Federal Aviation Administration

Finding of No Significant Impact (FONSI)
and
Record of Decision (ROD)

For the Northern California Optimization of the Airspace and Procedures in the Metroplex (NorCal OAPM)

July 2014

I. INTRODUCTION

This document serves as the Federal Aviation Administration's (FAA) Finding of No Significant Impact and Record of Decision (FONSI/ROD) for the Environmental Assessment for the *Northern California Optimization of Airspace and Procedures in the Metroplex* (NorCal OAPM) Project, July 2014, attached hereto and incorporated by reference. The FONSI/ROD has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. Section 4321 et seq.); implementing regulations issued by the Council on Environmental Quality (CEQ) (40 CFR, parts 1500-1508); and FAA Order 1050.1E, *Environmental Impacts: Policies and Procedures*, effective March 20, 2006 ("FAA Order 1050.1E"). This FONSI/ROD is based on the information and analysis contained in the Final Environmental Assessment (Final EA) and its Responses to Comments dated July 2014, attached hereto and incorporated by reference. This FONSI/ROD is also used by the FAA to demonstrate and document its compliance with the several procedural and substantive requirements of aeronautical, environmental, programmatic, and other statutes and regulations that apply to FAA decisions on proposed actions.

This FONSI/ROD:

- Documents the FAA's finding that the NorCal OAPM project will not have significant environmental impacts and explains the basis for that finding; and,

- Approves certain Federal actions associated with the implementation of the Proposed Action. Implementation of the Proposed Action will result in no airport-related development, land acquisition, construction, or other ground disturbance activities.

In approving the NorCal OAPM project, the FAA has considered 49 U.S.C. § 40101(d)(4), which gives the FAA various responsibilities and holds it accountable for controlling the use of navigable airspace and regulating civil and military operations in that airspace in the interest of safety and efficiency. Consideration has been given to 49 U.S.C §40103(b)(2), which authorizes the FAA Administrator to prescribe air traffic rules and regulations governing the flight, navigation, protection, and identification of aircraft, as well as those ensuring the efficient utilization of navigable airspace. 49 U.S.C. §40103(b)(2) directs the FAA Administrator to ensure the protection of persons and property on the ground by prescribing rules for safe altitudes of flight and rules for the prevention of collisions between aircraft, between aircraft and land or water vehicles, and between aircraft and airborne objects.

The FAA has given careful consideration to the aviation safety and operational objectives of the NorCal OAPM project and considered various aeronautical factors and judgments presented. The FAA identified the need to enhance efficiency in the national air transportation system and the potential environmental impacts of the project.

II. BACKGROUND

The FAA is in the process of implementing the Next Generation Air Transportation System (NextGen), the FAA's plan to modernize the National Airspace System (NAS) through 2025. NextGen is a complex program intended to develop and implement new technologies, while integrating existing technologies and adapting the air traffic management system to a new way of operating. NextGen represents an evolution from an air traffic control system that is a primarily ground-based system to a system that is satellite-based and will allow the FAA to guide and track air traffic more precisely and efficiently. To achieve NextGen goals, the FAA is implementing new Area Navigation (RNAV) and Required Navigation Performance (RNP) air traffic routes and instrument procedures RNAV Standard Instrument Departures (SIDs), RNAV Standard Terminal Arrival Routes (STARs), and RNAV Standard Instrument Approach Procedures (SIAPs) that use emerging technologies and aircraft navigation capabilities. The implementation of RNAV and RNP procedures enables the use of other Performance Based Navigation (PBN) technology in the NAS, and facilitates more efficient procedures such as Optimized Profile Descents (OPD). The OAPM Initiative is considered a mid-term implementation step in the overall process of transitioning to the NextGen system. The FAA intends to design and implement RNAV procedures that will take advantage of the technology readily available in the majority of aircraft as part of the OAPM initiative. The OAPM initiative specifically addresses airspace congestion, airports in close geographical proximity, and other limiting factors that reduce efficiency in busy Metroplex airspace. Efficiency is improved by expanding the implementation of RNAV-based standard instrument procedures and connecting the routes defined by the standard instrument procedures to high and low altitude RNAV routes. Efficiency would also be increased by taking advantage of RNAV to maximize the use of the limited airspace in congested Metroplex environments.

