and 2014 based on historic aerials. Routes 3, 4, and 5 cross an open waterbody adjacent to Broad Run near its confluence with South Fork Broad Run, and routes 2, 4, 5, and 6 cross an open waterbody feature adjacent to Broad Run beneath Loudoun County Parkway.

Mars-Wishing Star Lines

Alternative Route 1

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 6 waterbody crossings, including 3 perennial and 3 intermittent streams, within the Route 1 right-of-way. Waterbodies crossed by the right-of-way include two crossings of Broad Run, an open waterbody, and Cabin Branch.

Alternative Route 2

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 9 waterbody crossings, including 6 perennial and 3 intermittent streams, within the Route 2 right-of-way. Waterbodies crossed by the right-of-way include three crossings of Broad Run, an open waterbody, an open waterbody adjacent to Broad Run, and Cabin Branch.

Alternative Route 3

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 6 waterbody crossings, including 3 perennial and 3 intermittent streams, within the Route 3 right-of-way. Waterbodies crossed by the right-of-way include two crossings of Broad Run, open waterbody, and Cabin Branch.

Alternative Route 4

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 9 waterbody crossings, including 6 perennial and 3 intermittent streams, within the Route 4 right-of-way. Waterbodies crossed by the right-of-way include three crossings of Broad Run, an open waterbody, an open waterbody adjacent to Broad Run, and Cabin Branch.

Alternative Route 5

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 11 waterbody crossings, including 9 perennial and 2 intermittent streams, within the Route 5 right-of-way.

Waterbodies crossed by the right-of-way include two crossings of Broad Run, an open waterbody adjacent to Broad Run, and Cabin Branch.

Alternative Route 6

Based on the NHD and the wetland desktop delineation methodology described above, there are a total of 11 waterbody crossings, including 9 perennial and 2 intermittent streams, within the Route 6 right-of-way. Waterbodies crossed by the right-of-way include two crossings of Broad Run, an open waterbody adjacent to Broad Run, and Cabin Branch.

Mars 230 kV Loop

Proposed Route

Based on the NHD and the wetland desktop delineation methodology described above, there are no mapped waterbody crossings within the Mars 230 kV Loop right-of-way.

Project Impacts

Avoiding or minimizing new impacts on wetlands and streams was among the criteria Dominion Energy Virginia used in developing routes for the Project. To minimize impacts on wetland areas and streams, the transmission lines have been designed to span or avoid wetlands where possible. Most of the wetlands in the area are associated with streams and rivers, and it is anticipated that these features can be spanned, keeping structure locations outside of wetlands to the extent practicable.

Where the removal of trees or shrubby vegetation occurs within wetlands, Dominion Energy Virginia would use the least intrusive method reasonably possible to clear the corridor. Hand-cutting of vegetation would be conducted, where needed, to avoid and minimize impacts on streams and/or wetlands. There would be no change in contours or redirection of water flow, and the amount of spoil from foundation installation and structure placement would be minimal. Excess soil in wetlands generated through foundation construction would be removed from the wetland.

Mats would be used for construction equipment to travel over wetlands, as appropriate. Due to the absence of an existing right-of-way in some areas along the routes, new temporary access roads may be necessary. Additionally, if a route section cannot be accessed from existing roads, Dominion may need to install a culvert, ford, or temporary bridge along the ROW to cross small streams, where present. In such cases, temporary fill material in wetlands adjacent to the crossings may be required. This fill would be placed on erosion control fabric and removed when work is completed, returning ground elevations to original contours. Potential direct impacts on wetlands associated with construction would be temporary in nature. Where tree clearing within wetlands is necessary, forested wetlands would be permanently converted to scrub-shrub or emergent type wetlands after construction. Forested wetlands provide functions such as peak flood flow reduction, nutrient and sediment capture, filtration of pollutants to adjacent waterbodies, and diversity of habitat. The conversion of forested wetlands may reduce or eliminate some of these functions. Required tree removal adjacent to waterbodies would reduce riparian buffer functions such as stream bank stabilization and erosion control, nutrient and sediment filtration, floodwater storage and peak flow reduction, and water temperature modification from shading. Vegetation within the right-of-way would be allowed to return to maintained grasses and shrubs after construction, which would provide some filtration stabilization to help protect waterbodies from pollutants. Within the immediate stream buffer (100 feet), all trees will be hand felled with stumps left in place to reduce the potential for erosion. Shrubs and trees with a diameter at breast height (DBH) of less than three inches will be left in place unless it impedes temporary access where they would be clipped leaving roots in place which will be able to naturally regenerate.

Summary

This Wetland and Waterbody Summary report was prepared in accordance with the Memorandum of Agreement between the DEQ and the SCC for purposes of initiating a Wetlands Impact Consultation. Please note that a formal onsite wetland delineation was not conducted as part of this review.

In addition, there is a Project website where the SCC application will be available after filing, as well as maps and discussions about the Project. It can be accessed by going to <u>www.dominionenergy.com/NOVA</u>. If you have any questions regarding this wetland assessment, please contact me at 612-347-7178 or by email at <u>mariah.weitzenkamp@erm.com</u>.

Sincerely,

Mariah Weitzenkamp Environmental Resources Management

cc: Laura Meadows, Dominion Energy Virginia James Young, Dominion Energy Virginia

Enclosures: Attachments 1 and 2

References

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ATTACHMENT 1



ATTACHMENT 2









APPENDIX F VISUAL SIMULATIONS







Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and

regulatory review.





WISHING STAR - MARS 500/230-KV Substation and Transmission Line Project

SIMULATION 1 Date: 8/11/2022 Time: 11:48 am Direction: Northeast



Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy[®]



WISHING STAR - MARS 500/230-kV Substation and Transmission Line Project

Direction: Southeast



only. Final design is subject to change Visualization is for discussion purposes pending public, engineering, and regulatory review.









SIMULATION 3 Date: 8/11/2022 Time: 7:13 am Direction: Northwest



Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy



PROPOSED CONDITIONS ROUTES DISPLAYED: 1 2 3 4 5 6



SIMULATION 5 Date: 8/11/2022 Time: 10:58 am Direction: South



Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy[®]



WISHING STAR - MARS 500/230-kV Substation and Transmission Line Project

SIMULATION 13 Date: 8/11/2022 Time: 12:08 pm Direction: Northeast



Visualization is for discussion purposes only. Final design is subject to change pending public, engineering, and regulatory review.

Dominion Energy*



WISHING STAR - MARS 500/230-kV Substation and Transmission Line Project

SIMULATION 14 Date: 8/1/2022 Time: 8:40 am Direction: North



only. Final design is subject to change Visualization is for discussion purposes pending public, engineering, and regulatory review.

Dominion Energy





only. Final design is subject to change Visualization is for discussion purposes pending public, engineering, and regulatory review.



SIMULATION 16 Date: 8/11/2022 Time: 8:57 am Direction: South

WISHING STAR - MARS 500/230-kV Substation and Transmission Line Project

PROPOSED CONDITIONS ROUTES DISPLAYED: Mars 230kV Loop






SIMULATION 21 Date: 8/11/2022 Time: 8:03 am Direction: North



only. Final design is subject to change regulatory review.

Visualization is for discussion purposes pending public, engineering, and

Dominion Energy*







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