

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
ADOPTION OF ENVIRONMENTAL IMPACT STATEMENT
AND FAA RECORD OF DECISION FOR
Establishment of the Powder River Training Complex
Located in Montana, North Dakota, South Dakota, and Wyoming

List of Abbreviations/Acronyms

ACHP	Advisory Council on Historic Preservation
AFB	Air Force Base
AGL	Above Ground Level
ARTCC	Air Route Traffic Control Center
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
ATREP	Air Traffic Representative
CDNL	C-Weighted Day-Night Average Sound Level
CEQ	Council of Environmental Quality
CFR	Code of Federal Regulations
DNL	yearly day/night average sound level
DOD	Department of Defense
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
GHG	Green House Gas
IFR	Instrument Flight Rules
JO	Joint Order
LFE	Large Force Exercise
MOA	Military Operations Area
MSL	Mean Sea Level
MTR	Military Training Route
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Affairs
NM	Nautical Mile
NOI	Notice of Intent
NOTAM	Notice to Airmen
NPS	National Park Service
NR	Non rulemaking
NRHP	National Register of Historic Places
NWR	National Wildlife Refuge
P/CG	Pilot Controller Glossary
PRTC	Powder River Training Complex
ROD	Record of Decision
SEL	Single Event Level
SHPOs	State Historic Preservation Offices
SUA	Special use Airspace
THPOs	Tribal Historic Preservation Offices
USFWS	United States Fish and Wildlife Service
VFR	Visual Flight Rule
VOC	Volatile Organic Compounds

Introduction

This document serves as a record of: (1) the Federal Aviation Administration's ("FAA") adoption of the United States Air Force's Final Environmental Impact Statement ("Final EIS") for the proposed Powder River Training Complex in Montana, Wyoming, South Dakota, and North Dakota; and (2) the FAA's decision regarding modification and establishment of airspace for the PRTC. The FAA's adoption and decision are in accordance with Section 102 of the National Environmental Policy Act of 1969 ("NEPA"), the Council on Environmental Quality's ("CEQ") regulations implementing NEPA (40 C.F.R. parts 1500-1508), and other applicable authorities, including FAA Order 1050.1E, which sets forth the FAA's policies and procedures for considering the environmental impacts of its actions, and FAA Order JO 7400.2K, "Procedures for Handling Airspace Matters," which sets forth the FAA's procedures for considering and changing the National Airspace System.

Background

To better meet its military flight training needs, the Air Force has requested that the FAA modify the existing Powder River A and B Military Operations Areas ("MOAs")¹ and associated Air Traffic Control Assigned Airspaces ("ATCAAs")² overlying portions of Montana, Wyoming, and South Dakota and establish additional adjacent airspace that would also overlie a portion of North Dakota. These changes would result in what the Air Force refers to as the Powder River Training Complex ("PRTC").

By letter dated September 28, 2007 (included in Appendix E of the Final EIS), the Air Force requested participation from the FAA as a cooperating agency (see 40 C.F.R. § 1501.6) in the preparation of an environmental impact statement for the proposed PRTC. By letter dated October 10, 2007 (also included in Appendix E of the Final EIS), the FAA, having responsibility for approving special use airspace under 49 U.S.C. section 40103(b)(3)(A), accepted cooperating agency status.

As the lead agency, the Air Force published a Draft Environmental Impact Statement ("Draft EIS") for the proposed PRTC in accordance with NEPA in August 2010. As a cooperating agency, the FAA coordinated closely with the Air Force and actively participated in the preparation of the Draft EIS, including reviewing drafts and providing extensive input. The public comment period on the Draft EIS ran from August 20, 2010 to January 20, 2011. During the comment period, the Air Force held 19 public hearings in Montana, Wyoming, South Dakota, and North Dakota. FAA personnel attended these public hearings. Also during the Draft EIS

¹ A MOA is airspace established outside Class A airspace (i.e., below 18,000 feet above mean sea level) to separate or segregate certain nonhazardous military activities from instrument flight rules ("IFR") air traffic and to identify for visual flight rule ("VFR") air traffic where these activities are conducted. 14 C.F.R. § 1.1. MOAs are a type of "non-rulemaking" Special Use Airspace ("SUA"). See FAA Order 7400.2K, paragraphs 21-1-3 (definition and types of SUA) and 21-1-4 (identifying rulemaking and non-rulemaking categories of SUA).

² An ATCAA is airspace of defined vertical and lateral limits, assigned by air traffic control for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic. FAA Pilot/Controller Glossary (January 8, 2015).

comment period, the Air Force held four meetings with leaders and members of the Crow, Northern Cheyenne, Cheyenne River Sioux, and Standing Rock Sioux Tribes, whose reservation lands underlie portions of the proposed PRTC airspace.

The Air Force has also engaged in consultation required under Section 106 of the National Historic Preservation Act (“NHPA Section 106”) to identify and address potential effects of the proposed PRTC on historic properties. In addition to the potentially affected tribes, the NHPA Section 106 consultation process also included the state historic preservation offices (“SHPOs”) of the four states underlying the proposed PRTC airspace, the National Park Service (“NPS”), and the Advisory Council on Historic Preservation (“ACHP”).

The FAA has also provided opportunities for interested persons to comment on the Air Force’s proposed airspace for the PRTC as part of the FAA’s aeronautical review process under FAA Order JO 7400.2³ (see Appendix H of the Final EIS).

The Air Force and the FAA carefully considered the comments received during the Draft EIS comment period, the FAA’s aeronautical review process, government-to-government consultations with tribes, and the NHPA Section 106 consultation process. To address concerns expressed in these comments, the Air Force, in consultation with the FAA, modified the action alternatives analyzed in the Draft EIS (i.e., Alternatives A, B, and C) with extensive measures designed to avoid, minimize, or otherwise mitigate potential adverse effects of the proposed PRTC. Additional mitigation measures are included in a Programmatic Agreement developed through the NHPA Section 106 consultation process (“Programmatic Agreement”). Mitigation measures are discussed in more detail in the “Mitigation” section below.

The potential environmental impacts of the modified alternatives are fully analyzed in the Air Force’s Final EIS. Notice of the public availability of the Final EIS was published in the Federal Register on November 28, 2014. Section 2.3 of the Final EIS includes a detailed comparison of the original alternatives discussed in the Draft EIS and the modified alternatives, labeled in the Final EIS as Modified Alternative A, Modified Alternative B, and Modified Alternative C. The Final EIS identifies Modified Alternative A as the Air Force’s preferred alternative (see Section 2.11.5 of the Final EIS).

The Air Force issued its Record of Decision (“ROD”) on January 16, 2015. The ROD documents the Air Force’s decisions to: (1) select Modified Alternative A; (2) adopt the

³ The FAA uses FAA Order JO 7400.2K, *Procedures for Handling Airspace Matters*, for the joint administration of the NAS. The Order covers “special use airspace” to include MOAs and includes the associated procedures for the review of proposals for airspace modification and establishment. These procedures include a process for an aeronautical assessment on any potential impacts to aviation from the proposal. The assessment is accomplished through an aeronautical review, which consists of two actions. First, the aeronautical proposal is examined by the FAA air traffic facilities affected by the proposed airspace. Second, the proposal is released to the public as “circularization” to notify the public of the proposal and encourage the interested persons to submit comments on the aeronautical impacts of proposal. For an overview of the process as it relates to MOAs, see FAA Order JO 7400.2K, Appendix 4

applicable mitigation measures in the FEIS and the Programmatic Agreement; (3) develop and implement an adaptive management program to monitor the effectiveness of the mitigation measures and make any necessary adaptations; and (4) request that the FAA “take those actions necessary to implement this decision by modifying and establishing the requisite airspace.”

Subsequent Modifications of the Proposed Action

After the completion of the Air Force ROD, the FAA determined that the Fairgrounds Airpark, located in Hardin, MT and included in the proposed PR-1A Low MOA and the proposed PR-1C Low MOA, was closed/deactivated on January 8, 2015 with the simultaneous activation of Big Horn County Airport, MT located approximately three miles northeast of the Fairgrounds Airpark. The FAA subsequently altered the Proposed Action (described below) to remove the Fairgrounds Airpark and include the Big Horn County Airport in the description of the proposed PR-1A Low MOA. The FAA further determined that an exclusion area for the portion of the Northern Cheyenne Reservation extends under the proposed PR-1C MOA and adjusted the Proposed Action to include this exclusion area. Because these are not substantial changes to Modified Alternative A and do not reflect significant new circumstances or information relevant to environmental concerns, they do not require supplementation of the Final EIS.

Proposed Action

For the purpose of this ROD, the Proposed Action is the modification of the existing Powder River airspace and establishment of new airspace for the PRTC, as described in the Final EIS for Modified Alternative A and with the subsequent modifications described above.⁴

The Proposed Action includes the following changes to the existing Powder River airspace (see Figure 1-2 of the Final EIS,⁵ reproduced below) for a graphic depiction of the proposed PRTC airspace):

Powder River 1A Low MOA, MT (New)

Boundaries: Beginning at lat. 45°55’56”N., long. 107°44’15”W.;
to lat. 46°00’42”N., long. 107°22’33”W.;
to lat. 46°01’35”N., long. 107°16’56”W.;

⁴ The Air Force initiated pre-coordination with the FAA in 2007, gradually maturing and refining the airspace concept. In 2010, the Air Force submitted the initial PRTC Airspace Proposal for FAA consideration. The proposal was circularized under study number 10-AGL-6NR. The Air Force submitted a revised PRTC Airspace Proposal to the FAA on February 5, 2014 for consideration. The revised airspace proposal was circularized under study number 14-AGL-06NR. Modified Alternative A in the Final EIS includes changes to the Air Force’s February 2014 airspace proposal in response to inputs received during the FAA’s aeronautical review process for that proposal.

⁵ The legend in Figure 1-2 of the Final EIS contains an inadvertent error in that it is missing the ATCAA designation for the proposed Powder River 1D (“PR-1D”) area, which is part of the Air Force’s airspace proposal for the PRTC. However, the PR-1D ATCAA is included in the Final EIS analysis and tables.

to lat. 46°03'09"N., long. 107°11'15"W.;;
to lat. 46°04'55"N., long. 107°02'54"W.;;
clockwise along the Billings VORTAC 68 NM arc;
to lat. 45°42'43"N., long. 107°00'42"W.;;
to lat. 45°40'30"N., long. 107°13'42"W.;;
to lat. 45°41'48"N., long. 107°44'07"W.;;
counter clockwise along the Billings VORTAC 38 NM arc;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 1,500 feet AGL and below within a 3 NM radius of the Big Horn County Airport, MT.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 1A High MOA, MT (New)

Boundaries: Beginning at lat. 45°55'56"N., long. 107°44'15"W.;;
to lat. 46°00'42"N., long. 107°22'33"W.;;
to lat. 46°01'35"N., long. 107°16'56"W.;;
to lat. 46°03'09"N., long. 107°11'15"W.;;
to lat. 46°04'55"N., long. 107°02'54"W.;;
clockwise along the Billings VORTAC 68 NM arc;
to lat. 45°42'43"N., long. 107°00'42"W.;;
to lat. 45°40'30"N., long. 107°13'42"W.;;
to lat. 45°41'48"N., long. 107°44'07"W.;;
counter clockwise along the Billings VORTAC 38 NM arc;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Power River 1B Low MOA, MT (New)

Boundaries: Beginning at lat. 46°04'55"N., long. 107°02'54"W.;;
to lat. 46°11'59"N., long. 106°29'32"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 45°57'58"N., long. 105°59'23"W.;;
to lat. 45°40'57"N., long. 105°55'50"W.;;
to lat. 45°47'00"N., long. 106°35'30"W.;;
to lat. 45°42'43"N., long. 107°00'42"W.;;
counter clockwise along the Billings VORTAC 68 NM arc;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 1,500 feet AGL and below within a 3 NM radius of the Colstrip Airport, MT.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 1B High MOA, MT (New)

Boundaries: Beginning at lat. 46°04'55"N., long. 107°02'54"W.;;
to lat. 46°11'59"N., long. 106°29'32"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 45°57'58"N., long. 105°59'23"W.;;
to lat. 45°40'57"N., long. 105°55'50"W.;;
to lat. 45°47'00"N., long. 106°35'30"W.;;
to lat. 45°42'43"N., long. 107°00'42"W.;;
counter clockwise along the Billings VORTAC 68 NM arc;

to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 1C Low MOA, MT (New)

Boundaries: Beginning at lat. 45°41'48"N., long. 107°44'07"W.;
to lat. 45°40'30"N., long. 107°13'42"W.;
to lat. 45°42'43"N., long. 107°00'42"W.;
clockwise along the Billings VORTAC 68 NM arc;
to lat. 45°14'11"N., long. 107°14'21"W.;
to lat. 45°13'23"N., long. 107°17'55"W.;
to lat. 45°31'00"N., long. 107°34'19"W.;
to lat. 45°35'23"N., long. 107°46'46"W.;
counter clockwise along the Billings VORTAC 38 NM arc;
to the point of beginning, excluding the airspace within
the Northern Cheyenne Indian Reservation.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3 hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Mitigation Specific to Powder River 1C Low MOA, MT:

The Little Bighorn Battlefield noise avoidance area boundaries are:

N45-28.6561 W107-15.5057 to
N45-26.0787 W107-19.9172 to
N45-25.8566 W107-23.2907 to
N45-31.3973 W107-31.4971 to
N45-33.0734 W107-32.2886 to
N45-37.3357 W107-32.6526 to
N45-39.7426 W107-26.7047 to
N45-39.1091 W107-21.5969 to
N45-33.0471 W107-15.0289 to beginning.