The NorCal OAPM project is intended to address specific issues related to the efficient flow of traffic into and out of the Northern California Metroplex. A "Metroplex" is a geographic area that includes several commercial and general aviation airports in close proximity serving a large metropolitan area.

III. PROPOSED ACTION

The Proposed Action consists of development of standard air traffic procedures to enhance efficient handling and movement of air traffic, while maintaining safety into and out of the Northern California Metroplex airspace. The Proposed Action includes:

- 14 new RNAV STARs
- 18 new RNAV SIDs
- 2 revised existing RNAV STARs
- 22 existing conventional STARs
- 28 existing conventional SIDs

The Proposed Action considered in this study would include the implementation of optimized RNAV SID and STAR procedures that would improve upon existing procedures. The primary components of the Proposed Action are, to the extent possible, redesign standard instrument arrival and departure procedures to more efficiently serve the Northern California Metroplex Airports and to (1) Improve the flexibility in transitioning traffic between enroute and terminal airspace and between terminal airspace area and the runways; (2) Improve the segregation of arrivals and departures in terminal and enroute airspace; and, (3) Improve the predictability in transitioning traffic between enroute and terminal airspace and between terminal airspace and the runway environment. The optimized RNAV procedures would provide vertical navigation, allowing the aircraft to climb to or descend from cruise altitude into the Northern California Metroplex with reduced pilot-controller communications and fewer inefficient level flight segments. Chapter 3 of the EA provides details on the Proposed Action.

Implementation of the Proposed Action would not require any ground disturbance or development of facilities, nor would it require local or state action. The Proposed Action consists only of procedural changes intended to improve operational efficiency, increase flight path predictability, and reduce required controller-pilot voice communication. Therefore, implementation of the Proposed Action would not increase the number of aircraft operations in the Northern California Metroplex airspace when compared to the No Action Alternative. The target date for starting implementation of the Northern California OAPM procedures is on or after November 13, 2014.

IV. PURPOSE AND NEED FOR THE PROPOSED ACTION

The NorCal OAPM project consisted of a Study Team phase, which analyzed the Northern California Metroplex operational challenges and explored opportunities to optimize air traffic procedures therein. The Study Team concluded that the Northern California Metroplex is inefficient due to the existing aircraft flight procedures. Currently, all but two SID/STAR procedures in the Northern California Metroplex are "conventional" procedures that use older ground-based navigational aid (NAVAID) technology. The Study Team concluded that efficiency in the Northern California Metroplex can be substantially increased by updating many existing conventional procedures with RNAV procedures. The Study Team materials reflect three key factors as causes of inefficiencies in the Northern California Metroplex:

- Lack of predictability in the efficient transfer of traffic between enroute and terminal airspace;
- Complex converging route and/or procedure interactions; and,
- Lack of flexibility in the efficient transfer of traffic between enroute and terminal airspace.

These three factors demonstrate the need for the Proposed Action.

The purpose of the Proposed Action is to take advantage of the benefits of Performance-Based Navigation (PBN) by optimizing RNAV procedures that will help improve the efficiency of the airspace in the Northern California Metroplex. The Proposed Action would address the three key factors causing the inefficiencies in the airspace and improve the efficiency of air traffic operations through improved predictability in transitioning aircraft between enroute and terminal airspace, improving the segregation of arrivals and departures in terminal and enroute airspace, and improving the flexibility in transitioning traffic between enroute and terminal airspace and between terminal airspace and the runway environment. Optimizing RNAV procedures will also comply with direction issued by Congress in the Modernization and Reform Act of 2012.

V. ALTERNATIVES

The following provides a summary of the alternatives development process and alternatives considered. Further details are available in Chapter 3 of the EA.

