Exemption No. 7960

UNITED STATES OF AMERICA DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION WASHINGTON, DC 20591

GRANT OF EXEMPTION

By letter dated July 18, 2001, Colonel Richard P. Packard (hereinafter referred to as "the petitioner"), United States Air Force (USAF), Commander, HQ AFFSA/CC, 1535 Command Drive, Suite D309, Andrews Air Force Base, Maryland 20762–7002, petitioned the Federal Aviation Administration (FAA) on behalf of the USAF for an exemption from § 91.209(a)(1) and (b) of Title 14, Code of Federal Regulations (14 CFR). The proposed exemption, if granted, would permit the USAF to conduct night-vision-goggle (NVG) lights-out training in certain military operations areas (MOAs).

The petitioner requests relief from the following regulation:

Section 91.209(a)(1) and (b) prescribes, in pertinent part, that no person may operate an aircraft from sunset to sunrise unless it has lighted position lights or a lighted anticollision light system.

The petitioner supports its request with the following information:

The petitioner states that because of evolving operational demands, the USAF requests relief from the requirements specified in § 91.209(a)(1) and (b) to conduct lights-out operations in specific MOAs. The petitioner adds that the request is made to

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support a vital training requirement to increase current proficiency levels of lights-out NVG operations in medium and low altitude airspace. The petitioner states that experience validates the requirement. The petitioner adds that across the mission spectrum, inexperience in lights-out operations was common. The petitioner notes that many pilots flew their first lights-out NVG sortie during their initial combat mission. The petitioner states that with advances in technologies and increased proliferation trends, the USAF anticipates greater resistance during night air missions and must be prepared to meet these threats. The petitioner states that by conducting lights-out

training before actual combat, pilots have an opportunity to achieve the confidence, proficiency, and situational awareness needed to be successful in combat. The petitioner adds that the USAF needs a solution that permits USAF pilots to train as they fight.

The petitioner states that because of the incompatibility between external aircraft lighting and NVG technology, a vast majority of NVG training must be conducted with reduced or extinguished external lighting. The petitioner points out that current Federal and USAF regulations permit reduced or lights-out training in restricted or warning areas. However, the petitioner adds that restricted airspace for this type of training is inaccessible to most units or limited because of competing demands. The petitioner states that there are a number of factors that limit access to designated special-use airspace, such as geographic location, aircraft fuel limitations, airspace conflicts, and weather. Further, the petitioner contends that the small size of some restricted airspace areas makes them unsuited for lights-out NVG training. In addition, the petitioner notes that while large warning areas are available offshore, this airspace lacks the terrain features needed to produce the reflected energy that allows NVGs to work properly. The petitioner adds that the reflected energy created by terrain creates albedo when it interacts with terrain. The petitioner states that albedo is the comparison of reflective properties of different objects within a particular scene and that the different reflective properties of various objects create contrast and detail within a scene. Therefore, the petitioner states that the more varied the terrain, the more albedo differences within the scene, which creates a more accurate image for the NVGs. The petitioner adds that the lack of albedo in many of the overwater areas seriously impacts the effectiveness of NVG operations. The petitioner notes that the lack of terrain also lends itself to a lack of horizon, which is more challenging and potentially hazardous. The petitioner adds that because air battles take place over varied terrain, flightcrews must train in this environment.

The petitioner states that, therefore, the USAF is requesting relief from § 91.209 to conduct lights-out NVG training in selected MOAs within the 48 contiguous States, Alaska, and Puerto Rico (the petitioner provided an attachment listing the specific

MOAs where, if relief is granted, NVG operations would take place). The petitioner states that the USAF's request applies to USAF active duty, Air National Guard, and USAF reserve aircrew. The petitioner provides the following restrictions to be placed on the USAF to maintain an equivalent level of safety:

- 1. Operations under this exemption will be conducted within MOAs published in Department of Defense (DOD) FLIP AP/1A, FAA Order 7400.8, Special Use Airspace, and in accordance with times of use criteria.
- 2. All operations will be conducted under the procedural requirements of a letter of agreement (LOA) between the USAF flying unit and the air traffic control (ATC) agency having jurisdiction over the MOA. The LOA must include the following provisions:
- a. The geographical boundaries, altitude restrictions, and name of the MOA to be used.
- b. The reasons and procedures to terminate lights-out configurations and return to normal lighting configurations in accordance with § 91.209 and USAF

instructions.