Hours: From 1 hour prior, to 1 hour after, NPS Hours of Operation.

Altitude: The area bounded above will not be over-flown below 5,000 feet AGL during the hours listed above.

Special Events: The area bounded above will also be avoided when special events are coordinated.

Supersonic: No supersonic flight within the PR-1C Low MOA.

Powder River 1C High MOA, MT (New)

Boundaries: Beginning at lat. 45°41'48"N., long. 107°44'07"W.;
to lat. 45°40'30"N., long. 107°13'42"W.;
to lat. 45°42'43"N., long. 107°00'42"W.;
clockwise along the Billings VORTAC 68 NM arc;
to lat. 45°14'11"N., long. 107°14'21"W.;
to lat. 45°13'23"N., long. 107°17'55"W.;
to lat. 45°31'00"N., long. 107°34'19"W.;
to lat. 45°35'23"N., long. 107°46'46"W.;
counter clockwise along the Billings VORTAC 38 NM arc;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: USAF, 28th Bomb Wing, Ellsworth AFB, SD.

Mitigation Specific to Powder River 1C High MOA, Montana:

Supersonic: No supersonic flight within the PR-1C High MOA.

Powder River 1D Low MOA, MT (New)

Boundaries: Beginning at lat. 45°42'43"N., long. 107°00'42"W.;
to lat. 45°47'00"N., long. 106°35'30"W.;
to lat. 45°40'57"N., long. 105°55'50"W.;
to lat. 44°48'11"N., long. 105°45'03"W.;
to lat. 44°40'27"N., long. 105°52'49"W.;
to lat. 44°47'38"N., long. 106°28'48"W.;
counter clockwise along the Sheridan VOR/DME 25 NM arc;
to lat. 45°14'11"N., long. 107°14'21"W.;
counter clockwise along the Billings VORTAC 68 NM arc;
to the point of beginning, excluding the airspace within
the Northern Cheyenne Indian Reservation.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 1,500 feet AGL and below within a 3 NM radius of the St. Labre Mission Airport, MT.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth, AFB, SD.

Powder River 1D High MOA, MT (New)

Boundaries: Beginning at lat. 45°42'43"N., long. 107°00'42"W.;;
to lat. 45°47'00"N., long. 106°35'30"W.;;
to lat. 45°40'57"N., long. 105°55'50"W.;;
to lat. 44°48'11"N., long. 105°45'03"W.;;
to lat. 44°40'27"N., long. 105°52'49"W.;;
to lat. 44°47'38"N., long. 106°28'48"W.;;
counter clockwise along the Sheridan VOR/DME 25 NM arc;
to lat. 45°14'11"N., long. 107°14'21"W.;;
counter clockwise along the Billings VORTAC 68 NM arc;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 -
1200 Friday, by NOTAM 2 hours in advance; other times by
NOTAM 4 hours in advance.

(Estimate of expected area of use is 3-hours per day, 240 days
per year)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth, AFB, SD.

Powder River 2 Low MOA, MT (New)

Boundaries: Beginning at lat. 45°59'27"N., Long. 105°45'07"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 46°08'55"N., long. 105°27'24"W.;;
to lat. 45°53'08"N., long. 104°33'46"W.;;
to lat. 45°37'48"N., long. 103°52'28"W.;;
to lat. 45°29'05"N., long. 103°17'10"W.;;
to lat. 45°03'44"N., long. 103°17'58"W.;;
to lat. 44°48'05"N., long. 104°15'25"W.;;
to lat. 44°50'57"N., long. 104°35'41"W.;;
to lat. 44°47'04"N., long. 104°46'22"W.;;

to lat. 44°42'03"N., long. 104°49'27"W.;;
to lat. 44°38'57"N., long. 104°48'43"W.;;
to lat. 44°33'01"N., long. 105°10'34"W.;;
counter clockwise along the Gillette VOR/DME 20 NM arc;
to lat. 44°39'45"N., long. 105°23'20"W.;;
to lat. 44°47'12"N., long. 105°30'41"W.;;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 1,500 feet AGL and below within a 3 NM radius of Broadus Airport, MT; Ekalaka Airport, MT; and Harding County Airport, SD.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 6-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Denver ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 2 High MOA, MT (New)

Boundaries: Beginning at lat. 45°59'27"N., long. 105°45'07"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 46°08'55"N., long. 105°27'24"W.;;
to lat. 45°53'08"N., long. 104°33'46"W.;;
to lat. 45°37'48"N., long. 103°52'28"W.;;
to lat. 45°29'05"N., long. 103°17'10"W.;;
to lat. 45°03'44"N., long. 103°17'58"W.;;
to lat. 44°48'05"N., long. 104°15'25"W.;;
to lat. 44°50'57"N., long. 104°35'41"W.;;
to lat. 44°47'04"N., long. 104°46'22"W.;;
to lat. 44°42'03"N., long. 104°49'27"W.;;
to lat. 44°38'57"N., long. 104°48'43"W.;;
to lat. 44°33'01"N., long. 105°10'34"W.;;

counter clockwise along the Gillette VOR/DME 20 NM arc;
to lat. 44°39'45"N., long. 105°23'20"W.;
to lat. 44°47'12"N., long. 105°30'41"W.;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 6-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Denver ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 3 Low MOA, ND (New)

Boundaries: Beginning at lat. 46°24'23"N., long. 105°21'08"W.;
to lat. 46°30'59"N., long. 104°39'10"W.;
to lat. 46°32'45"N., long. 104°20'36"W.;
to lat. 46°36'34"N., long. 104°02'08"W.;
to lat. 46°41'37"N., long. 103°27'25"W.;
counter clockwise along the Dickinson VORTAC 30 NM arc;
to lat. 46°22'24"N., long. 102°56'07"W.;
to lat. 45°47'47"N., long. 102°59'01"W.;
to lat. 45°35'42"N., long. 103°01'21"W.;
to lat. 45°52'07"N., long. 103°44'36"W.;
to lat. 46°03'21"N., long. 104°31'24"W.;
to lat. 46°18'08"N., long. 105°21'51"W.;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 2,000 feet AGL and below within a 3 NM radius of Baker Municipal Airport, MT, and Bowman Municipal Airport, ND.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately 240 days per year.)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 3 High MOA, ND (New)

Boundaries: Beginning at lat. 46°24'23"N., long. 105°21'08"W. ;
to lat. 46°30'59"N., long. 104°39'10"W. ;
to lat. 46°32'45"N., long. 104°20'36"W. ;
to lat. 46°36'34"N., long. 104°02'08"W. ;
to lat. 46°41'37"N., long. 103°27'25"W. ;
counter clockwise along the Dickinson VORTAC 30 NM arc;
to lat. 46°22'24"N., long. 102°56'07"W. ;
to lat. 45°47'47"N., long. 102°59'01"W. ;
to lat. 45°35'42"N., long. 103°01'21"W. ;
to lat. 45°52'07"N., long. 103°44'36"W. ;
to lat. 46°03'21"N., long. 104°31'24"W. ;
to lat. 46°18'08"N., long. 105°21'51"W. ;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 - 1200 Friday, by NOTAM 2 hours in advance; other times by NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, 240 days per year.)

Controlling Agency: FAA, Minneapolis ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River 4 High MOA, ND (New)

Boundaries: Beginning at lat. 46°21'48"N., long. 102°41'42"W.;;
counter clockwise along the Dickinson VORTAC 30 NM arc;
to lat. 46°45'43"N., long. 102°03'39"W.;;
to lat. 46°44'43"N., long. 101°43'10"W.;;
to lat. 46°15'44"N., long. 101°19'47"W.;;
to lat. 46°13'38"N., long. 101°06'17"W.;;
to lat. 46°02'30"N., long. 101°13'20"W.;;
to lat. 45°56'25"N., long. 101°17'59"W.;;
to lat. 45°50'12"N., long. 101°21'01"W.;;
to lat. 45°24'13"N., long. 101°37'02"W.;;
counter clockwise along the Dupree VORTAC 20 NM arc;
to lat. 45°17'23"N., long. 102°04'35"W.;;
to lat. 45°30'13"N., long. 102°44'07"W.;;
to lat. 45°48'35"N., long. 102°44'37"W.;;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: 0730 - 1200 and 1800 - 2330 Monday - Thursday and 0730 -
1200 Friday, by NOTAM 2 hours in advance; other times by
NOTAM 4 hours in advance.

(Estimate of expected area use is 3-hours per day, approximately
240 days per year.)

Controlling Agency: FAA, Minneapolis ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Gap A Low MOA, MT (New)

Boundaries: Beginning at lat. 45°57'58"N., long. 105°59'23"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 45°59'27"N., long. 105°45'07"W.;;

to lat. 44°47'12"N., long. 105°30'41"W.;;
to lat. 44°48'11"N., long. 105°45'03"W.;;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Denver ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Gap A High MOA, MT (New)

Boundaries: Beginning at lat. 45°57'58"N., long. 105°59'23"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 45°59'27"N., long. 105°45'07"W.;;
to lat. 44°47'12"N., long. 105°30'41"W.;;
to lat. 44°48'11"N., long. 105°45'03"W.;;
to the point of beginning.

Designated Altitudes: 12,000 feet AGL to, but not including FL 180.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Denver ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Gap B Low MOA, MT (New)

Boundaries: Beginning at lat. 46°08'55"N., long. 105°27'24"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 46°18'08"N., long. 105°21'51"W.;;
to lat. 46°03'21"N., long. 104°31'24"W.;;
to lat. 45°52'07"N., long. 103°44'36"W.;;
to lat. 45°35'42"N., long. 103°01'21"W.;;

to lat. 45°29'36"N., long. 103°02'33"W.;;
to lat. 45°29'05"N., long. 103°17'10"W.;;
to lat. 45°37'48"N., long. 103°52'28"W.;;
to lat. 45°53'08"N., long. 104°33'46"W.;;
to the point of beginning.

Designated Altitudes: 500 feet AGL to, but not including 12,000 feet MSL, excluding the airspace 1,500 feet AGL and below within a 3-NM radius of Ekalaka Airport, MT, and Harding County Airport, SD.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Gap B High MOA, MT (New)

Boundaries: Beginning at lat. 46°08'55"N., long. 105°27'24"W.;;
counter clockwise along the Miles City VOR/DME 25 NM arc;
to lat. 46°18'08"N., long. 105°21'51"W.;;
to lat. 46°03'21"N., long. 104°31'24"W.;;
to lat. 45°52'07"N., long. 103°44'36"W.;;
to lat. 45°35'42"N., long. 103°01'21"W.;;
to lat. 45°29'36"N., long. 103°02'33"W.;;
to lat. 45°29'05"N., long. 103°17'10"W.;;
to lat. 45°37'48"N., long. 103°52'28"W.;;
to lat. 45°53'08"N., long. 104°33'46"W.;;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Salt Lake ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Gap C High MOA, ND (New)

Boundaries: Beginning at lat. 46°22'24"N., long. 102°56'07"W.;
counter clockwise along the Dickinson VORTAC 30 NM arc;
to lat. 46°21'48"N., long. 102°41'42"W.;
to lat. 45°48'35"N., long. 102°44'37"W.;
to lat. 45°30'13"N., long. 102°44'07"W.;
to lat. 45°29'36"N., long. 103°02'33"W.;
to lat. 45°35'42"N., long. 103°01'21"W.;
to lat. 45°47'47"N., long. 102°59'01"W.;
to the point of beginning.

Designated Altitudes: 12,000 feet MSL to, but not including FL 180.

Times of Use: By NOTAM 4 hours in advance. (LFE Only)

Controlling Agency: FAA, Minneapolis ARTCC.

Using Agency: U.S. Air Force, 28th Bomb Wing, Ellsworth AFB, SD.

Powder River A MOA, Montana – Delete

Powder River B MOA, Wyoming – Delete

Air Traffic Assigned Airspace (ATCAA)⁶

The PRTC Airspace Proposal⁷ also includes ATCAA areas corresponding to the MOA areas.

⁶ Under FAA Order JO 7400.2K, a Special Use Airspace ("SUA") proposal must state whether or not an ATCAA will be requested to support the proposed SUA. If so, the proposal must describe the ATCAA dimensions and times of use. ATCAA information is requested in the proposal solely to assist the FAA in evaluating the overall aeronautical impact of the SUA proposal. Requests to establish an ATCAA are coordinated directly with the Air Traffic Control ("ATC") facility having jurisdiction over the airspace and are handled separately from the SUA proposal process. See FAA JO 7400.2, Paragraph 21-3-3.d.

⁷ Appendix A of the Final EIS is titled "Aeronautical Proposal and Airspace Operations," but inadvertently contains the FAA Circular instead of the Air Force Aeronautical Proposal.

The current Crossbow ATCAA upper altitude would be lowered to FL 310; the Gateway ATCAA would be modified and split into East and West; and the existing Black Hills ATCAA would be deleted.

The primary users of the PRTC airspace would be B-1 bombers from Ellsworth AFB and B-52 bombers from Minot AFB. Bombers and tankers from other bases and transient fighters would also use the PRTC airspace. The annual number of training sortie operations in the PRTC airspace under the Proposed Action would be higher than the annual number of sorties in the existing Powder River MOAs and associated ATCAAs due to the increased size and availability of training airspace local to Ellsworth AFB and Minot AFB. (The Proposed Action would increase local Powder River training sorties from 46 percent of B-1 sorties and 31 percent of B-52 sorties to 85 percent of both B-1 and B-52 sorties.)