Identification and Evaluation of Potential Alternatives - In February 2011, the NorCal OAPM Study Team began work to define operational inefficiencies in the Northern California Metroplex and to identify potential solutions. The Study Team included experts from the Air Traffic Control (ATC) system for the Northern California Metroplex. The work completed was intended to provide a guide for later design efforts by the Design and Implementation (D&I) Team. The Study Team held a series of outreach meetings with local facilities (e.g., ATC), airspace users (e.g., pilots), and aviation industry representatives to learn more about the challenges of operating in the Northern California Metroplex. These meetings helped identify operational challenges associated with existing procedures and potential solutions that would increase efficiency in the Northern California Metroplex airspace. The Study Team identified several PBN-based solutions that would result in increased efficiency in the Northern California Metroplex. The modifications proposed were conceptual in nature, and did not include a detailed technical assessment, which was reserved for the D&I Team to conduct. Following completion of the Study Team's Final Report in June 2011, the D&I Team began work on the procedure designs. First, the Study Team proposals were prioritized based on complexity, interdependencies with other procedures, and degree of potential benefit to the Metroplex. Second, the D&I Team divided into workgroups to further develop and refine the Study Team proposals into preliminary designs. Finally, the preliminary designs were brought to the whole D&I Team for review and modification, if necessary. In developing the proposed procedures, the D&I Team was responsible for following regulatory and technical guidance as well as meeting criteria and standards in three general categories: RNAV design criteria and Air Traffic Control regulatory requirements, operational criteria, and safety factors.

To ensure that procedures included in the Proposed Action were viable, the D&I team undertook validation exercises that further refined the procedures. The D&I Team relied upon stakeholder input, design solution tools (e.g., design and testing software), and the criteria described above to meet several final design milestones. Many procedures included in the Proposed Action have undergone several iterations as they were refined to meet safety and efficiency requirements and represent the final version of the procedure considered. For example, both the proposed SFO SNTNA SID and the proposed SJC TECKY SID represent second versions of the procedure, the second version being a refinement of the Study Team's conceptual design. The combined final procedure designs have been brought forward in this EA as the Proposed Action alternative.

Alternatives Analyzed in the EA – In addition to the Proposed Action (described above), the EA also analyzed the No Action Alternative. Under the No Action Alternative, the FAA would maintain 52 existing arrival and departure procedures for the Northern California Metroplex. The 52 currently published SIDs and STARs serving the NorCal OAPM Study Airports that comprise the No Action Alternative include:

- 2 RNAV SIDs
- 26 conventional (i.e., non-RNAV) SIDs
- 24 conventional (i.e., non-RNAV) STARs

The existing conventional and RNAV arrival and departure procedures would remain as is, subject to minor, periodic reviews and revisions in response to changes in the operational environment (i.e., magnetic variation changes; obstruction surveys, aircraft capabilities, and changes in FAA Air Traffic Control regulations). The No Action Alternative would not implement the specific procedures designed as part of the NorCal OAPM project.

The No Action Alternative would not meet the purpose and need for the project. It would not improve the efficiency of the airspace nor address any of the three key causal factors for airspace inefficiency. Furthermore, the No Action Alternative would not meet the congressional mandate to implement additional RNAV procedures.

VI. AFFECTED ENVIRONMENT

The General Study Area for this project includes the geographic area in which natural resources and the human environment are potentially affected by the Proposed Action and its reasonable alternative. Paragraph 14.5e of Appendix A to FAA Order 1050.1E, requires consideration of impacts of airspace actions from the surface to 10,000 feet AGL if the study area is larger than the immediate area around an airport or involves more than one airport. Policy guidance issued by the FAA Program Director for Air Traffic Airspace Management states that for air traffic project environmental analyses, noise impacts should be evaluated for proposed changes in arrival procedures between 3,000 and 7,000 feet AGL and departure procedures between 3,000 and 10,000 feet AGL for large civil jet aircraft weighing over 75,000 pounds.

In developing the General Study Area, the FAA collected radar data from flight paths in the Northern California Metroplex. The General Study Area was designed to capture all flight paths identified in the radar data collected for the preparation of the EA as well as the designed Proposed Action routes out to the point at which 95 percent of aircraft are at or above 10,000 feet AGL for departures and at or above 7,000 feet AGL for arrivals, accounting for the terrain in and around the Northern California Metroplex. The lateral extent of the General Study Area was concisely defined to focus on areas of traffic flow.