- c. Lost communication procedures.
- d. Loss of radar contact procedures, when applicable.
- e. Establishment of nonradar procedures when not in a radar environment.
- f. The types of aircraft and USAF units authorized to conduct NVG operations under the requested exemption.
- g. The notification procedures to advise the responsible ATC facility when lights-out operations begin and end.
- 3. As part of a unit's midair collision avoidance program, each unit's safety office, with coordination from each unit's tactics and training office, will ensure that all airfields and other flying operations within a 50-nautical-mile radius of the MOA used for lights-out training are thoroughly briefed on all aspects of the operation. Units sharing selected MOAs for lights-out training may combine their efforts.
- 4. A notice to airmen (NOTAM) will be issued 24 hours before any operations are conducted under this exemption. In addition, a message will be placed on each participating unit's local automatic terminal information service (ATIS), specifying the time and place of lights-out operations.
- 5. Aircraft equipped with onboard sensors will clear the airspace to be used for lights-out operations before such operations begin. Military radar units/radar approach control (MRU/RAPCON) controllers, when available, will monitor the MOA boundaries and immediately advise all participating aircraft when a nonparticipating aircraft enters the airspace. If a nonparticipating aircraft enters the MOA during lights-out operations, all participating aircraft will immediately restrict their operations as necessary to ensure the safety of the nonparticipating aircraft.
- 6. Each participating unit will ensure that the airspace manager of a MOA to be used for lights-out training submits a publication change to the visual flight rules (VFR) sectional charts posting an advisory to nonparticipating aircraft that states the potential for lights-out operations in the MOA. The advisory also will recommend checking NOTAMs and contacting local flight service stations to determine whether the MOA is scheduled or active with lights-out training.

The petitioner states that an equivalent level of safety is provided through a variety of conditions that, when executed in concert, increase the level of safety for all national airspace system (NAS) users.

Additionally, the petitioner states that the following measures will ensure that nonparticipating aircraft are provided with preflight and enroute notification of lights-out activities:

- 1. A NOTAM will be issued 24 hours before all lights-out operations ensuring that during the course of flight planning all NAS users will be provided information on the time and place of lights-out operations in selected MOAs.
- 2. Advisories will be placed on VFR sectional charts with lights-out operations information and reminders to check with the appropriate flight service station for NOTAMs. This should enhance the awareness of nonparticipating aircraft as to where and when lights-out operations may be expected.
- 3. Information briefings will be provided to local flying organizations to increase the awareness of lights-out operations and facilitate effective communication between

each USAF unit and the local airfields or flying organizations.

4. Advisories will be placed on local ATIS to provide additional notification of lights-out activities to transient aircraft.

The petitioner states that the following measures will ensure that nonparticipating aircraft are afforded the opportunity to see and avoid participating aircraft at distances greater than those currently required by 14 CFR:

- 1. Having aircraft with onboard radar sweep the area to ensure that no nonparticipating aircraft are within the MOA before commencement of NVG operations will provide warning of any aircraft approaching the MOA. When an approaching aircraft is detected, participating aircraft will immediately restrict NVG operations.
- 2. The use of MRU/RAPCON controllers will provide an additional measure of detecting nonparticipating aircraft. Lights-out operations will be immediately restricted when a nonparticipating aircraft enters the MOA.
- 3. Notifying ATC facilities on activation and termination of lights-out operations will ensure ATC is aware of the activities in the MOA and enable the controller to deconflict the surrounding airspace.