Training operations in the PRTC airspace would include both day to day operations and infrequent Large Force Exercises (“LFEs”). The PR-1A and PR-1C High MOAs and ATCAAs, the Gap MOAs and ATCAAs, and the Gateway East ATCAA would be used only for LFEs. The rest of the PRTC airspace would be used for day to day operations.

Day-to-day training operations in the PRTC airspace would be scheduled an estimated 240 days per year. On average, normal day-to-day operations would involve training aircraft operating in an individual MOA/ATCAA for approximately two hours, with approximately 15 to 20 minutes of training activity below 2,000 feet AGL for those missions that require low-altitude training (see Section 2.8.2 of the Final EIS). B-52s would operate primarily within ATCAAs with occasional sorties in the new MOAs. B-1 use would be spread throughout the PRTC airspace. The Air Force would use Low MOAs as early in a training mission as allowed so they could be made available for civil aviation use as soon as possible (see Section 2.3.1 of the Final EIS). Approximately 17 percent of the average daily flight hours would be 2,000 feet AGL or below (see Section 4.9.3.1.1 of the Final EIS). As stated in Table 2.5-1 of the Final EIS, the expected daily use of the various PRTC airspace components for day-to-day operations would range from three to seven hours, depending on the component. If the airspaces were scheduled at times other than the published times of use (e.g., because of delays from mechanical, personnel, or weather conditions), this would be announced by NOTAM four hours in advance.

LFEs provide mission training in simulated combat engagements and involve approximately 20 aircraft of various types. They would be scheduled once per quarter for up to three days and would not exceed a total of 10 days per year. PRTC airspace would be activated an estimated four hours per LFE day. LFEs would occupy all or substantial portions of the PRTC airspace. During an LFE, the PRTC airspace components could be activated in any number of configurations to accommodate the realistic training.

Only during the LFEs, B-1 bombers and transient fighters would conduct realistic training that would involve supersonic flights within the PRTC airspace. Supersonic flights could occur during air combat, air-to-air engagements, defensive maneuvers, and other tactics during an LFE. All B-1 supersonic activities would occur above 20,000 feet MSL; all transient fighter supersonic activity would be above 10,000 feet AGL. B-1s would fly supersonic for about 30 seconds

during 60 sorties, or approximately 30 minutes per year, and fighters would engage in an estimated 48 minutes of supersonic flight per year, with an estimated five percent between 10,000 feet AGL and 18,000 feet MSL and 95 percent from 18,000 feet MSL to 26,000 feet MSL. Supersonic activity would generally be experienced toward the center of the LFE airspace over the proposed PR-2, PR-3, and Gap B MOAs and ATCAAs as aircraft use supersonic capabilities in engagements.

The Air Force's training in the PRTC airspace would also involve the use of defensive countermeasures (chaff and flares). Defensive countermeasures are used by military aircraft during training in response to simulated threats. Chaff is a self-protection device that permits an aircraft threatened by enemy radar-directed munitions to distract and/or avoid the threat (see Appendix C). Flares are used in pilot training to develop the near instinctive reactions to a threat that are critical to combat survival (see Appendix D). The FAA's Pilot/Controller Glossary defines chaff as thin, narrow metallic reflectors of various lengths and frequency responses, used to reflect radar energy. These reflectors when dropped from aircraft and allowed to drift downward result in large targets on the aircraft's radar display. Self-protection flares are magnesium pellets that, when ignited, burn for 3.5 to five seconds at 2,000 degrees Fahrenheit. The burn temperature is hotter than the exhaust of an aircraft, and therefore attracts and decoys heat-seeking weapons targeted on the aircraft (see Appendix D of the Final EIS). The Air Force estimates that a total of approximately 24,508 chaff bundles and 2,450 flares would be deployed annually during training operations in the PRTC airspace.

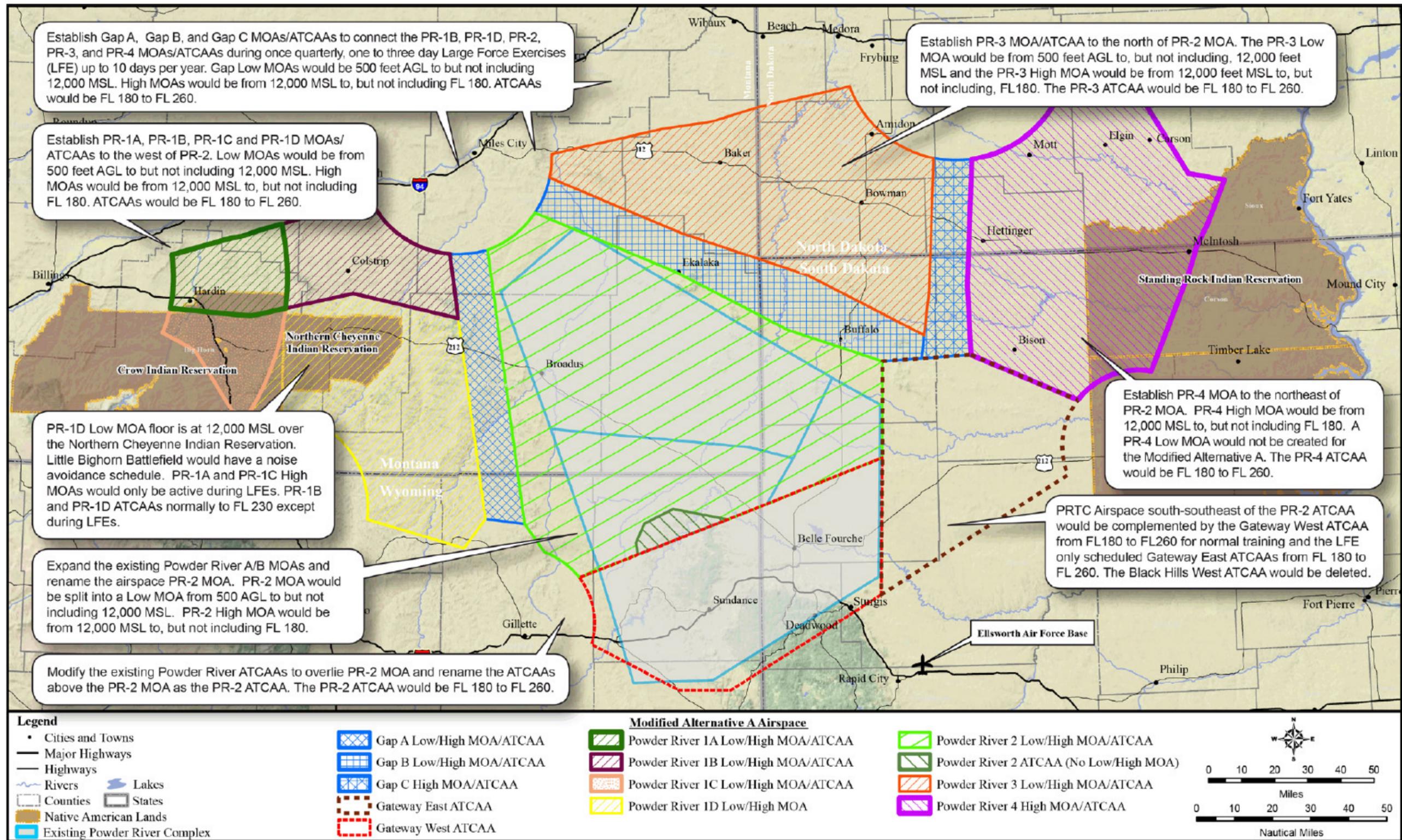


Figure 1- 2. Modified Alternative A Airspace

Purpose and Need

The Air Force's 28th Bomb Wing is based at Ellsworth Air Force Base ("AFB") in South Dakota. The 28th Bomb Wing, which flies B-1 bombers, currently manages and trains in the Powder River A and B MOAs and associated ATCAAs overlying parts of the states of South Dakota, Wyoming, and Montana. The 5th Bomb Wing, based at Minot AFB in North Dakota, flies B-52 bombers and also trains in the existing Powder River training airspace. As described in Section 1.4 of the Final EIS, the existing airspace does not meet the Air Force's mission training needs for current and projected combat conditions. The purpose of the Proposed Action, as stated in Section 1.4 of the Final EIS, is to "provide local airspace that would support primarily Ellsworth and Minot AFBs with the capability to adequately train aircrews and ensure their readiness to succeed and survive in combat while mitigating, to the extent possible, agency, tribal, and public concerns."

Alternatives

As previously mentioned in the "Background" section of this ROD, the Final EIS analyzes four alternatives: Modified Alternative A, Modified Alternative B, Modified Alternative C, and the No-Action Alternative. These alternatives are described in detail in Chapter 2.0 of the Final EIS. A summary of Modified Alternative A is presented in the "Proposed Action" section of this ROD. Modified Alternative B differs from Modified Alternative A in that it does not include the PR-1 MOAs and the Gap A MOAs and it adds a PR 4 Low MOA extending from 500 feet AGL up to, but not including, 12,000 feet MSL. Modified Alternative C differs from Modified Alternative A in that it does not include the PR-4 MOAs and the Gap C MOAs. The general nature and timing of training operations under Modified Alternative B and Modified Alternative C would be similar to those under Modified Alternative A. However, operational differences from Modified Alternative A would include a smaller percentage of B-1 and B-52 training sorties being accomplished locally (65 percent for Modified Alternative B and 70 to 80 percent for Modified Alternative C, compared to 85 percent for Modified Alternative A), and decreased low level training capability under Modified Alternative B that would not meet the Air Force's terrain following training requirements (the land under the PR-4 Low MOA would provide less varied topography than the PR-1 Low MOAs).

The Final EIS identifies Modified Alternative A as the Air Force's preferred alternative. As explained in Section 2.11.5 of the Final EIS, Modified Alternative A best meets the Air Force's purpose and need by providing combinations of MOA and ATCAA airspaces with the most improved training capability compared to existing conditions. The airspace configurations under Modified Alternatives B and C, while superior to the existing airspace, provide fewer MOA and ATCAA airspaces than the Modified Alternative A, and less airspace for low level training and LFEs.

Public, Agency, and Tribal Involvement

Public Participation Process

The public participation process began with publication of the Air Force's Notice of Intent ("NOI") to prepare an Environmental Impact Statement. The NOI was published May 29, 2008 in the Federal Register. The NOI listed the locations and times of 15 public scoping meetings: four in South Dakota in June and July 2008, three in Wyoming in June 2008, six in Montana in June and July 2008 and two in North Dakota in July 2008. FAA employees attended many of these scoping meetings.

Section 2.12.1.1 of the Final EIS details the Draft EIS public comment process. The U.S. Environmental Protection Agency ("EPA") published a Notice of Availability of the Draft EIS in the Federal Register on August 20, 2010. In August 2010, the Air Force sent notices of 19 public hearings to 31 newspapers in Montana, North Dakota, South Dakota, and Wyoming. The Air Force held these public hearings in September and October 2010 in locations centrally located in geographic areas potentially affected by the PRTC proposal (eight in Montana, four each in North Dakota and South Dakota, and three in Wyoming). FAA personnel attended all of these public hearings, which were attended by 489 public and agency attendees and 39 elected officials. The Air Force encouraged public and agency representatives to provide oral and written comments during the public hearings or mail written comments on or before the comment period closing date of November 15, 2010. By request, the Air Force reopened and extended the comment period to January 20, 2011, for a total comment period of 100 days. The FAA, as a cooperating agency, assisted the Air Force in responding to comments received during the Draft EIS public comment period. Appendix G of the Final EIS contains the comments on the Draft EIS and the responses to those comments.

During the FAA's separate aeronautical review process for the proposed PRTC, the FAA received numerous comments, some of which included environmental aspects. In accordance with established procedures, the FAA forwarded these comments to the Air Force. Appendix H of the Final EIS contains the comments the FAA received during its aeronautical review of the Air Force's February 2014 revised airspace proposal for the PRTC, as well as the Air Force's responses to those comments.

On November 28, 2014, EPA published a Notice of Availability of the Final EIS for the PRTC in the Federal Register, with a 30-day "review period" ending on December 29, 2014. During the review period, the Air Force received nine comment letters (three of these letters were also sent to the FAA).

One of these letters was from EPA, which stated the results of its review of the Air Force's Final EIS as follows:

The FEIS shows the careful consideration of project impacts by the Air Force. The Final EIS is well organized and provides a thoughtful analysis of environmental impacts and consequences. The EPA has no objections to this

project moving forward with the environmental protection measures identified in the Final EIS.

The remaining letters received after the publication of the FEIS are substantially similar to comments to which the Air Force responded in Appendices G and H of the Final EIS.

To assist in public participation and visibility, the Air Force has maintained a public website for the PRTC (<http://www.ellsworth.af.mil/prtc.asp>) on which the Draft EIS, the FAA's circularization document, the Final EIS, and the Air Force's ROD are posted in addition to other documents.

Agency and Tribal Coordination

During the review process for the PRTC, the Air Force has had numerous communications with other agencies and Tribal governments (see Section 2.12 and Appendices E and N of the Final EIS). During the scoping process for the Draft EIS, tribal scoping meetings were held at the Crow Agency, MT on June 23, 2008; the Northern Cheyenne Tribal Council Chamber in Lame Deer, MT on June 24, 2008; the Standing Rock Indian Reservation in McLaughlin, SD and Fort Yates, ND on July 11, 2008; and at the Cheyenne River Indian Reservation at Dupree, SD on July 16, 2008. The Air Force also met with these tribes several times during the Draft EIS comment period. Formal hearings were held with the Crow Tribe on October 25, 2010; with the Northern Cheyenne Tribe on December 7, 2010; with the Standing Rock Sioux Tribe on September 27, 2010; and with the Cheyenne River Sioux Tribe on December 9, 2010. At these hearings, which were in addition to the 19 public hearings described previously, the Air Force provided information comparable to what it provided at the other public hearings held on the Draft EIS.