The resulting General Study Area is depicted on Exhibit 4-1 in the EA and includes all or portions of 23 counties. Detailed information regarding the affected environment with respect to each relevant impact category is presented in Chapter 4 of the EA.

The NorCal OAPM General Study Area encompasses four major airports (referred to in the EA as the Study Airports):

- San Francisco International Airport (SFO)
- Oakland Metropolitan International Airport (OAK)
- Norman Y. Mineta San Jose International Airport (SJC)
- Sacramento International Airport (SMF)

VII. ENVIRONMENTAL CONSEQUENCES

The FAA analyzed the potential environmental impacts that could result from implementation of the Proposed Action as well as the impacts associated with the No Action Alternative on all relevant environmental impact categories specified in FAA Order 1050.1E. The FAA evaluated both alternatives for conditions in 2014, the first year of implementation of the optimized air traffic procedures under the Proposed Action, and 2019, five years after expected implementation of the Proposed Action.

The Proposed Action would not involve land acquisition, physical disturbance, or construction activities and, therefore, would not affect certain environmental impact categories. The following unaffected environmental resource categories and sub-categories would remain unaffected because either the resource does not exist within the General Study Area or it would not be affected by the activities associated with the Proposed Action:

- Coastal Resources
- Construction Impacts
- Farmlands
- Fish, Wildlife, and Plants (Fish and Plants sub-categories only)
- Floodplains
- Hazardous Materials
- Pollution Prevention and Solid Waste
- Light Emissions and Visual Impacts
- Natural Resources and Energy Supply (Natural Resources sub-category only)
- Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks (Socioeconomic Impacts and Children's Environmental Health and Safety Risks sub-categories only)
- Water Quality
- Wetlands
- Wild and Scenic Rivers

The Proposed Action would not cause changes in patterns of population movement or growth, public service demands, or business and economic activity. The Proposed Action does not involve construction or other ground disturbing activities that would involve the relocation of people or businesses. The Proposed Action does not include the construction of airport facilities that would result in or induce an increase in operational capacity. Thus, the Proposed Action would not result in Secondary or Induced impacts.

Those environmental impact categories that could potentially be affected by the Proposed Action are discussed below:

Noise

As required by FAA Order 1050.1E and in accordance with NEPA and its implementing regulations for federal agencies, the approved and recommended Noise Integrated Routing System (NIRS) was used to model the noise impacts for the NorCal OAPM project because the project involves a study area larger than the immediate vicinity of an airport, incorporates more than one airport, and includes actions above 3,000 feet AGL. FAA applied its criteria of

significance, an increase of 1.5 dB DNL[1] or more on any noise sensitive area within areas exposed to 65 dB DNL or higher, to determine whether the project would result in a significant noise impact. Noise was analyzed for both the Proposed Action and the No Action Alternative during the year in which implementation of the Proposed Action would be initiated (2014) and a five-year look-ahead (2019).

The NIRS model computed DNL exposure values at three sets of data points throughout the General Study Area:

1. United States Census Bureau population census block centroids (center point of a census block)

2. Unique points representing certain specific cultural resources and areas potentially protected under Section 4(f) of the Department of Transportation Act (DOT Act) (49 U.S.C. § 303(c)), and historic properties protected under Section 106 of the National Historic Preservation Act (NHPA)(16 U.S.C. § 470 *et seq.*);

3. A uniform grid covering the General Study Area (using 0.5 nautical mile spacing) to document aircraft DNL exposure levels at potential noise sensitive locations that were not otherwise identified.

The results identified the differences in DNL noise exposure between the two alternatives (Proposed Action compared to No Action Alternative) to determine if implementing the Proposed Action would result in significant noise impacts. The analysis identified any DNL increase of 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB and any DNL increase of 5 dB or higher in areas exposed to noise between DNL 45 dB and 60 dB. While the EA refers to such increases as a "reportable noise increase," they are not significant. The results of the NIRS modeling indicated that:

1. The Proposed Action would not result in a DNL 1.5 dB or higher increase in noise-sensitive areas exposed to aircraft noise at or above DNL 65 dB

2. The Proposed Action would not result in DNL increases of 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB

3. The Proposed Action would not result in a DNL increase of 5 dB or higher in areas exposed to noise between DNL 45 dB and 60 dB.