The petitioner adds that the inherent advantages of NVG technology will exponentially increase the distances at which a pilot with NVGs can detect a conventionally lit aircraft. The petitioner states that this increase in visual detection range, combined with the measures outlined above, will ensure that lights-out activities are halted before any nonparticipating aircraft would normally visually acquire a conventionally lit aircraft. The petitioner states that NVG technology affords an unequivocal advantage versus normal sight. The petitioner states that NVGs, coupled with onboard systems, optimize situational awareness and increase the overall safety of all aircraft, including nonparticipating aircraft, because of the nature of the human eye. The petitioner also states that typical unaided scotopic (night) vision ranges from 20/200 to 20/400. The petitioner states that when compared with the USAF NVG standard of 20/40, an individual using NVGs at night can see from 5 to 10 times more clearly than an individual with unaided vision. The petitioner adds that unaided night vision also causes a lack of color discrimination and creates a night blind spot. The petitioner states that NVGs also increase a pilot's outside-the-cockpit visual scan rate, which maximizes situational awareness while enhancing navigation, maneuverability, multiship operations, and the detection of aircraft with exterior lighting at vastly greater distances than during day VFR flight.

The petitioner states that this exemption, if granted, would not change the overall usage of MOAs by the USAF or limit access to these MOAs. The petitioner states that the USAF wants to ensure that any questions regarding access to MOAs is addressed using accurate information. The petitioner states that the average total number of sorties flown per 24-hour period is projected to remain the same. The petitioner adds that, of that number, approximately one-third would be night sorties and only a portion of that amount would be projected to be lights-out. The petitioner states that what this bears

out is that night sortie occurrence is limited in scope to the overall usage of MOAs in general and would not limit any constituency access to MOAs now or in the foreseeable future. The petitioner also contends that access to the MOAs will be with a greater

margin of safety than the USAF now has.

The petitioner states that granting its request for an exemption would be in the public interest. The petitioner states that the USAF's mission is to defend the United States through the control and exploitation of air and space. The petitioner also states that relevant, agile technologies that preserve a clear military advantage are the keys to deterrence, readiness, and USAF mission accomplishment. The petitioner states that NVGs are an example of these technologies and, to be used effectively in conflict, they must be used realistically in training. The petitioner further states that advances in night vision technology will likely migrate into civilian aviation and lead to safer night VFR operations for the general and commercial aviation communities.

A summary of the petition was published in the Federal Register on October 29, 2001 (66 FR 54565), and 50 comments were received. Forty-seven comments were submitted by individuals; one comment was submitted by the Helicopter Association International (HAI); and two comments were submitted by the Aircraft Owners and Pilots Association (AOPA), one of which was a duplicate. Of the 49 unique commenters, 42 oppose a grant of exemption and 7 support a grant of exemption.

The commenters that oppose a grant of exemption state that allowing the USAF to conduct lights-out operations would be extremely dangerous and result in an increased risk of nighttime collisions with general aviation aircraft flying under VFR. Most of these commenters suggest that the USAF has an equal responsibility with general aviation pilots to see and avoid other aircraft in its vicinity, regardless of the importance of the military operations taking place. Six individual commenters discuss the accident that happened in Florida on November 16, 2000, where a USAF F-16 collided with a Cessna 172. The commenters argue that granting the exemption would make similar collisions likely. Of the individual commenters, six note that the demands placed on military pilots flying at night, especially at low altitudes and high speeds, are already very high. They argue that conducting flights without running lights would only add to the pilot's burden. One individual commenter notes that granting this exemption also would place an additional burden on the already-overburdened ATC system that must help notify civilian aircraft of lights-out operations and assist in collision avoidance. Sixteen individual commenters argue that the requested operations should be accomplished only in existing restricted military flight operation areas.