The Air Force also coordinated with other agencies and tribes during the NHPA Section 106 consultation process. In addition to the Crow Tribe, the Northern Cheyenne Tribe, the Cheyenne River Sioux Tribe, and the Standing Rock Sioux Tribe, the consulting parties in that process included the State Historic Preservation Offices ("SHPOs") in Montana, Wyoming, North Dakota, and South Dakota, and the National Park Service ("NPS"). The process resulted in the development of a Programmatic Agreement ("PA") that was signed by the Air Force, the Crow Tribe, the SHPOs, the NPS, the Advisory Council on Historic Preservation ("ACHP"), and the FAA (the PA is included in Appendix N of the Final EIS). Among other terms, the PA includes stipulations concerning avoidance, minimization, or mitigation of adverse effects to historic properties, religious ceremonies, and important tribal events under the proposed PRTC airspace.

Other agency coordination included the Air Force's consultations with the U.S. Fish and Wildlife Service ("USFWS") regarding potential effects of the Proposed Action on species protected under the Endangered Species Act. (see Sections 3.6.2 and 4.6.3.1 and Appendix E of the Final EIS). These consultations are described in more detail under "Fish, Wildlife, and Plants" in the "Environmental Consequences" section below.

Mitigation

Input from the public, agencies, and tribes during the Air Force NEPA process, the NHPA Section 106 consultation process, and the FAA's aeronautical review process assisted the Air Force and the FAA in identifying measures that would avoid, minimize, or otherwise mitigate potential adverse impacts of the proposed PRTC. Specific mitigation measures that are incorporated into, or otherwise would be implemented as part of, the Proposed Action are identified in the Final EIS (see Section 2.3.1), and the NHPA Section 106 Programmatic Agreement (included in Appendix N of the Final EIS), and have been adopted by the Air Force in its ROD. These mitigation measures include:

1. Dividing the proposed PR-1 MOA into eight MOA segments to better enable arrivals and departures from local airports, allow civil aviation to use parts of the airspace not being used for military training, and allow military use of parts of the airspace while other parts are avoided to reduce potential impacts on the ground (see sections 2.3.1, 2.3.2, and 4.1.3.1.3 of the Final EIS).
2. Providing reasonable and timely aerial access to underlying private or public use land to accommodate instrument arrivals and departures with minimum delay and for terminal Visual Flight Rules (VFR) and IFR operations (see Sections 2.3.1, 4.1.3.1.3 and 4.1.3.1.4 of the Final EIS).
3. Raising the floor of the proposed PR-4 and Gap C MOAs from 500 feet AGL to 12,000 feet MSL by removing the PR-4 and Gap C Low MOAs, thereby supporting general aviation flight operations, avoiding low-altitude overflight of the Standing Rock Sioux and Cheyenne River Sioux Reservations, limiting low-altitude overflight over ranches and communities, and avoiding low-altitude training impacts to the whooping crane in its migration corridor (see sections 2.3.1, 4.1.3.1.3, 4.6.3.1, and 4.7.2.3 and Appendix E of the Final EIS [the average surface elevation under the proposed PR-4 and Gap C MOAs is 2,300 feet MSL, resulting in an average floor of 9,700 feet AGL for those MOAs]).
4. Reducing B-1 flight operations in the proposed PR-1, PR-3, and PR-4 MOAs by 12 percent from that proposed in the Draft EIS (see section 2.3.1 of the Final EIS).
5. Limiting all PRTC activity to altitudes at or below 26,000 feet MSL (in the PR-1B and PR-1D ATCAAs, the airspace from 23,000 MSL to 26,000 MSL would be used only for infrequent LFEs) to reduce impacts on aircraft utilizing high-altitude routing (see sections 2.3.1 and 2.4.3 of the Final EIS).
6. Moving the proposed PRTC airspace boundaries back from airports in Billings and Miles City, MT; Dickinson and Bismarck, ND; and Hulett, Gillette, and Sheridan, WY to facilitate IFR procedures at these airports (see sections 2.3.1 and 4.1.3.1.3 of the Final EIS).

7. Adjusting the proposed Gap MOA boundaries to enable navigation by civil aviation, including modifying the proposed Gap B MOA to avoid it extending across the proposed Gap C MOA to deconflict with Victor Route 491 (“V-491”) when the proposed Gap B MOA is active and the Gap C MOA is not (see sections 2.3.1, 3.1.3.4.1, and 4.1.3.1.3 of the Final EIS).
8. Adjusting proposed airspace boundaries to support navigation (such as the use of the global positioning system) on Victor airways (see sections 2.3.1 and 4.1.3.1.3 of the Final EIS).
9. Adjusting the southwest border of the proposed PR-1B MOA/ATCAA to enable use of Victor Route 247 (“V-147”), an aircraft flight route between Sheridan, WY and Billings, MT (see sections 2.3.1, 3.1.3.4.1 and 4.1.3.1.3 of the Final EIS).
10. Announcing all PRTC training activity via Notices to Airmen (NOTAMs), at least two hours in advance during published times of use, and at least four hours in advance outside of published times of use and for airspace only used during LFEs (see Sections 2.3.1 and 4.9.3.1.2 and Appendix A⁸ of the Final EIS).
11. Allowing Air Traffic Control (“ATC”) to vector IFR traffic through Low and High MOAs as soon as training is completed in an airspace segment by notifying ATC when MOA altitude segments are no longer needed for training (see Sections 2.3.1, 2.11.26 and 4.1.3.1.4 of the Final EIS).
12. Facilitating the issuance of a NOTAM when schedule changes require use of proposed PRTC airspace outside of published times of use by informing Air Route Traffic Control Centers (“ARTCCs”) at least four hours in advance (see Sections 2.3.1 and 4.1.2.2 of the Final EIS).
13. Ensuring the ability to recall the military aircraft from the low-altitude MOAs by establishing communication procedures that enable controlling agencies to recall the low MOA airspace whenever necessary to allow IFR aircraft access to and from public use airports underlying the MOA (see Sections 2.3.1 and 4.3.3.1.1 of the Final EIS).
14. Ensuring the ability to respond to ATC control instructions by establishing communication procedures that provide for safe de-confliction with emergency flight operations and firefighting operations within the PRTC airspace (see Sections 2.3.1 and 4.1.3.1.4 of the Final EIS).
15. Publishing a notice at least 30 days in advance of LFE’s, thereby helping the public, the aviation community, and tribes plan for LFE activation and alerting affected populations

⁸ See footnote 7 regarding Appendix A of the Final EIS.

of potential supersonic flight activity (see sections 2.3.1, 2.8.4, 4.1.3.1.6, 4.7.2.4 and 4.10.3.1 of the Final EIS).

16. Facilitating release of a low MOA to the controlling agency as early as possible by using scheduled low MOAs as early in a mission as allowed (see Section 4.1.3 .1.4 of the Final EIS).
17. In emergency circumstances, such as firefighting, air ambulance operations, law enforcement activities, or in-flight emergencies in an active MOA, the military aircraft using the PRTC would immediately respond to ATC direction to relocate to another airspace unit away from the emergency (see Sections 2.11.2.6, 2.13, 4.1.3.1.4 and 4.1.3.2.4 of the Final EIS).
18. Using FAA established frequencies, phone lines, and websites to provide information concerning MOA activation and deactivation to general aviation. The Air Force and FAA would continue coordination to enhance the situational awareness of aircraft operators as to the activation status of the PRTC low-altitude MOAs (airspace below 12,000 feet MSL). This would include practices, such as the use of existing data, equipment, and procedures, as well as integration of advancements in software and/or equipment. (See Sections 2.3.1 and 4.3.3.1.1 of the Final EIS.)
19. Expanding the Air Force's Mid-Air Collision Avoidance Program, including posting informational flyers and posters at public airports underlying the airspace with annual updates from the Ellsworth AFB Flight Safety Office (see Section 2.3.1 of the Final EIS).
20. Avoiding low-altitude overflight over the Northern Cheyenne Reservation under the proposed PR-1D MOA⁹ by setting a floor of 12,000 MSL over the reservation, and establishing an avoidance area over the Deer Medicine Rocks National Historic Landmark with a floor of 12,000 feet MSL (see sections 2.3.1, 4.7.2.3, and 4.7.3.1 of the Final EIS [the average surface elevation on the Northern Cheyenne Reservation is 3,785 feet MSL, resulting in an average floor of 8,215 feet AGL]).
21. Prohibiting supersonic flight over the Little Bighorn Battlefield National Monument, located within the Crow Indian Reservation under the proposed PR-1C MOA (see section 2.3.1 of the Final EIS).
22. Identifying and periodically updating avoidance areas for specific time periods by establishing an on-going Government-to-Government communication protocol with Indian tribes (see Section 4.7.3.1 and Appendix N of the Final EIS).

⁹ Also includes portions of PR-1C as described in the *Subsequent Modifications of the Proposed Action* section of this document.

23. Avoiding religious ceremonies identified in consultation with Indian tribes by an appropriate distance, in no case less than 2,000 feet AGL (see Section 4.7.3.1 and Appendix N of the Final EIS).
24. Reducing intrusive impacts by establishing reasonable temporary or seasonal avoidance areas or adopting other measures, as developed in on-going consultations with Indian tribes (see Sections 2.3.1, 2.11.2.6, and 4.7.3.1, and Appendix N of the Final EIS).
25. Reducing overflight impacts by identifying sensitive cultural and historic areas and time periods for avoiding such areas and periods by using the process established by the Programmatic Agreement (see Section 4.7.3.1 and Appendix N of the Final EIS).
26. Avoiding overflight of the Little Bighorn Battlefield National Monument area below 5,000 feet AGL from one hour before to one hour after the posted hours of operation and at other times as coordinated with park management (see sections 2.3.1 and 4.7.3.1 and Appendix N of the Final EIS).
27. Avoiding military flights over Devils Tower National Monument, WY and Deadwood National Historic Landmark, SD below 18,000 feet MSL, and Bear Butte State Park, SD below 10,000 feet AGL and two nautical miles horizontally (see sections 2.3.1, 4.7.3.1, and 4.8.3.1 of the Final EIS).
28. Avoiding other sensitive areas to the extent practicable by working with agencies and Native American tribes, to include flying only perpendicular across the Tongue River Valley rather than lengthwise along the valley (see Sections 2.3.1 and 4.7.3.1, and Appendix N of the Final EIS).
29. Developing and implementing the avoidance protocol requirement specified in Section IV of the Programmatic Agreement within the specified time period (see Section 4.7.2.4 and Appendix N of the Final EIS).
30. Implementing the monitoring and reporting requirements specified in Section VII of the Programmatic Agreement according to the schedule therein (see Section 4.7.2.4 and Appendix N of the Final EIS).
31. Establishing avoidance areas as required for airports, airfields, and communities under the PRTC airspace (see Section 2.12.3 of the Final EIS).
32. Reducing the potential for impact during concentration of range animals for branding, calving, weaning, and/or other ranch operations by continuing the current practice of establishing reasonable temporary or seasonal avoidance areas over residences, communities, and ranching operations, including those on tribal reservation lands (see Sections 2.11.2.6, 4.2.3.1.5, and 4.3.3.1.3 of the Final EIS).

33. Avoiding low-altitude overflight of, and frequency interference with, known blasting activities associated with coal mining operations by establishing operational procedures (see Sections 4.3.3.1.3 and 5.1.2.3 of the Final EIS).
34. Making airspace use and long-term planning information on de-confliction of special events/cultural events available during normal business hours from the Ellsworth AFB Airspace Management Office (see Section 2.3.1 and Appendix N of the Final EIS).
35. Developing a procedure for the Ellsworth AFB Public Affairs Office to coordinate with the Air Force Claims program in the event of any damage or injury associated with PRTC operations (see Sections 4.3.3.1.2, 4.7.2.4, and 4.8.3.1 of the Final EIS).
36. Limiting supersonic flights to LFEs only and to altitudes above 20,000 feet MSL for B-1 aircraft and above 10,000 feet MSL for transient fighter aircraft (see Section 2.3.1 and Appendix N of the Final EIS).
37. Limiting deployment of chaff within 60 nautical miles of airport approach radars to avoid interference with air traffic control radars (see section 2.3.1 of the Final EIS).
38. Limiting flare release altitudes within the PRTC airspace to above 2,000 feet AGL (see Section 4.3.3.1.3 of the Final EIS).
39. Prohibiting flare releases in PRTC MOAs (e.g., PRTC 2 Low, 2 High MOA) above areas where the fire danger is rated very high or extreme under the National Fire Danger Rating System (see Sections 2.3.1 and 4.3.3.1.3 of the Final EIS).
40. Continuing and expanding cooperation with local fire agencies for mutual aid response to wild land fires attributable to Air Force operations (see Sections 2.3.1 and 4.3.3.1.3 of the Final EIS).
41. Educating local fire departments and first responders underlying the airspace on flare identification and potential hazards by coordinating educational efforts that include distributing flyers to fire departments describing chaff and flare deployments, residual materials, and dud flares (see Sections 2.3.1 and 4.3.3.1.3 of the Final EIS).
42. Continuing to conference with the U.S. Fish and Wildlife Service to identify voluntary, reasonable, and temporary avoidance areas for greater sage grouse lek attendance (see Section 4.6.3.1 and Appendix E of the Final EIS).