Thus, the Proposed Action would not result in significant noise impacts. Accordingly, no mitigation is required per FAA Order 1050.1E, Appendix A, paragraph 14.4c.

Compatible Land Use

The compatibility of existing and planned land uses in the vicinity of an airport is usually associated with the extent of the airport's noise impacts. If the noise analysis concludes that there is no significant impact, a similar conclusion usually may be drawn with respect to compatible land use. Because the Proposed Action is not expected to have significant noise

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[1] DNL is the Day Night Average Sound Level. It is a single value representing the aircraft sound level over a 24-hour period. To represent the greater annoyance caused by a noise at night, the DNL metric includes a 10-decibel penalty weighting for noise occurring between 10:00 pm and 6:59 am.

impacts (as measured by changes in noise exposure at populated census block centroids) in 2014 and 2019, and based on the FAA's review and analysis of germane information contained in the Draft EA and its responses to comments reflected in the Final EA, there would be no compatible land use impacts.

Department of Transportation Act, Section 4(f)

FAA identified resources within the General Study Area that had the potential to qualify for protection under Section 4(f) of the DOT Act. No land acquisition, construction, or other ground disturbance activities would occur under the Proposed Action; therefore, the Proposed Action would not physically use any potential Section 4(f) resources. The focus of the evaluation of potential Section 4(f) resources was adverse impacts that have the potential to result in a constructive use.

As noted under "Noise" above, the FAA's noise modeling included areas potentially protected under Section 4(f). No potential Section 4(f) resources located in areas exposed to DNL 65 dB or higher would experience a significant increase of DNL 1.5 dB or higher. The Proposed Action would not cause reportable increases of DNL 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB or DNL 5 dB or higher in areas exposed to noise between DNL 45 dB and DNL 60 dB.

Under FAA Order 1050.1E, a significant impact would occur when a proposed action either involves more than a minimal physical use of a Section 4(f) resource or would result in a "constructive use" substantially impairing the 4(f) property. Because the Proposed Action would not result in either a physical or constructive use of Section 4(f) resources, there would be no significant impacts on those resources.

Historical and Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) requires the FAA to consider the effects of its undertakings on properties listed or eligible for listing in the National Register of Historic Places (NRHP). In assessing whether an undertaking, such as the Proposed Action, affects a property listed or eligible for listing on the NRHP, FAA must consider both direct and indirect effects. Direct effects include the physical removal or alteration of an historic resource. Indirect effects include changes in the environment of the historic resource that could substantially alter the characteristics that made it eligible for listing on the NRHP. Such changes could include changes in noise exposure and visual impacts.

To assess the potential indirect effects of the Proposed Action on historic resources, an area of potential effects (APE) was defined. Federal regulations define the APE as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE for the Northern California Metroplex was defined as being contiguous with the General Study Area. Historic resources were identified within the General Study Area and their locations are shown on Exhibit 4-5 in Chapter 4 of the EA. Seven tribal properties were identified within the General Study Area.

No land acquisition, construction, or other ground disturbance activities would occur under the Proposed Action; therefore, the Proposed Action would not directly (i.e., physically) affect any historical, architectural, archaeological, or cultural resources. The assessment focused on the potential for indirect adverse effects to historic and cultural resources that may result from changes in air traffic routes, such as aircraft noise and visual impacts. Based on the modeled results for the unique grids and General Study Area uniform grids, no historically, architecturally

or culturally significant properties located in the area exposed to DNL 65 dB or higher would experience a significant increase of DNL 1.5 dB or higher. The Proposed Action would not cause reportable noise increases of DNL 3 dB or higher in areas exposed to noise between DNL 60 dB and 65 dB, or DNL 5 dB or higher in areas exposed to noise between DNL 45 dB and DNL 60 dB.

According to FAA Order 1050.1E, Appendix A, 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. Changes in aircraft routes associated with the Proposed Action would generally occur at altitudes above 3,000 feet AGL; therefore, the visual sight of aircraft and aircraft lights would not be considered intrusive and, the Proposed Action would not result in significant visual impacts. Therefore, the Proposed Action would not adversely affect the property's historic, architectural, or cultural significance through introduction of a visual feature that would diminish the integrity of the setting.