One individual commenter notes that conducting lights-out training would increase the already-high risk of collisions between high-speed military aircraft and civilian aircraft. The commenter notes that § 91.117(d) permits aircraft to exceed the 250-knot maximum safe speed limit below 10,000 feet if the aircraft's operating limitations require a higher speed to be maintained. This regulation allows military fighter aircraft to exceed the maximum safe speed limit in areas with regular commercial air traffic. The commenter states that military studies have found that a military pilot takes 17 seconds to complete a visual scan around his or her aircraft. The commenter states that this scan must occur 3 times a minute to resolve any potential air traffic conflicts, leaving only 3 seconds remaining per minute to complete all other flight tasks in the cockpit. The commenter argues that such demands are impossible for any pilot to perform safely. The commenter states that, therefore, the high speeds at which military aircraft travel make visual resolution of possible air traffic conflicts virtually impossible.

Seven individual commenters support a grant of exemption, stating that such operations are

necessary for the proper training of military pilots for wartime missions. One individual commenter states that the increased risk of collision posed by a grant of exemption is outweighed by the need for proper military flight training. Another individual commenter agrees with the petitioner that the use of NVGs will make it easier for military pilots to see and avoid civilian aircraft operating in their vicinity. Four individual commenters generally oppose a grant of exemption but state that the requested operations could be conducted safely with added safeguards in place. One individual commenter suggests that a grant of exemption would not compromise safety, provided the FAA issues a NOTAM to all responsible facilities within 150 nautical miles of the area affected by the planned operations at least 2 hours in advance of any such flights. Another individual commenter suggests that the requested operations could be conducted safely, provided local civilian air traffic controllers maintain constant radar contact with the military aircraft conducting the operations.

The HAI opposes a grant of exemption and states that conducting lights-out nighttime operations would compromise safety and increase the probability of midair collisions. The HAI agrees with other commenters that further procedural safeguards are necessary to conduct the requested operations safely and that such safeguards are not adequately addressed in the USAF's petition. The HAI notes that in the aeronautical information manual (AIM), the FAA instructs pilots flying under VFR conditions in a MOA to use extreme caution. The HAI argues that allowing military pilots to fly in such areas at night without running lights eliminates a civilian pilot's ability to visually acquire military aircraft operating in their vicinity.

The AOPA states that it is deeply concerned about the precedent that would be established with a grant of exemption, noting that under § 91.113(b), all civilian and military aircraft must maintain vigilance to see and avoid other aircraft. The AOPA states that the USAF is essentially requesting an exemption from the requirements of § 91.113(b) that would allow it to abdicate its responsibility to be visible to other pilots when flying at night. The AOPA requests that the FAA provide official guidance acknowledging the USAF's responsibility for collision avoidance during lights-out operations. The AOPA notes that national security might require such operations but states that if such operations are to be allowed, proper safeguards must be put in place to ensure the safety of civilian pilots.

In addressing the issue of safeguards, the AOPA states concerns about the inadequacy of the current NOTAM system regarding special-use airspace. The AOPA notes that for civilian pilots to have adequate notice of lights-out operations, they must have access to NOTAMs issued by the military. The AOPA states, however, that even expanded use of NOTAMs would not address its concerns about the lack of real-time notification when the USAF conducts lights-out operations because an air traffic controller's workload will often prevent him or her from providing notification to civilian pilots when the USAF engages in such operations. The AOPA criticizes the petitioner's suggestion of broadcasting notification using ATIS because it claims this will not provide adequate notification for pilots in areas without an ATIS or in remote areas where ATIS transmissions cannot reach. The AOPA states that, regardless of how notification is accomplished, it must inform pilots of the time of operation and the altitudes and geographical boundaries of the operation for it to be effective. The AOPA recommends that all nonradar and lost communication procedures contained in LOAs between using and controlling agencies be published in the AIM to help civilian pilots better understand their operating environment. Further, the AOPA states that the USAF's

proposal to initiate a program to educate users on all aspects of lights-out operations must be ongoing and that the FAA should develop an advisory circular on the operational nature of lights-out operations in MOAs.