The Air Force's ROD indicates that the Air Force is adopting an "adaptive management" approach to mitigation, which includes provisions for determining the success of mitigation measures, as well as procedures for making necessary adaptations to those measures or the Proposed Action. As part of this approach, the Air Force would develop a process for communicating, at least annually, with requesting agencies and organizations, including those involved with airport operations (state aeronautical commissions, local airport authorities, and

fixed base operators); aviation, energy and agro-business (e.g., air ambulance operations, energy and pipeline operations, cloud seeding, aerial application and crop dusting, ranching, flight training); and other activities (e.g., local units of government, real estate organizations, tourism organizations, and educational institutions). According to the Air Force's ROD, the Air Force would "strive to negotiate agreements that include the flexibility to adapt to changing situations" and "collaborate with key aviation interests in the region to establish professional lines of communication to minimize impact and balance the needs of commerce and military readiness."

Environmental Impacts

The FAA has completed an independent review and evaluation of the Air Force's Final EIS in accordance with the CEQ regulations (see 40 C.F.R. § 1506.3(c)), FAA Order 1050.1E, and FAA Order JO 7400.2K, "Procedures for Handling Airspace Matters," Appendix 8. FAA Order 1050.1E, Appendix A, identifies the specific environmental impact categories the FAA considers in conducting environmental reviews under NEPA. In many cases, these categories overlap with the impact categories reflected in the Air Force's Final EIS (see Table 2.12-4 in the Final EIS).

The following summarizes analyses in the Final EIS and presents the results of the FAA's independent review and evaluation regarding the potential environmental impacts of the Proposed Action in each of the impact categories prescribed by FAA Order 1050.1E:

Air Quality: Under FAA Order 1050.1E, Appendix A, Section 2.3, "[p]otentially significant air quality impacts associated with an FAA project or action would be demonstrated by the project or action exceeding one or more of the [National Ambient Air Quality Standards (NAAQS)] for any of the time periods analyzed." Under Section 176(c) of the Clean Air Act, a federal agency may not engage in or approve any activity that does not conform to an applicable implementation plan for achieving the NAAQS. Conformity must be determined in accordance with EPA regulations (40 C.F.R. part 51, subpart W; 40 C.F.R. part 93, subpart B). Under the EPA regulations, a conformity determination is not required if the activity would occur within an "attainment area" (i.e., an area designated by EPA as being in attainment of the NAAQS) or would have net emissions below specified *de minimis* thresholds. In North Dakota and South Dakota, a conformity determination is not required as those two states are attainment areas.

The Air Force's Final EIS discusses potential impacts of the Proposed Action on air quality in Section 4.4 and summarizes those impacts in Table 2.13-1. Portions of the proposed PR-1D airspace overlie or are in proximity to areas of Montana and Wyoming that are in non-attainment for particulate matter less than 10 microns in diameter (PM₁₀) (see Section 4.4.3.1 of the Final EIS). The analysis in the Final EIS shows that the net PM₁₀ emissions from the proposed PRTC would be well below the PM₁₀ *de minimis* threshold of 100 tons per year; therefore, a conformity determination is not required.

Some commenters on the Draft EIS expressed concern about potential impacts of the proposed PRTC on visibility. EPA regulations list areas of the country that have been designated as "mandatory Class 1 federal areas where visibility is an important value" (40 C.F.R. part 81, subpart D). The nearest of these areas to the proposed PRTC airspace are Wind Caves National

Park, SD, which is located approximately 30 miles south of the proposed PR-3 MOA and Badlands National Park, SD, which is located approximately 42 miles southeast of the proposed PR-3 MOA. Since the proposed PRTC training activities would occur a minimum of 30 miles away, would not be continuous, and would be at an altitude of at least 500 feet AGL, implementation of the Proposed Action would be unlikely to have a significant impact on any mandatory Class 1 federal areas.

Additionally, Native American lands of the Northern Cheyenne Reservation in Rosebud and Big Horn Counties, MT have been designated as a Class I area by the State of Montana (Montana Department of Environmental Quality 2007). As explained in Section 4.4.3.1 of the Final EIS, visibility impairment can occur as a result of emissions of nitrogen dioxide (NO₂), PM₁₀, volatile organic compounds (VOCs), or sulfur dioxide (SO₂). The analysis in the Final EIS shows that calculated emissions of these pollutants would be no more than 0.007 percent of the total emissions of any pollutant from both Big Horn and Rosebud Counties. As a result, emissions resulting from the Proposed Action would not be expected to substantially contribute to an increase in visibility impairment in the Native American lands of the Northern Cheyenne Reservation.

Based on the FAA's independent review and evaluation, the FAA concludes that the Proposed Action is not likely to violate the NAAQS or have significant impacts on air quality.

Climate: Potential impacts of the Proposed Action on greenhouse gas ("GHG") emissions are discussed in Section 4.4 of the Final EIS. Because flying hours for B-1 and B-52 aircraft would essentially be the same under the Proposed Action and the No-Action Alternative (see Section 4.4.3.1 of the Final EIS), emissions from those aircraft under the Proposed Action would not be expected to appreciably change national GHG emissions. Although it is possible that re-routing of civil aviation (see "Socioeconomic Impacts" below) could result in additional miles flown, any resulting increase in GHG emissions would not be expected to appreciably contribute to national GHG emissions.

Based on the FAA's independent review and evaluation, the FAA concludes that the Proposed Action would not have significant impacts on climate.

Coastal Resources: The Proposed Action airspace is not over or near a coastline; therefore, this impact category is not applicable.

Compatible Land Use: Under FAA Order 1050.1E, Appendix A, Section 4, if the noise analysis for a proposed action concludes that there is no significant impact, a similar conclusion usually may be drawn with respect to compatible land use. A significant noise impact would occur if analysis shows that the proposed action would cause noise sensitive areas to experience an increase in the day-night average sound level ("DNL") of 1.5 decibels (dB) or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe. Noise levels below DNL 65 dB are compatible with all land uses listed in the FAA's land use compatibility guidelines under 14 C.F.R. part 150 (see FAA Order 1050.1E, Appendix A, Section 4, Table 1). The FAA recognizes, however, that there are settings where the DNL 65

dB standard may not apply. Special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks, national wildlife refuges and historic sites, including traditional cultural properties.

The Air Force's Final EIS discusses potential impacts of the Proposed Action on land use in Section 4.8 and summarizes those impacts in Table 2.13-1. Public concerns during the Draft EIS review included the effect of low-level overflight and sonic booms on the use of land. Land uses under the existing Powder River airspace, which have been overflowed by a variety of military aircraft for over 20 years, are comparable to those in other portions of the area proposed for the PRTC airspace. During day-to-day training operations in the proposed PRTC airspace, any given location under the proposed Low MOAs would be expected to be within a quarter-mile of a low-level¹⁰ training flight path an average of approximately six to nine times per year (the frequency could be higher or lower at a particular location). Supersonic training under the Proposed Action would be scheduled only during LFEs, which would occur one to three days per quarter, not to exceed 10 days per year. The amount of supersonic activity is expected to be higher in the central portion of the PRTC airspace, with an estimated six sonic booms per year under the PR-2 MOA/ATCAA complex (see Table 4.2-4 of the Final EIS, which presents the estimated frequency of sonic booms under each airspace unit of the proposed PRTC).

The analysis in the Final EIS shows that the maximum DNL_{mr} ¹¹ sound level from military training flights under the proposed airspace for the Proposed Action would change from the existing level of less than 45 decibels (dB) to a calculated range of <45 to be DNL_{mr} 48 dB (see Section 4.2.3.1.5 of the Final EIS). Although the FAA's level of significance metric is based on DNL and not DNL_{mr} , given that DNL_{mr} provides an added noise "penalty" to account for the "surprise" effect of the sudden onset of aircraft noise events on humans (see Appendix I, Section 1.2, of the Final EIS), it can be presumed that this noise level is well below the FAA's DNL 65 dB significance threshold. Although the FAA does not have a significance threshold for noise from sonic booms, it is noted that the maximum C-weighted Day-Night Average Sound Level ("CDNL")¹² under the Proposed Action airspace would be 36 dB (see Section 4.2.3.1.5 of the Final EIS). A CDNL level of 60 dB produces roughly the same percent of "highly annoyed" people in exposed populations as a DNL level of 65 dB (see Table 4.2-3 in the Final EIS).

The FAA has given appropriate consideration to the evaluation of noise impacts on noise sensitive areas where the 65 DNL dB significance threshold may not apply. In comments submitted by the U.S. Department of the Interior on the Draft EIS, the National Park Service (NPS) expressed concern about potential adverse noise impacts of the proposed PRTC on the

¹⁰ Consistent with the Final EIS, "low-level" as used in this ROD means at or below 2,000 feet AGL.

¹¹ DNL_{mr} , the "onset-rate adjusted day-night average sound level," is the DNL metric with an added noise "penalty" to account for the "surprise" effect of the sudden onset of aircraft noise events on humans (see Appendix I, Section 1.2 of the Final EIS). DNL_{mr} is calculated using the MR_NMAP noise model, which has been approved by the FAA (see FAA Order 1050.1E, Appendix A, Section 14.2b).

¹² CDNL (C-Weighted Day-Night Average Sound Level) is a day-night average sound level computed for areas subject to impulsive noise such as sonic booms. It is calculated using the BOOMAP model, which has been approved by the FAA (see FAA Order 1050.1E, Appendix A, Section 14.2b).

Little Bighorn Battlefield National Monument, which is located under the proposed PR-1C MOA. Other commenters on the Draft EIS also expressed concerns about potential adverse noise effects on other historic sites, including traditional cultural properties, under the airspace for the Proposed Action. Section 4.2.3 of the Final EIS includes specific noise results for the National Monument and other selected noise-sensitive locations under the proposed airspace for the Proposed Action, using single-event metrics (i.e., SEL and Lmax) in addition to DNL. The potential noise impacts on the National Monument and other historic sites located under the Proposed Action airspace would be avoided, minimized, or otherwise mitigated with measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement (see “Mitigation” section above). Additional discussion of noise-related impacts on historic and other cultural resources, including traditional cultural properties, is included under “Historical, Architectural, Archeological, and Cultural Resources” below.

The Bear Butte National Wildlife Refuge (“NWR”) is located underneath the Gateway West ATCAA, where estimated DNL_{mr} levels under the Proposed Action would be below 45 dB and estimated CDNL levels, from an estimated 1.2 sonic booms per year, would be 25 dB (see Table 4.2-4 in the Final EIS). The Pretty Rock NWR is located under the proposed PR-4 MOA/ATCAA airspace, where estimated DNL_{mr} levels under the Proposed Action would also be below 45 dB and estimated CDNL levels, from an estimated 2.4 sonic booms per year, would be 32 dB (see Table 4.2-4 in the Final EIS). The White Lake and Stewart Lake NWRs are located under the proposed PR-3 MOA/ATCAA airspace, where estimated DNL_{mr} levels under the Proposed Action would be 46 dB and estimated CDNL levels, from an estimated 3.6 sonic booms per year, would be 31 dB (see Table 4.2-4 in the Final EIS). The White Lake NWR is closed to all public use. During the NEPA process for the proposed PRTC, none of the managing agencies of these wildlife refuges submitted comments on the Draft EIS expressing concern regarding potential impacts on the refuges from the proposed PRTC.

Although the calculated noise levels under the Proposed Action airspace would be well below the FAA’s DNL 65 dB significance threshold, infrequent low-level overflight in Low MOAs could cause noise-related impacts such as annoyance, sleep disturbance, temporary interference with personal communication, and startle effects. Noise-related impacts would be mitigated by measures identified in the Final EIS and adopted by the Air Force in its ROD, including establishment of reasonable temporary or seasonal avoidance areas for activities such as ranching operations involving penned animals (see “Mitigation” section above). Chaff or flare residual debris, which consists of small plastic pieces or wrapping material, would not be expected to affect land uses but could cause annoyance if found.

Based on the FAA’s independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action is not likely to have significant impacts with respect to compatible land use.

Construction Impacts: The Proposed Action does not include any construction activity; therefore, this impact category is not applicable.

Department of Transportation Act, Section 4(f): Designation of airspace for military training operations is not subject to Section 4(f) (see 49 USC § 303 note); therefore, this impact category is not applicable.

Farmlands: The Proposed Action does not include any plan to convert farmland to non-agricultural uses; therefore, this impact category is not applicable.

Fish, Wildlife, and Plants: Under FAA Order 1050.1E, Appendix A, Section 8.3, a significant impact to Federally-listed threatened and endangered species would occur when the U.S. Fish and Wildlife Service determines that the proposed action would be likely to jeopardize the continued existence of the species in question, or would result in the destruction or adverse modification of Federally-designated critical habitat in the affected area. Lesser impacts, including impacts on non-listed species, can also constitute a significant impact.

The Air Force's Final EIS discusses potential impacts of the Proposed Action on fish, wildlife, and plants in Section 4.6 and summarizes those impacts in Table 2.13-1. Most species within the areas under the Proposed Action airspace already occupy comparable environments under the existing Powder River A and B MOAs, where low-level overflights occur. Animals under the newly-proposed PR-1, PR-3, PR-4, and associated Gap MOAs would be expected to be temporarily more sensitive to noise due to lower previous exposure. Animals typically exhibit continually decreasing responses to noise exposure, and this suggests habituation as the noise is not perceived as a threat. There is no evidence of chaff and flare residual materials or chaff fibers affecting wildlife or domestic animals through ingestion, inhalation, or direct body contact. The potential for fire as a result of Air Force activity is minimal and is not considered a significant risk to wildlife habitat quality or quantity.