The FAA determined that under the meaning of 36 CFR, Parks, Forests, and Public Property, section 800.5(a), Protection of Historic Properties, the Proposed Action would not have an "adverse effect" on historic resources. In accordance with the Section 106 of the NHPA, written concurrence of FAA's determination was obtained from the California State Historic Preservation Officer (SHPO) with both the definition of the APE and the finding of no adverse effects. The concurrence letter can be found in the Appendix A to the Final EA, "Agency Coordination, Public Involvement, and List of Receiving Parties".

Wildlife (Avian and Bat Species)

The greatest potential for impacts to wildlife species related to air traffic procedure changes would result from wildlife strikes on avian and bat species at altitudes below 3,000 feet AGL. The FAA's Wildlife Strike Database provides strike information that is reportable by airport, including species struck, height of strike, and type and extent of aircraft damage. Table 5-4 in Chapter 5 of the EA provides a summary of wildlife strikes reported by Study Airport between 1990 and April 2013. In total, 4,176 records provide strike altitude for incidents involving birds and bats. Of these, a total of 3,781 reported strikes (91 percent of all strikes) occurred at altitudes below 3,000 feet. The decline in the number of strikes reported above 3,000 feet AGL indicates that there is less likelihood of bird/bat strikes at these altitudes. Under the Proposed Action, the majority of changes to proposed flight paths would occur above 3,000 feet AGL and no significant changes to arrival and departure corridors below 3,000 feet AGL would be expected. In addition, under the Proposed Action, the FAA anticipates increased use of the narrower arrival and departure corridors associated with the RNAV procedures. As narrower corridors would reduce the area in which RNAV equipped aircraft operate, the Proposed Action would not be expected to result in increased impacts to avian and bat species when compared to the No Action Alternative. Therefore, there would be no significant impacts to avian and bat species under the Proposed Action compared with the No Action Alternative. The FAA has determined that the Proposed Action is not likely to adversely affect any federally-listed species for 2014 or 2019.

Environmental Justice

Under the Proposed Action, no areas within the General Study Area would experience a change in noise exposure or other relevant impact category, (such as air quality, hazardous materials, and water quality) that would exceed applicable thresholds of significance. The Proposed Action would not affect low income or minority populations at a disproportionately higher level than other population segments. Therefore, no adverse direct or indirect effects would occur to

any environmental justice populations within the General Study Area under the Proposed Action for 2014 and 2019.

Energy Supply

Under the Proposed Action, the optimized air traffic routes would improve the efficiency of air traffic routes and operations, including continuous climb-outs and optimized descents, where possible. However, aircraft fuel consumption would increase slightly compared with the No Action Alternative.

Aircraft fuel burn is considered a proxy for determining whether the Proposed Action would have a measurable effect on local energy supplies when compared with the No Action Alternative. The FAA's NIRS model calculates aircraft-related fuel burn as an output along with calculating aircraft noise exposure. NIRS modeling indicated that slightly more fuel would be burned under the Proposed Action in comparison with the No Action Alternative (an increase of 9.8 metric tons (MT) or 0.40 percent in the first year of implementation (2014) and 9.6 MT or 0.36 percent in the five-year look-ahead year (2019). Given these relatively small increases, when compared with the No Action Alternative, the Proposed Action would not adversely affect local fuel supplies. Therefore, there would be no significant impact to energy supply that would exceed available or future supplies of energy.

Air Quality

The Proposed Action would not change the number of aircraft operations compared with the No Action Alternative. Although the Proposed Action would result in more efficient air traffic routes and operations, there would be a slight increase in emissions when compared with the No Action Alternative. The slight increase in fuel burn (as reported above for "Energy Supply") was used as an indicator that the Proposed Action would result in a slight increase in emissions from aircraft operations compared with the No Action Alternative. However, the Proposed Action is presumed to conform to the State of California's State Implementation Plan (SIP) for ozone (O_3), PM_{10}, and $PM_{2.5}$. Implementation would not cause or contribute to a new violation of the National Ambient Air Quality Standards (NAAQS), worsen an existing violation, or delay meeting the NAAQS.