The AOPA further suggests that aircraft with onboard sensors could be used to clear the affected airspace before lights-out operations begin. However, the AOPA states that military aircraft using onboard radar to search for general aviation aircraft operating in their vicinity may not be effective because military airborne radars are often unsuitable for tracking slow-moving aircraft. The AOPA also notes that the petitioner's suggestion to use ground-based radar to maintain contact with aircraft operating in an MOA where lights-out operations are taking place would not protect those MOAs with incomplete radar coverage. The AOPA expresses concerns that the specifications for charting MOAs to be used under the requested exemption have not yet been completed. The AOPA suggests that all relevant contact information for the agency responsible for scheduling lights-out operations should be included on sectional charts and in the airports and facilities directories for the regions where operations are to take place. Further, the AOPA suggests that the FAA and the USAF establish an action plan, including an implementation timetable for integrating information from the military airspace management system into the FAA's special-use airspace management system. The AOPA stresses the importance of all controlling agencies accurately reporting the status of their airspace complexes.

The AOPA and one individual commenter state that a 10-day comment period is woefully inadequate to address the issues raised by the requested exemption, noting that the typical comment period is 20 days. The AOPA and the individual commenter also note that the USAF fails to address several key issues in its petition that are crucial in considering the safety implications of the requested exemption. The AOPA states that the USAF did not reveal the criteria it used to choose the MOAs for lights-out operations, preventing consideration of some key factors, such as radar coverage, communications, and the volume of nonparticipating aircraft traffic under the exemption. Further, the AOPA notes that the petitioner fails to address possible expansion of lights-out operations conducted under the requested exemption. The individual commenter expresses a similar concern, stating that the exemption being considered has too great an impact on the safety of civilian flight operations to be addressed through the exemption process and that a rulemaking with an extended comment period would be more appropriate.

The FAA's analysis/summary is as follows:

The FAA has considered the petitioner's supporting information as well as the information provided by comments supporting and opposing the petition. The FAA finds that a grant of exemption is in the public interest (including the national security interests of the United States) and would provide a level of safety equivalent to that under the regulation provided certain conditions and limitations are adhered to. (See e.g., 49 U.S.C. §§ 40101(d) and 44701(a).)

The FAA finds that the USAF has gained sufficient operational experience to support granting this petition. The FAA notes that Exemption No. 5891, as amended, permits the USAF to conduct helicopter NVG flight training operations without lighted position or anticollision lights at or below 500 feet above ground level, as well as Exemption No. 7687 which permits NVG flight training at or above 18,000 feet in air traffic control assigned airspace areas.

The FAA also finds that the USAF's use of NVGs can provide an added level of safety because of the user's ability to detect conventional lighting at extended distances. The FAA believes, however, that despite this increased visibility during hours of darkness, NVGs effectively limit the user's peripheral vision and that using the NVG system during maneuvering may limit the user's vision to only the target or object in view. The FAA believes that this reduced field of view during use of NVGs may lead to a lack of see-and-avoid capability. Therefore, the FAA finds that it is imperative that flightcrews using NVGs operate in monitored airspace. The FAA also finds that persons monitoring flight operations activity must make pilots of participating aircraft aware of the presence of nonparticipating traffic. The FAA finds that pilots of participating aircraft must be prepared to alter course and revert to normal lighting conditions in the event of a potential conflict with other air traffic.