The Final EIS describes several mitigation measures that would reduce the potential for impact on wildlife (see "Mitigation" section above). For example, the Proposed Action does not include a PR-4 Low MOA, thereby avoiding an area with large numbers of migratory waterfowl. In addition, eliminating the PR-4 Low MOA, which raises the PR-4 MOA floor from 500 feet AGL to 12,000 feet MSL, should limit the startle affect associated with low-level flights over wildlife. In addition, the Air Force would limit deployment of defensive flares within the PRTC airspace to above 2,000 feet AGL. Once flares are released they burn out within five seconds and within approximately 500 feet of the release altitude. Flare use would also be restricted under specified fire danger conditions (see section 4.7.2 of the Final EIS).

Threatened, endangered, and other special status species: The Proposed Action is expected to have minimal to no effects on threatened, endangered, and other special status species. In May 2011, the United States Fish and Wildlife Service ("USFWS") concurred in the Air Force's determination that the PRTC may affect, but is not likely to adversely affect, federally listed threatened and endangered species (see Appendix E of the Final EIS).¹³ The Air Force's determination was based on its analysis in Sections 3.6.3 and 4.6.3 of the Draft EIS. Since

¹³ Pursuant to 50 C.F.R. § 402.07, the Air Force has been designated as the lead agency for fulfillment of consultation and conference responsibilities under Section 7 of the ESA.

publication of the Draft EIS, Sprague's pipit, a secretive resident songbird inhabiting prairies and alkaline meadows, has been identified as a candidate species for protection under the Endangered Species Act ("ESA"). Additionally, the red knot, a long-distance migrant shorebird known to stop over and feed in aquatic habitats in the ROI during migration, has been proposed for listing as threatened under the ESA. In June 2014, the Air Force submitted an updated letter to the USFWS (included in Appendix E of the Final EIS) that contained ESA determinations for five recently listed species, which were added to Table 4.6-1 in the Final EIS. The Air Force determined that the proposed PRTC, as modified after the Draft EIS, would not affect one of these species and may affect, but is not likely to adversely affect the other four species. The USFWS concurred with the "may affect, not likely to adversely affect" determination by letter in July 2014 (see Appendix E of the Final EIS). Potential impacts on the greater sage-grouse, a candidate species that may be listed in the near future, are discussed extensively in Section 4.6.3 of the Final EIS and have been the subject of discussion in correspondence with the USFWS (see Appendix E of the Final EIS).

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS, the Proposed Action is not likely to have significant impacts on fish, wildlife, and plants.

Floodplains: The Proposed Action does not include any actions that would encroach on a floodplain; therefore, this impact category is not applicable.

Hazardous Materials, Pollution Prevention, and Solid Waste: The Proposed Action includes the use of chaff and flares. The Final EIS describes chaff and flares (see Section 4.4.3.1 and Appendices C and D of the Final EIS). Modern chaff is composed primarily of very fine glass fibers thinner than a human hair and coated with aluminum to achieve its radar-reflective properties. In arid conditions such as those found in the area of the Proposed Action, soil pH tends to be neutral to alkaline, and there is usually not enough water in the soils of this region to react with the aluminum. Chaff and flare plastic and wrapper residual materials are typically inert and not expected to impact soils or water bodies. Flares are magnesium, which burns quickly. The magnesium in flares would be toxic only at extremely high levels, a situation that is unlikely in the area under the Proposed Action airspace as flare use would not be repeated or concentrated in localized areas. Flare ash would disperse over wide areas; thus, no adverse impact to local soils and water systems is expected from the magnesium in flare ash.

Based on the FAA's independent review and evaluation, the FAA concludes that the Proposed Action would not have significant impacts in the category of Hazardous Materials, Pollution Prevention, and Solid Waste from the Proposed Action.

Historical, Architectural, Archeological, and Cultural Resources: Under FAA Order 1050.1E, Appendix A, Section 11 summarizes the requirements and procedures to be used in environmental impact analysis regarding Historical, Architectural, Archeological and Cultural Resources, including requirements and procedures under Section 106 of the National Historic Preservation Act ("NHPA Section 106"). NHPA Section 106 requires Federal agencies to consider the effects of their actions on properties listed or eligible for listing in the National

Register of Historic Places (“NRHP”). The FAA makes the final determination on the level of impact its actions would have on such historic properties. Advice from the Advisory Council on Historic Preservation (“ACHP”) and state and tribal historic preservation offices (“SHPOs” and “THPOs”) may assist the FAA in making this determination.

The Air Force’s Final EIS discusses potential impacts of the Proposed Action on historical, architectural, archeological, and cultural resources in Section 4.7 and summarizes those impacts in Table 2.13-1. Table 4.7-3 in the Final EIS (reproduced below) indicates the number of specified types of identified cultural properties under the proposed PRTC, including those listed in the NRHP. The Air Force recognizes that hundreds of other cultural resources, some documented and some not yet discovered, exist under the airspace.

Final EIS Table 4.7-3. Cultural Resources Under Modified Alternative A MOAs

Resource Type	Total Number of Resources ¹	WY	MT	ND	SD
NRHP Listed Sites	241	14	36	16	175
National Monuments	2	1	1	0	0
Ghost Towns	22	3	0	5	14
Historic Ranches	26	1	5	1	19
Historic Trails	1	1	0	0	0
Traditional Cultural Properties	7	4	2	0	1
Cultural Landscapes	1	0	1	0	0
National Historic Landmarks	5	0	2	0	3
State Register	3	0	0	0	3

Note: 1. Some resources are counted in more than one category.

Concerns mentioned by the general public and Indian tribes during the EIS process included disturbance to traditional or sacred sites, interference with religious ceremonies, and visual or noise effects to sites and sacred areas from overflights and chaff and flares. Depending on the location under the Proposed Action airspace, visual and noise intrusions could include an estimated six to nine low-level overflights (i.e., from 500 to 2,000 feet AGL) per year within a quarter-mile of any given location under a Low MOA, an estimated one sonic boom per day at any given location during the not more than 10 days of LFEs per year, an estimated nine training flights at any altitude visible per day from any given location, and an average of one piece of chaff or flare residual plastic or wrapping materials per 149 acres per year. It is unlikely that noise from subsonic training flights or sonic booms under the Proposed Action would cause physical damage to architectural or archaeological resources on the ground (see Section 4.7.3.1 of the Final EIS). Although noise and visual effects from trainings flights under the Proposed Action could affect the setting of certain cultural resources or interfere with religious ceremonies, the NHPA Section 106 Programmatic Agreement (discussed in more detail below) includes mitigation measures to avoid, minimize, or otherwise mitigate such effects.

The infrequency of flare usage combined with the infrequency of B-1 overflights during darkness would make the sighting of burning flares a rare occurrence and limit the potential for visual intrusion (see also “Light Emissions and Visual Impacts” below). The characteristics of chaff and flares, and the size of the area underlying the proposed PRTC airspace, make it unlikely that residual chaff and flare materials on the ground would cause significant effects on cultural resources (see Sections 4.7.2.1 and 4.7.2.3 of the Final EIS).

As mentioned previously, since 2008 the Air Force has been engaged in government-to-government consultations and other communications with potentially affected Indian tribes regarding the proposed PRTC (see Appendix N of the Final EIS). Many of the mitigation measures described in the Final EIS resulted from such consultations (see “Mitigation” section above). The Northern Cheyenne Reservation and portions of the Crow Reservation, the Standing Rock Indian Reservation, and the Cheyenne River Reservation are located under the Proposed Action airspace. Table 4.7-1 in the Final EIS (reproduced below) presents the reservation acres under the proposed PRTC.

Final EIS Table 4.7-1. Reservation Acres Overflowed by Proposed Airspace Components

Proposed MOA/ ATCAA	MOA/ ATCAA Acres Overflowed	Reservation Acres Overflowed							
		Crow		Northern Cheyenne		Standing Rock		Cheyenne River	
		Reservation Acres Overflowed	Percent of MOA Over Reservation	Reservation Acres Overflowed	Percent of MOA Over Reservation	Reservation Acres Overflowed	Percent of MOA Over Reservation	Reservation Acres Overflowed	Percent of MOA Over Reservation
PR-1A	489,470	103,233	21.1						
PR-1B	781,812								
PR-1C	435,828	432,864	99.3	33	0.0				
PR-1D	2,117,379	69,650	3.3	446,226	21.1				
PR-2	5,264,371								
PR-3	2,909,778								
PR-4	3,379,595					763,745	22.6	66,264	2.0
Total	15,378,233								

The Crow, Northern Cheyenne, Cheyenne River Sioux, and Standing Rock Sioux Tribes have been consulting parties in the NHPA Section 106 consultation process, which has also included the State Historic Preservation Officers of the four affected states, the National Park Service (“NPS”), and the Advisory Council on Historic Preservation (“ACHP”). As part of the NHPA Section 106 consultation process, the Air Force provided opportunities for the Tribes to identify historic properties of traditional religious and cultural importance under the proposed PRTC airspace. The Air Force also provided the Tribes with opportunities to consult on the development of the NHPA Section 106 Programmatic Agreement and invited them to become signatories.

The Programmatic Agreement, which is included in Appendix N of the Final EIS, was developed in accordance with the NHPA Section 106 regulations (see 36 C.F.R. § 800.14(b)) and has been

signed by the Air Force; the FAA¹⁴; the SHPOs of Montana, Wyoming, South Dakota, and North Dakota; the NPS; the ACHP; and the Crow Tribe.¹⁵ It includes stipulations providing for the avoidance, minimization, or mitigation of adverse effects to historic properties, religious ceremonies, and important tribal events under the proposed PRTC. These stipulations include:

- Specific avoidance measures and other provisions relating to the Little Bighorn Battlefield National Monument, including:
 - Maintaining an altitude of at least 5,000 feet AGL from one hour before to one hour after posted hours of operation of the Monument;
 - Considering further restrictions during special events at the Monument;
 - Coordinating on plans for multi-year acoustic monitoring in the Monument when requested by the NPS; and
 - Coordinating on plans for a visitor use study when requested by the NPS.
- Provisions relating to additional Great Sioux War Battlefields historic properties in Montana, South Dakota, and North Dakota, including but not limited to Deer Medicine Rocks National Historic Landmark (“NHL”) and Wolf Mountains Battlefield/Where Big Crow Walked Back and Forth NHL; and archaeological locations containing sensitive rock art throughout the area of potential effect, including the Tongue River Valley, Chalk Butte, and Slim Butte in Montana and North and South Cave Hills in South Dakota. In addition to other generally applicable provisions of the Programmatic Agreement, these provisions include requirements for the Air Force to:
 - Work cooperatively with other federal and state agencies, tribal governments, and the public to minimize potential adverse effects to historic properties in the PRTC from routine operations or from LFEs; and
 - Consult with the relevant consulting parties on appropriate responses if further mitigating actions may be required.
- Requirements for the Air Force to:
 - Continue to consult with the Tribes on appropriate ways to avoid, minimize, or mitigate adverse effects to historic properties, religious ceremonies, and events important to the Tribes. This includes reasonable temporary or seasonal avoidance areas during specified events on the Crow, Northern Cheyenne, Standing Rock Sioux,

¹⁴ As documented in the Programmatic Agreement, pursuant to 36 C.F.R. § 800.2(a)(2) the Air Force and the FAA have designated the Air Force as the “lead Federal agency” for purposes of compliance with NHPA Section 106.

¹⁵ As of the date of this ROD, the Northern Cheyenne, Cheyenne River Sioux, and Standing Rock Sioux Tribes have not signed the Programmatic Agreement.

and Cheyenne River Sioux Reservations, as well as other events identified in consultation with the Tribes.

- Meet with Tribal leaders at least annually to review PRTC-related activities that may affect historic properties of traditional and religious importance to the Tribes. The PA also requires signatory Tribes, upon request from the Air Force, to review and comment on draft Air Force plans, programs, and reports for PRTC training and operations.
- Implement a program for considering requests from consulting parties to avoid military training flights at particular times and locations under the proposed PRTC.
- Notify consulting parties 15 days before LFEs and supersonic training flights.¹⁶
- Annually request from consulting parties (other than the ACHP) information on any additional historic properties or adverse effects, and provide an annual report to those parties.
- Take specific actions in the event of claims or discovery of damage to historic properties, previously unidentified adverse effects, or non-compliance with the Programmatic Agreement.

In the portion of the Crow Reservation under the proposed PR-1A, PR-1C, and PR-1D Low MOAs, an estimated six to nine low-level training flights (i.e., from 500 to 2,000 feet AGL) would be experienced annually within a quarter-mile of any particular location. These infrequent overflights, if experienced by an observer, could adversely affect the character and feeling associated with a historic property or the experience of a tribal member during a ceremony. Mitigation measures identified in the Final EIS and stipulations in the Programmatic Agreement, including those relating to the Little Bighorn Battlefield National Monument, continued government-to-government consultations to address tribal concerns, and establishment of reasonable avoidance areas for tribal ceremonies, were designed to resolve potential adverse effects to cultural resources on the Crow Reservation.

As a result of mitigation measures incorporated into the Proposed Action (see “Mitigation” section above), the Proposed Action airspace over the Standing Rock Sioux, Cheyenne River Sioux, and Northern Cheyenne Reservations would have a floor of 12,000 feet MSL (approximately 8,000 to 10,000 feet AGL). As a result, these reservations would not be exposed to the effects of low-level training flights. Training overflights above 12,000 feet MSL would not be expected to have noise or visual effects on historic properties in those reservations that would be “adverse effects” as defined in the regulations under NHPA Section 106 (see 36 C.F.R. § 800.5(a)(1)). Although overflights above 12,000 feet MSL could have visual and noise effects

¹⁶ The mitigation measures listed in the Final EIS and adopted by the Air Force in its ROD include publishing a notice at least 30 days in advance of LFEs to the public, the aviation community, and Indian tribes (see “Mitigation” section above).

on tribal ceremonies, the potential for such effects could be minimized under the stipulations in the Programmatic Agreement, including the Air Force's commitment to continue consultations with all the consulting tribes to address their concerns and identify reasonable avoidance areas for tribal ceremonies.