Climate

Although there are no federal standards for aviation-related greenhouse gas emissions, the CEQ has indicated that climate should be considered in NEPA analyses. Greenhouse gas emissions were quantified in terms of carbon dioxide equivalent (CO_2e), which was calculated by multiplying the number of gallons of fuel projected to be burned under both the Proposed Action and the No Action Alternative by the CO_2e associated with each gallon of fuel burned (9.7438 kg of CO_2e). Based on the fuel burn values reported in the EA, CO_2e emissions would increase slightly with implementation of the Proposed Action compared with the No Action Alternative (30.7 MT or 0.40 percent more in the first year of implementation (2014) and 30.4 MT or 0.36 percent more in the five-year look-ahead year (2019)).

Cumulative Impacts

NEPA implementing regulations define cumulative impacts as the incremental impact of the action when added to the impacts of other past, present, and reasonably foreseeable future actions regardless of the agency, federal or nonfederal, undertaking such actions. Cumulative impacts can result from individually minor, but collectively significant actions taking place over a

period of time. A summary of past, present, and reasonably foreseeable future actions that were considered is provided in Table 5-10 in Chapter 5 of the EA.

Due to the nature of the Proposed Action (i.e., the lack of land disruption or construction activities), the FAA considered potential cumulative impacts for three categories: Energy Supply (Aircraft Fuel), Air Quality, and Climate. Consideration was given to the ability of the Proposed Action with other identified past, present, and reasonably foreseeable future actions to contribute cumulatively to impacts within these categories. Detailed discussion of the cumulative impact analysis with respect to energy supply, air quality, and climate is presented in Section 5.11 of the EA. Based on that analysis, the FAA does not expect the Proposed Action to result in significant cumulative impacts.

Mitigation

Thresholds of significance for any environmental impact category would not be exceeded due to the Proposed Action; therefore, no mitigation is being proposed as part of this project.

Other Considerations

The Proposed Action involves air traffic control routing changes for airborne aircraft only. The United States Government has exclusive sovereignty of airspace in the United States [49 U.S.C. Section 40103(a)]. Congress has provided extensive and plenary authority to the FAA concerning the efficient use and management of the navigable airspace, air traffic control, air navigation facilities, and the safety of aircraft and persons and property on the ground [49 U.S.C. Sections 40103(b)(l) and (2)]. To the extent applicable, and as there are no significant impacts under noise or compatible land use, the Proposed Action is consistent with the plans, goals, and policies for the area and with the applicable regulations and policies of federal, state, and local agencies.

VIII. AGENCY AND PUBLIC INVOLVEMENT

Public involvement and early consultation process began with the initiation of the preparation of the EA. FAA distributed an early notification letter to 129 federal, state, and local agencies and elected officials as well as to eight Native American tribes on December 4, 2012, and placed a legal notice in four major newspapers covering the General Study Area on December 9, 2012and a website was developed (www.oapmenvironmental.com). The FAA provided the web address in the public notices as well as the letters to agencies and elected representatives. Copies of the notification letter, legal notice, and comments received are provided in Appendix A of the EA. Elected officials and representatives from public agencies were invited to meetings held in Sacramento, Oakland, San Mateo, and San Jose, California, between September 16th and 20th, 2013. Representatives from Native American tribes were invited to a meeting to discuss the project in Sacramento on September 16, 2013.

The EA was released on March 25, 2014. The FAA updated the project website to reflect the release of the EA, including making the entire EA along with the underlying technical reports, available electronically. The FAA published notice of availability of the EA in four major newspapers. Digital copies were made available to 125 libraries; to the California State Office of Historic Preservation, to eight Native American tribes, and the United States Environmental Protection Agency (EPA). The FAA sent letters to the previous recipients of the early coordination letters to update them on the status of the project, advise them of the release of the EA (including the project's web address), and solicit comments. The names and addresses of parties who received notification of availability are listed in Appendix B of the EA. Five public

workshops to help the public understand the Proposed NorCal OAPM Project were held between April 14 and April 18, 2014 in centrally located, transit-accessible locations adjacent to the Study Airports.