The FAA finds that an equivalent level of safety will be maintained because all operations to and from the MOA will be conducted in accordance with all FAA regulations and Air Force Instruction 11–202, volume 3. The FAA also finds that under this grant of exemption, operations will be permitted only in those MOAs listed in Attachment 1 to this grant of relief (1) that will be continuously radar-monitored by military personnel who have the ability to alert pilots operating aircraft that are not operating under this exemption and who have the ability to terminate lights-out operations, and (2) in that volume of airspace where the radar is capable of detecting all nonparticipating aircraft including those that are not transponder-equipped and have small radar cross-sections. The FAA adds that participating aircraft in the operational MOA must meet the requirements of § 91.215, ATC Transponder and Altitude Reporting Equipment and Use, and maintain two-way radio contact with DOD controlling units. The FAA states that all operations will be conducted in accordance with the conditions and limitations provided under this grant of exemption. The FAA believes that, in the interest of safety, lights-out operations training in civil airspace must include a provision to terminate lights-out operations when a civil aircraft enters the airspace. Section 91.113 states, in part, that "...vigilance shall be maintained by each person operating an aircraft so as to see and avoid other aircraft." Relief from the requirements of § 91.209(a)(1) and (b) does not permit either the petitioner or pilots of nonparticipating aircraft to abrogate responsibility to see and avoid other aircraft. All pilots must maintain vigilance as required by the rule. However, the FAA understands that the pilots of nonparticipating aircraft, while maintaining vigilance in accordance with the rule, may be unable to see participating aircraft. Since participating aircraft may be nearly impossible to see under the best of conditions, the petitioner must accept responsibility for full compliance with the requirements of § 91.113.

The FAA recognizes the concerns of those who submitted comments regarding a pilot's high workload in high-speed, maneuvering flight and the reduced ability of the nonparticipating aircraft to recognize, see, and avoid potentially conflicting traffic. However, the FAA believes that the development of the procedures required by the conditions and limitations applied to the USAF will mitigate those safety concerns.

In addition, the FAA Flight Standards Service will provide information to be published

in the AIM that will provide clarification of the procedures developed for these operations and additional guidance for pilots who operate civil aircraft in the MOAs.

It will be the responsibility of the USAF to provide a timely and accurate dissemination of the appropriate information in such a fashion that civil users of the airspace will be cognizant of ongoing operations.

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. §§ 40101(d), 40113, and 44701 delegated to me by the Administrator, the United States Air Force is granted an exemption from 14 CFR § 91.209(a)(1) and (b) to allow the USAF to conduct NVG lights-out training in MOAs listed in Attachment 1 to the petition dated July 18, 2001, subject to the following conditions and limitations:

- 1. Operations conducted under this exemption are limited to NVG flight training in the specific MOAs listed in the attachment to this exemption.
- 2. Operations conducted in selected MOAs must be continuously monitored by military personnel to detect all nonparticipating aircraft. The monitoring must be accomplished by radar capable of detecting nonparticipating aircraft, including those that may not be transponder-equipped and/or have a small radar cross-section, in the active volume of operational airspace.
- 3. Military personnel will immediately advise all participants when a nonparticipating aircraft has entered the active volume of operational airspace. Participating aircraft will maintain a continuous listening watch on a designated frequency during lightsout operations. If a nonparticipating aircraft is determined to pose a threat of conflict or collision risk, all participating aircraft will immediately restrict their operations, return to normal lighting conditions, and alter course as necessary to ensure the safety of the nonparticipating aircraft.
- 4. All NVG flight training operations conducted under this exemption must be contained within a prescribed and publicized area that—
- a. Is identified by name in a NOTAM that must be issued at least 48 hours before the lights-out operations are to begin. In other words, no person may operate an aircraft under this exemption unless a NOTAM concerning the lights-out operation was issued at least 48 hours before the lights-out operation. The NOTAM will advise that, during the course of flight planning, potential users of the MOA will be provided with information on the time and place of the proposed lights-out operations. The NOTAM must be made available to the civil aviation community and must be capable of being disseminated among civil users of the NAS.
- b. Has been coordinated with the appropriate geographically responsible FAA ATC facility.
- c. Has the capability of being monitored for nonparticipating traffic.

5. The USAF must—

a. Establish a procedure to provide informational briefings to local flying organizations, businesses, and other civilian users within 100 nautical miles of the MOA airspace. These briefings must be provided on an annual basis and

must be coordinated with the manager of the geographically responsible Flight Standards District Office. The intent of the informational briefings shall be to increase their awareness of lights-out operations and facilitate effective communications between the USAF and the civilian users of the MOA airspace.