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS and the Programmatic Agreement, the Proposed Action is not likely to have significant impacts on historical, architectural, archeological, and cultural resources.

Light Emissions and Visual Impacts: Under FAA Order 1050.1E, Appendix A, Section 12, the FAA considers the extent to which any lighting associated with an action will create an annoyance among people in the vicinity or interfere with their normal activities. Visual, or aesthetic, impacts are inherently more difficult to define because of the subjectivity involved. Aesthetic impacts deal more broadly with the extent that the development contrasts with the existing environment and whether the jurisdictional agency considers this contrast objectionable. The visual sight of aircraft, aircraft contrails, or aircraft lights at night, particularly at a distance that is not normally intrusive, should not be assumed to constitute an adverse impact.

Flares deployed from aircraft would pose, at most, a minimal visual intrusion as they burn out quickly (usually within approximately five seconds). Flares would not be deployed below 2,000 feet AGL, and most flares would be deployed at much higher altitudes. The deployment altitude would make the flares difficult to detect by people on the ground during daylight hours. If multiple flares are deployed at night, they can appear to be a blinking light as successive flares are deployed and burn out. The infrequency of flare usage under the Proposed Action, combined with the infrequency of B-1 overflights during darkness, would make the sighting of flares a rare occurrence and limit the potential for visual intrusion. (See Section 4.7.2.1 of the Final EIS.)

The release of chaff and flares could have a visual effect from residual materials which remain on the ground or land on structures. Chaff does not accumulate to any great degree and the fibers, if found, were often mistaken for natural elements such as animal fur or plant material. Each chaff fiber is thinner than a human hair and is composed of two naturally abundant materials, aluminum and silica. Chaff fibers quickly become indistinguishable from soil due to mechanical breakdown from wind, sediment erosion, rain, or snow. Chaff residual plastic materials typically measure one inch by one inch. Flare residual plastic materials, usually red or blue in color, are typically two inches by two inches. Under the Proposed Action, an average of one piece of chaff or flare residual plastic or wrapping materials would be deposited per 149 acres per year. (See Section 4.7.2.1 of the Final EIS.)

Potential visual effects of the Proposed Action on historic and other cultural resources are addressed under "Historical, Architectural, Archeological, and Cultural Resources" above. Potential effects of the Proposed Action on visibility in specific areas under and near the Proposed Action airspace are addressed under "Air Quality" above.

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action is not likely to have significant impacts in the category of light emissions and visual impacts.

Natural Resources and Energy Supply: Under FAA Order 1050.1E, Appendix A, Section 13, a proposed action is examined to identify any proposed major changes in stationary facilities or the movement of aircraft and ground vehicles that would have a measurable effect on local supplies of energy or natural resources. Unless there are identified problems such as demands exceeding supplies, it may be assumed that impacts are not significant. B-1 and B-52 aircraft flying hours would essentially be the same under the Proposed Action and the No Action Alternative (see Section 4.4.3.1 of the Final EIS). Although it is possible that re-routing of civil aviation (see "Socioeconomic Impacts" below) could result in additional miles flown, any such increase would not be expected to have a measurable effect on local fuel supplies.

Based on the FAA's independent review and evaluation, the FAA concludes there the Proposed Action would not have significant impacts on natural resources and energy supply.

Noise: Under FAA Order 1050.1E, Appendix A, section 14.3, a significant noise impact would occur if analysis shows that the proposed action will cause noise sensitive areas to experience an increase in noise of DNL 1.5 dB or more at or above DNL 65 dB noise exposure when compared to the no action alternative for the same timeframe. For example, an increase from 63.5 dB to 65 dB is considered a significant impact. Special consideration needs to be given to the evaluation of the significance of noise impacts on noise sensitive areas within national parks, national wildlife refuges and historic sites, including traditional cultural properties.

The Air Force's Final EIS discusses potential noise impacts of the Proposed Action in Section 4.2 and summarizes those impacts in Table 2.13-1. Table 4.2-4 of the Final EIS compares the estimated baseline noise levels under the proposed PRTC with estimated military aircraft noise levels under the Proposed Action. As shown in that table, the estimated maximum DNL_{mr} sound level from military training flights under the proposed airspace for the Proposed Action would be DNL_{mr} 48 dB (see Section 4.2.3.1.5 of the Final EIS). Although the FAA's level of significance metric is based on DNL and not DNL_{mr}, given that DNL_{mr} provides an added noise "penalty" to account for the "surprise" effect of the sudden onset of aircraft noise events on humans (see Appendix I, Section 1.2, of the Final EIS), it can be presumed that this noise level is well below the FAA's DNL 65 dB significance threshold. Potential noise impacts on areas requiring special consideration are addressed under "Compatible Land Use" and "Historical, Architectural, Archeological, and Cultural Resources" above. Although the FAA does not have a significance threshold for noise from sonic booms, it is noted that the maximum C-weighted Day-Night Average Sound Level ("CDNL") under the Proposed Action airspace would be CDNL 36 dB (see Section 4.2.3.1.5 of the Final EIS). A CDNL level of 60 dB produces roughly the same percent of "highly annoyed" people in exposed populations as a DNL level of 65 dB (see Table 4.2-3 in the Final EIS).

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action is not likely to have significant noise impacts.

Secondary (Induced) Impacts: Any effects of the Proposed Action in this category are covered in other categories in this section (e.g., socioeconomic impacts).

Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks:

Socioeconomic Impacts: Under FAA Order 1050.1 E Appendix A, Section 16.3c, factors to be considered in determining socioeconomic impacts include, but are not limited to the following: (1) Extensive relocation of residents is required, but sufficient replacement housing is unavailable. (2) Extensive relocation of community businesses that would create severe economic hardship for the affected communities. (3) Disruptions of local traffic patterns that substantially reduce the levels of service of the roads serving the airport and its surrounding communities. (4) A substantial loss in community tax base.

The Air Force's Final EIS discusses potential socioeconomic impacts of the Proposed Action in Section 4.9 and summarizes those impacts in Table 2.13-1. The Proposed Action does not include any activities on the ground and would not involve relocation of residents or businesses or changes in levels of service of roads. Nor would the Proposed Action be expected to result in a substantial loss in community tax base. As discussed under "Compatible Land Use" above, the Proposed Action, as mitigated, would not significantly affect land use compatibility. Adverse effects on property values are not expected (see Section 4.9.3.1.1 of the Final EIS).

During the Air Force's EIS process and the FAA's aeronautical review process, numerous commenters expressed concern about potential adverse economic effects of the proposed PRTC, both from effects on civil aviation and from effects on the ground. During the aeronautical review process, FAA received comments from airspace users, including but not limited to the following: aerial applications for agriculture (i.e., crop dusting); energy resource development, including oil and gas, mining, and wind farms; ranching operations; tourism, including hunting and recreation; airport operations and airport-based businesses; flight instruction schools; cloud seeding operations; and emergency flight operations, including medical and firefighting. FAA examined the characteristics of the operations by these airspace users to avoid and resolve any potential impacts.

Existing civil aviation use of the area of the proposed PRTC (i.e., below 26,000 feet MSL) includes both VFR and IFR flights and is characterized by lower altitude flights, typically below 18,000 feet MSL and often below 10,000 feet MSL (see Section 3.1.3.6 of the Final EIS). VFR flights predominate in the PR-1, PR-2, PR-3, and PR-4 MOAs (see Table 3.1-9). Pilots are not prohibited from flying VFR in active MOAs, but uncertainty about the timing and location of military training flights could affect decisions whether to do so, and numerous commenters expressed concern in that regard. It would not be possible to transit an active MOA flying IFR, but IFR arrivals and departures at affected airports would be accommodated with minimal delay. When IFR flight was not possible and pilots chose not to fly VFR in an active MOA, flights

could be delayed or rerouted. The extent of the delay or rerouting would depend, among other things, on the location of the flight and the activation status of relevant MOA segments. In the Final EIS, the Air Force used an estimated ground hold of up to four hours for analysis of potential impacts (see Section 4.1.3.1.4 of the Final EIS). During LFEs, the impact could be a delay of up to four hours with no realistic diversion option.

The FAA recognizes the economic importance of civil aviation and has worked with the USAF to structure the Proposed Action airspace with features and mitigations to minimize potential impacts on civil aviation while allowing the Air Force to meet its training needs. These features and mitigations include, but are not limited to, the following:

- The proposed airspace is segmented into different altitude blocks within each MOA/ATCAA complex (including 18 different MOAs), allowing use of only the airspace needed for the training event and maximizing access of civil aviation to airspace not used for training.
- The proposed Gap A, B and C MOAs, which coincide with Victor airways, offer civil aviation a means to transition thru the PRTC airspace when adjacent MOAs are active, or to minimize flight time spent within an active MOA. The Gap MOAs would only be activated for military use during LFEs.
- The proposed Gap B MOA/ATCAA lateral boundaries have been modified to avoid Gap B extending across Gap C, thereby enabling civil aviation use of the Victor airway that runs through Gap C.
- The PR-1A and PR-1C High MOAs would only be activated for military training during LFEs.
- The proposed airspace provides a minimum exclusion for all public use airports of three nautical miles (“NM”) and 1,500 feet AGL (the exclusions for the airport in Baker, Montana and Bowman Field in North Dakota were increased to 2,000 feet AGL).
- The proposed airspace boundaries were moved farther away from airports in Billings and Miles City, Montana, Dickinson and Bismarck, North Dakota, and Hulett, Gillette, and Sheridan, Wyoming to facilitate civil aviation at those airports.
- The proposed PR-2 MOAs have been modified to accommodate IFR procedures at the Hulett, Wyoming airport.
- The proposed PR-4 Low MOA and Gap C Low MOA have been eliminated, thereby avoiding any effect on civil aviation below 12,000 feet MSL in those areas.
- All activation of the PRTC airspace would be by Notices to Airmen (“NOTAM”), two hours in advance during scheduled times of use and four hours in advance at other times,

thus providing additional notice to civil aviation.

- The southwest corner of the proposed PR-1C area was adjusted to avoid a Victor airway (V-247).
- The Gap MOAs were widened to reduce the likelihood of a number of aircraft being concentrated in a narrow corridor.

In accordance with FAA Order JO 7400.2K, Paragraph 25-1-4, implementation of the Proposed Action would include provisions to enable aerial access to underlying private or public use land beneath the proposed Low MOAs, and for terminal VFR and IFR flight operations. Provisions are also included to accommodate instrument arrivals and departures at affected airports with minimum delay. The proposed MOAs exclude the airspace 1,500 feet AGL (2,000 feet AGL for airports in Baker, MT and Bowman, ND) and below within a three NM radius of airports available for public use. The Air Force would also continue its current process of annotating private airports on aircrew charts with a 1,500-foot AGL, one-nautical-mile avoidance area. Where a chartered private airport lies under a proposed Low MOA, the Air Force would coordinate with the airport operator to determine whether there would be any conflict between MOA activity and airport operations.

In addition to the design and modification of the structure of the Proposed Action airspace, many of the other mitigation measures described in the Final EIS (see “Mitigation” section above) would mitigate potential impacts of the Proposed Action on civil aviation. The FAA recognizes the potential for delays and rerouting of civil aviation. The FAA’s role as regulator for the airspace is to balance the needs of the military and those of civil aviation. In that role the FAA worked with the Air Force to develop the mitigation measures described above and in the Final EIS. Mitigation measures specific to minimizing impacts to civil aviation include limited hours of use of the MOAs; activation of certain MOAs (i.e., the PR-1A and PR-1C High MOAs and the Gap MOAs) only during LFEs; measures to allow for clearing the MOAs for IFR access to airports, including enhanced communication within the PR-1 and PR-3 MOAs; exclusion areas around airports; and enhanced notification of MOA activation status via NOTAMs. The proposed PR-1 Low and PR-3 Low MOAs would be used for military training an average of only three hours per day for the days they would be active (240 days a year). Assuming 12 hours per day for flying, roughly 25 percent of the daily flights in those proposed MOAs could potentially be affected (i.e., delayed, rerouted, rescheduled, or otherwise flown in a manner different than when the MOA is inactive). Table 3.1-9 in the Final EIS relates that the number of daily operations potentially affected by the proposed PR-1 and PR-3 MOAs would be 18 and 38, respectively. These numbers are based on the 10 hours of designated “times of use” for the MOAs Monday through Thursday, not on the actual periods of MOA activation. Given that MOAs are anticipated to be active an average of only three hours per day, the number of daily operations potentially affected would be approximately six in PR-1 and 12 in PR-3. With the mitigation measures discussed above, IFR arrivals and departures would experience only minimal delay, and the enhanced notification measures would allow pilots of other flights to plan their flight times around MOA operations. VFR flights below the 500-foot AGL floor of the proposed Low MOAs, or flying “see-and-avoid” within an active MOA, would be unaffected.

As a result, the FAA does not anticipate that the Proposed Action would cause a decrease in the number of civil flight operations (although some flights may be rescheduled around MOA operations). In sum, the mitigation measures discussed above would minimize the potential disruptions to civil aviation, and the Proposed Action would not be expected to result in a decrease in overall civil aviation activity or in associated economic activity.