IX. THE AGENCY'S FINDINGS

A. The NorCal OAPM Project will ensure the safety of aircraft and the efficient use of airspace. (49 U.S.C. § 40103(b)).

The Federal Aviation Act of 1958 gives the Administrator the authority and responsibility to assign by order or regulation the use of the navigable airspace in order to ensure the safety of aircraft and the efficient use of the airspace. In its continuous effort to ensure safety of aircraft and improve the efficiency of transit through the navigable airspace, the FAA will create or modify standard instrument departure procedures (SIDs) and standard terminal arrival routes (STARs) in the Northern California Metroplex. The project will enhance the efficiency of the airspace in the Northern California Metroplex by creating shorter, more predictable ground and vertical paths through the limited airspace in the Northern California Metroplex. This project will allow the FAA to begin to achieve its NextGen goals.

In deciding to implement the Proposed Action, the FAA carefully evaluated both the Proposed Action and the No Action Alternatives. The No Action Alternative will do nothing to improve the efficiency of the airspace nor address any of the three key causal factors for airspace efficiency. The No Action Alternative would not further the Agency's goal in transitioning to NextGen.

B. This project does not involve the use of any historic sites or other properties protected under Department of Transportation Act Section 303(c), also known as Section 4(f) or under the National Historic Preservation Act.

The project does not involve any physical development or modification of facilities and therefore no actual, physical use of resources protected under Section 4(f) of the Department of Transportation Act or Section 106 of the National Historic Preservation Act would result. The project would also not result in a constructive use of any protected property because it would not cause increases in noise sufficient to impair the value of those resources. None of the protected properties in the General Study Area have a quiet setting as a generally recognized purpose and attribute.

The project would not cause an adverse effect on historic resources listed on or eligible for listing on the National Register of Historic Places. This determination is based on consultation under Section 106 of the National Historic Preservation Act with the State Historic Preservation Officers in each state within the General Study Area.

C. Clean Air Act, Section 176 (c)(1) Conformity Determination (42 U.S.C. § 7506(c)).

The project is an air traffic control activity that adopts approach and departure procedures for air operations. It is presumed to conform under 72 Fed. Reg. 41565 (July 30, 2007). The project would not result in the development of physical facilities nor would it result in or induce an increase in operational capacity in the study area. Detailed analysis was not necessary to conclude that the project conforms with the purposes of the SIPs for the State of California. The project will not cause a new violation of the NAAQS, worsen an existing violation, or delay meeting the standards of the NAAQS in the study area.

D. Findings Pursuant to the Purpose and Need

Upon implementing the Proposed Action, the airspace that serves the Study Airports would include optimized air traffic routings to improve the efficiency of the air traffic routes. Based on the EA prepared for the Proposed Action, this FONSI/ROD is issued. Both the EA and the FONSI/ROD are hereby incorporated into this decision.

X. DECISIONS AND ORDERS

After careful and thorough consideration of the EA 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 National Environmental Policy Act and other applicable environmental requirements and will not significantly affect the quality of human environment or otherwise include any condition requiring consultation pursuant to Section 102(2)(C) of National Environmental Policy Act. Therefore, an environmental impact statement will not be prepared.

I, the undersigned, have reviewed the referenced EA including the evaluation of the purpose and need that this Project would serve, the alternative means of achieving the purpose and need, and the environmental impacts associated with these alternatives. I find the Project described in the EA is reasonably supported and issuance of a finding of no significance is appropriate. Therefore, an environmental impact statement will not be prepared.

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 EA.

Accordingly, under the authority delegated to me by the Administrator of the FAA, I approve the operational changes as described in the proposed action alternative and direct that actions be taken that will enable implementation of the Northern California OAPM project.

Approved: _____ 7/31/14

Elizabeth L. Ray
Vice President, Mission Support Services
Air Traffic Organization
Federal Aviation Administration

Date

RIGHT OF APPEAL

This FONSI/ROD 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 order is issued in accordance with the provisions of 49 U.S.C. § 46110. Any party seeking to stay implementation of 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.