- b. Develop procedures to provide advisories to transient operators of the MOAs to notify them that selected MOAs are in use for lights-out operations. The use of ATIS may be sufficient only if such transmissions can reach all air traffic operating within the selected MOA. Some notifications may be made through the use of NOTAM/Special Notices disseminated at least 48 hours in advance of scheduled exercises. Other procedures may be applicable based on the location of the MOA and proximity to airports, FAA facilities, and potential aircraft and operators.
- c. Develop an LOA for lights-out operations in MOAs. The LOA must be coordinated with and agreed to by the FAA ATC facility that has geographic responsibility for the airspace to be used, and must include—
- (1) Procedures for the immediate termination of lights-out operations in the event of conflicting, nonparticipating traffic.
- (2) Procedures for the immediate termination of lights-out operations if a lights-out aircraft spills out of the MOA.
- (3) Procedures for the loss of communications.
- (4) The type of aircraft and/or USAF unit(s) to be conducting lights-out training operations.
- (5) A way of notifying the geographically responsible FAA ATC facility upon activation and termination of lights-out operations to ensure that FAA ATC is aware of the activities in the MOA.
- (6) The geographical boundaries, altitude restrictions, and the name of the MOA in which operations under this exemption are authorized.
- (7) Procedures for loss of radar contact.
- 6. Each pilot who participates in operations conducted under this exemption must be thoroughly familiar with its provisions.
- 7. Failure to comply with all of the provisions of this grant of exemption may result in a revocation or cancellation of this grant of exemption.

Please note that in an effort to allow the public to participate in tracking the FAA's rulemaking activities, we have transitioned to the Department of Transportation's online Docket Management System (DMS) at http://dms.dot.gov. This new docket system enables interested persons to submit requests to, view requests on, and download requests from the DMS to comply with 14 CFR § 11.63. Please submit future requests through the DMS. This exemption terminates on January 31, 2005 unless sooner superseded or rescinded. Issued in Washington, DC, on January 24, 2003.

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Louis C. Cusimano Acting Director, Flight Standards Service

Enclosure

MOA MOA

Airburst A, B, & C *Jarbidge (Proposed)
Avon E, N, S Juniper Lo & N/S
Bagdad Kingsville 1, 2, 3, 4, & 5

Basinger Kiowa
Beaver Lake Andes
Birch Lake Placid
Bison Lindbergh
Brownwood (All) Lucin A/B/C
Bronco 1/2/3/4 Marian

Bruneau 1 /2 Moody – 1, 2, N&S, 3

Brush Creek Morenci Buckeye Naknek Buffalo Olympic O'Neill Bulldog A, B, D Camden Ridge Outlaw Cato Owyhee **Paradise** Chippewa Condor 1 & 2 Pecos Crypt N, Cen & S Pike E & W Desert Pine Hill

DeSoto 1 & 2 Powder River A & B

Devils Lake E/W Red Hills
Duke Reserve
Eielson Reveille
Eureka Hi & Lo Rose Hill
Falcon 1 & 3 Saddle A& B

Falls 1 & 2 Salem Farmville Saylor

Fox 1, 2, 3 Sells 1 & Low Galena Sevier A/B/C/D

Gamecock A, C, D, I Seymour Johnson (Echo)
Gandy Sheep Creek 1/2/3

Gladden Smoky
Goose Smoky High
Hart N/S Snoopy – West
Hays Steelhead
Hill Top Stony A & B
Hog N/S Hi & Lo Sustina

Howard East/West Syracuse 1, 2, 3, 4

JackalTaibanJackal LowTalonMOAMOA

Truman A, B, C Twelve Mile East/West Volk – East, West, South Warrior 1, 2, 3 (Hi/Low) Yankee 1 & 2 Yukon Tiger N/S
Tombstone A, B, C
*Jarbidge will combine all of Bruneau
Sheep Creek and Saylor MOAs.

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