Commenters expressed concerns that startling of people and animals by low-level training flights could result in adverse effects to ranching operations (e.g., injury or property damage from startled animals), hunting, and recreational activities (e.g., rock climbing). Based on the random distribution of training flights in the proposed PRTC airspace and the small percentage of the airspace that would be used by any particular non-LFE training mission, it is estimated that any given location on the ground under a low MOA would be within a quarter-mile of a low-level training overflight an average of only six to nine times per year. Training flights would normally not be scheduled on weekends, when many recreational activities would be expected to occur, and all activation of MOAs would be announced at least two hours in advance by NOTAM (four hours in advance for activation outside scheduled times of use and for LFEs). The Air Force would also provide a 30-day advance notice of all LFEs. In addition, the Air Force would continue its current practice of establishing reasonable temporary or seasonal avoidance areas over residences, communities, and ranching operations, including those on tribal reservation lands (see Sections 2.11.2.6, 4.2.3.1.5, and 4.3.3.1.3 of the Final EIS and the Air Force's ROD).

Although sonic booms have the potential to cause property damage, the minimum altitudes of supersonic flight during LFEs (20,000 feet MSL for B-1 aircraft and 10,000 feet MSL for fighter aircraft) and the infrequency of LFEs (four hours per day during one to three days per quarter, not to exceed 10 days per year) would make such damage unlikely under the Proposed Action (see Section Sections 4.2.3.1.4 and 4.9.3.1.5 of the FEIS). Damage to ground structures from training aircraft wake vortices would be extremely improbable (see Section 4.3.3.1 2 of the Final EIS).

Due to the nature of chaff and how it would be used in the proposed PRTC airspace, it is highly unlikely that it would accumulate on the ground in sufficient quantities to affect property values or land uses. The same is true for chaff and flare residual materials, which on average would amount to one plastic, felt, or wrapper piece deposited in an area of 149 acres per year.

Flares would be restricted to 2,000 feet AGL and above in training areas and discontinued in a MOA during periods of extreme fire danger as rated by the National Fire Danger Rating System (see Section 4.9.3.1.1 of the Final EIS). Flares are designed to be fully consumed before reaching the ground. As a result, the risk of fire as a result of flare use is minimal. The Air Force would follow its established claim procedures in the unlikely event of damages from a flare caused fire. (See Section 4.9.3.1.6 of the Final EIS.)

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described above and in the Final EIS, the Proposed Action is unlikely to result in significant socioeconomic impacts.

Environmental Justice: Under FAA Order 1050.1E, Appendix A, Section 16.2a, when the FAA determines that a project would have significant effects pursuant to NEPA, the potential for disproportionately high and adverse effects on minority and low-income populations must be analyzed (see also DOT Order 5610.2(a), which defines “adverse effects” for environmental justice purposes as “the totality of significant individual or cumulative human health or environmental effects . . .”). As explained elsewhere in this ROD, the FAA has determined that with the extensive mitigation measures described above, in the Final EIS, and in the NHPA Section 106 Programmatic Agreement, the Proposed Action is not likely to have significant effects under NEPA.

Children’s Environmental Health and Safety Risks: Disproportionate health and safety risks to children may represent a significant impact. The analysis in the Final EIS shows that Modified Alternative A would not present any disproportionate risk to children’s health or safety. Youth populations potentially impacted by low-level overflights are concentrated on the Crow Reservation under the proposed PR-1 airspace. As noted above, in areas under the proposed low MOAs there would be an estimated annual average of six to nine low-level overflights within a quarter mile of any particular location. In addition, supersonic flight during LFEs (maximum of three days per quarter and 10 total days per year) could result in an average of one sonic boom per LFE day at any given location on the ground. Although noise from these infrequent events could temporarily disrupt classrooms, they would not be expected to have long-term learning or health effects on children.

Based on the FAA’s independent review and evaluation, the FAA concludes that the Proposed Action would not have significant effects on children’s environmental health and safety risks.

Water Quality: The Air Force’s Final EIS discusses potential water quality impacts of the Proposed Action in Section 4.5 and summarizes those impacts in Table 2.13-1. Chaff particles on the surface would be chemically stable and subject to mechanical degradation. The soils’ pH is outside the range necessary to degrade the aluminum coating on chaff particles. Chaff and flare residual materials would be inert and not in sufficient quantities to impact physical resources. No impact to soils or water bodies is expected. The Proposed Action would have no impact on water quality.

Based on the FAA’s independent review and evaluation, the FAA concludes that the Proposed Action would not have a significant impact on water quality.

Wetlands: No actions under the Proposed Action would encroach on any wetlands beneath the project airspace; therefore, there would be no impact to this resource.

Wild and Scenic Rivers: There are not any Wild or Scenic Rivers designated beneath the proposed PRTC airspace; therefore, this impact category is not applicable.

Cumulative Impacts: The Council on Environmental Quality (“CEQ”) has instructed that in analyzing cumulative impacts of their proposed actions, agencies should consider any effects of past, present, and reasonably foreseeable future actions that are, in the judgment of the

agency, relevant because their effects would increase or change in combination with the direct and indirect effects of the agency's proposed action.

The Air Force's Final EIS discusses potential cumulative impacts of the Proposed Action in Section 5.0 and summarizes those impacts in Table 2.13-1. The analysis in the Final EIS examines whether the incremental impacts of the PRTC action, when added to the effects of other past, present, and reasonably foreseeable actions, would result in potentially significant impacts not identified when the Proposed Action is considered separately.

Past, present, and reasonably foreseeable actions identified in Table 5.1-1 of the Final EIS include:

- The recent beddown of an additional B-52 squadron at Minot AFB;
- FAA airspace actions in North Dakota (establishment of Restricted Areas at Grand Forks AFB) and Nevada (establishment of the White Elk MOA);
- Two new public airports under the proposed PRTC airspace (Bowman County Airport, ND and the now open Big Horn County Airport discussed above in *Subsequent Modifications of the Proposed Action*);
- The potential addition of threat emitters and simulated targets to add realism to aircrew training in the proposed PRTC; and
- Agency plans and other actions relating to development and transportation of energy resources, including oil, gas, coal, wind, and hydroelectric. .

In addition, the FAA has funded airport improvements at several airports under the proposed PRTC airspace and has extended two high-altitude routes north and south of the existing Powder River MOAs. The mitigation measures described in the Final EIS include establishing communication procedures that enable controlling agencies to recall the low MOA airspace whenever necessary to allow IFR aircraft access to and from public use airports underlying the MOA (see #13 in the "Mitigation" section above). Implementation of this measure may involve the siting and construction of communications sites.

The additional B-52 squadron has been included as a baseline condition for the analysis in the Final EIS. Because of the locations of the other FAA airspace actions, they would not have cumulative impacts with the Proposed Action in the area of the proposed PRTC. The new airports are replacements for existing airports under the proposed PRTC. Because the Proposed Action does not include any construction activity, it would not have any cumulative construction-related impacts. No threat emitters or communication sites are proposed as part of the PRTC and any future construction of emitter or communication sites would be subject to separate environmental review under NEPA.

Air quality: Predicted PM₁₀ emissions from the Proposed Action would be well below EPA's *de minimis* levels. Moreover, due to the large area of the proposed PRTC and the frequency, distribution, and altitudes of the training flights, aircraft emissions would be unlikely to contribute substantially to a violation of any NAAQS. In addition, as noted above, the Proposed Action is unlikely to substantially contribute to an increase in visibility impairment in Class 1 areas, including the Northern Cheyenne Reservation and therefore would not be expected to have a significant cumulative effect on air quality.

Climate: The Proposed Action would not be expected to appreciably contribute to national GHG emissions (see "Climate" above), and therefore would not be expected to have a significant cumulative effect on climate.

Compatible Land Use: With the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action would not be expected to result in significant cumulative impacts in this category.

Fish, Wildlife, and Plants: With the mitigation measures described in the Final EIS, the Proposed Action would not be expected to result in significant cumulative impacts in this category.

Hazardous Materials, Pollution Prevention, and Solid Waste: The use of chaff and flares in the proposed PRTC would not be expected to result in significant cumulative impacts in this category.

Historical, Architectural, Archeological, and Cultural Resources: The PRTC does not include any ground-disturbing activity that could adversely impact historic structures or archaeological sites. With the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action would not be expected to result in significant cumulative impacts in this category.

Light Emissions and Visual Impacts: With the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action would not be expected to result in significant cumulative impacts in this category.

Natural Resources and Energy Supply: The Proposed Action would not be expected to have a measurable effect on local fuel supplies (see "Natural Resources and Energy Supply" above), and therefore would not result in significant cumulative impacts in this category.

Noise: Given the predicted noise levels from the Proposed Action (see "Noise" above), significant cumulative effects in this category are unlikely.

Secondary (Induced) Impacts: Any effects of the Proposed Action in this category are covered in other categories (e.g., socioeconomic impacts).

Socioeconomic Impacts: The replacement airports, and any additional aircraft traffic resulting from them or relating to other reasonably foreseeable future actions, would be subject to the same potential effects of the Proposed Action (as mitigated by the measures described in the Final EIS) as existing airports and civil aviation in the area of the proposed PRTC. The Proposed Action would not adversely affect construction of facilities on the ground. Training flights would avoid tall structures. The Air Force would avoid low-altitude overflight of, and frequency interference with, known blasting activities. As discussed above, the Proposed Action is unlikely to result in significant socioeconomic impacts, either from effects on civil aviation or from effects on the ground.

Environmental Justice: Because the Proposed Action is not likely to have significant cumulative effects in the other impact categories, it is not likely to result in disproportionately high and adverse effects on minority or low income populations, as defined in DOT Order 5610.2(a). In addition, the cumulative effect of reasonably foreseeable construction projects could incrementally change employment opportunities and reduce the number of minority persons who also represent low-income populations (see Section 5.1.2.10 of the Final EIS).

Children's Environmental Health and Safety Risks: Cumulative impacts to children are not anticipated beyond the potential for infrequent disruption of classrooms from sonic booms or low-level overflights. Therefore, the Proposed Action would not have any significant cumulative effects in this impact category.

Water Quality: The incremental effects of the Proposed Action would not result in significant cumulative effects on water quality.

Based on the FAA's independent review and evaluation, the FAA concludes that with the mitigation measures described in the Final EIS and the NHPA Section 106 Programmatic Agreement, the Proposed Action, when considered with other past, present, and reasonably foreseeable future actions, is not likely to result in significant cumulative impacts.

Adoption

In accordance with FAA Order 1050.1E, paragraph 518h and 7400.2K, paragraph 32-2-3, the FAA has conducted an independent review and evaluation of the Air Force's Final EIS for the proposed PRTC. As a cooperating agency, the FAA provided subject matter expertise and closely coordinated with the Air Force during the environmental review process, including the preparation of the Draft EIS and the Final EIS. Based on its independent review and evaluation, the FAA has determined that the Final EIS, including its supporting documentation, as hereby incorporated by reference, adequately assesses and discloses the environmental impacts of the Proposed Action, and that adoption of the Final EIS by the FAA is authorized under 40 C.F.R. § 1506.3.

In addition, the FAA has determined that there have not been substantial changes to the Proposed Action that are relevant to environmental concerns, and that there are no significant new circumstances or information relevant to environmental concerns and bearing on the Proposed

Action or its impacts. Therefore, the FAA has concluded that a supplement to the Final EIS is not required.

Accordingly, the FAA adopts the Final EIS, and takes full responsibility for the scope and content that addresses the Proposed Action.

The FAA will notify EPA of this adoption decision in accordance with FAA Order 1050.1E, para. 518h.

Decision and Approval

After careful and thorough consideration of the Final EIS and the facts contained herein, I find that the Proposed Action is consistent with existing national environmental policies and objectives as set forth in Section 101 of NEPA and other applicable environmental requirements. Public participation in the airspace circularization process for the Special Use Airspace proposal was conducted in accordance with FAA Order JO 7400.2, and the comments received concerning potential impacts on aviation were considered and adequately addressed.

I have carefully considered the FAA's statutory mandate under 49 U.S.C. § 40103 to ensure the safe and efficient use of the national airspace system as well as the other aeronautical goals and objectives discussed in the Final EIS. I concur with the Air Force that Modified Alternative A provides the best airspace combination for meeting the needs stipulated in the Final EIS, and that all practicable means to avoid or minimize environmental harm from that alternative have been adopted.

Accordingly, under the authority delegated to me by the Administrator of the Federal Aviation Administration, I approve and authorize all necessary agency action to establish the MOAs for the Powder River Training Complex in Montana, North Dakota, South Dakota and Wyoming, as described in the Proposed Action.

This decision signifies that applicable Federal environmental requirements relating to the Proposed Action have been met. The decision enables the FAA to complete its Non-Rulemaking actions to establish the PRTC MOAs, as described in the Proposed Action. I anticipate that this decision will also trigger the establishment of the ATCAAs described in the Proposed Action, in accordance with relevant FAA procedures.

Approved: 

Date: 3-24-2015

 Gary Norek, Manager
Airspace, Regulations & ATC Procedures Group
Mission Support Service
Air Traffic Organization
Federal Aviation Administration

RIGHT OF APPEAL:

The Adoption/ROD for the expansion of PRTC constitutes a final order of the FAA Administrator and is subject to exclusive judicial review under 49 U.S.C. § 46110 by the U.S. Circuit Court of Appeals for the District of Columbia or the U.S. Circuit Court of Appeals for the circuit in which the person contesting the decision resides or has its principal place of business. Any party having substantial interest in this order may apply for review of the decision by filing a petition for review in the appropriate U.S. Court of Appeals no later than 60 days after the date of this notice in accordance with the provisions of 49 U.S.C. § 46110. Any party seeking to stay implementation of the action as stated in the ROD must file an application with the FAA prior to seeking judicial relief as provided in Rule 18(a) of the Federal Rules of Appellate Procedure.