

In the
United States Court of Appeals
For the Seventh Circuit

No. 00-2821

Bert M. Yetman, Jerry L. Adams,
Frank L. Ahern, et al.,

Petitioners,

v.

Jane Garvey, Administrator,
Federal Aviation Administration,

Respondent.

On Petition for Review of an Order
of the Federal Aviation Administration.
No. FAA-2000-8016

Argued May 7, 2001--Decided August 14, 2001

Before Flaum, Chief Judge, and Ripple and
Diane P. Wood, Circuit Judges.

Flaum, Chief Judge. Sixty-nine pilots, all either approaching or having reached the age of sixty, petitioned the Federal Aviation Administration ("FAA") for exemptions from the agency's "Age Sixty Rule." The FAA, which has never granted such an exemption, continued that trend by denying the pilots' requests. Petitioners now seek review of the FAA's decision in this court. For the reasons stated herein, we affirm the order of the FAA.

I. BACKGROUND

In *Baker v. FAA*, a group of airline captains sought review of an FAA order which had denied their petition for exemptions from an agency rule that prohibits those who have reached the age of sixty from serving as pilots. 917 F.2d 318 (7th Cir. 1990) While we ultimately affirmed the decision of the FAA not to grant the requested exemptions, we cautioned the agency that its Age Sixty Rule was not sacrosanct and untouchable. *Id.* at 322. Further, we counseled the FAA that serious consideration should be given to the petitioners' position that granting exemptions would not increase

the risk of air travel accidents. Since that decision, over a decade has passed, but the FAA has held fast to its blanket policy of denying requests for exemptions. Thus, once again, a group of pilots, all either past the age of sixty or approaching that age, have come before this court in an effort to have us declare that the FAA's policy constitutes an abuse of discretion. Because the history of the rule at issue has been discussed extensively in published opinions, both from within and outside this circuit, see *Aman v. FAA*, 856 F.2d 946, 947-49 (7th Cir. 1988); *Starr v. FAA*, 589 F.2d 307, 309 (7th Cir. 1978); *Professional Pilots Fed'n v. FAA*, 118 F.3d 758, 760-62 (D.C. Cir. 1997), at this juncture, we will only provide a brief recitation.

Under the Federal Aviation Act of 1958, the FAA is charged with promoting safety in the skies by prescribing minimum standards in such areas as aircraft design, aircraft inspection, and pilot qualifications. 49 U.S.C. sec. 44701. The Act also requires the FAA to promulgate regulations "in the interest of safety for the maximum . . . periods of service of airmen and other employees of air carriers." *Id.* at sec. 44701(a)(4). Each responsibility delegated to the FAA by the Act must be carried out in a way which tends to reduce or eliminate the possibility or recurrence of accidents in air transportation. *Id.* at sec. 44701(c).

Responding to its mandate, in 1959, the FAA promulgated what has become known as the Age Sixty Rule, limiting the age past which individuals can pilot certain aircrafts. More specifically, the regulation prohibits any air carrier from using the services of any person as a pilot, and prohibits any person from serving as a pilot, on an airplane engaged in operations under Part 121 if that person has reached his or her 60th birthday. 14 C.F.R. sec. 121.383(c). As an initial justification for its rule, the agency argued that the regulation promotes air safety, as "available medical studies show that sudden incapacitation due to heart attacks or strokes becomes more frequent as men approach age sixty and present medical knowledge is such that it is impossible to predict with accuracy those individuals most likely to suffer

attacks." Air Line Pilots Ass'n, Int'l v. Quesada, 276 F.2d 892, 898 (2d Cir. 1960). Notwithstanding advances in the medical field, and the fact that the dictate has been challenged continually over the past forty years, today the Age Sixty Rule remains in force./1

Relevant to this review, the Federal Aviation Act also provides for the granting of exemptions to any regulations promulgated by the agency pursuant to the Act. According to 49 U.S.C. sec. 44701(f), the FAA may grant an exemption from its requirements if it finds that such an exemption is in the public interest. However, the FAA has established a rigorous benchmark for proving that an exemption is in the public interest, as a petition requesting one must contain any information, views, or arguments available to the petitioner to support the action sought, the reasons why the petition would be in the public interest and the reason why the exemption would not adversely affect safety or how the action to be taken by the petitioner would provide a level of safety equal to that provided by the rule from which the exemption is sought. 14 C.F.R. sec. 11.81 (formerly 14 C.F.R. sec. 11.25(b)(5)). And while that standard had proved insurmountable to pilots for thirty-five years, in 1995, the FAA further hardened its stance, announcing that future petitions for exemptions would be summarily denied unless the petitions contain a proposed technique, not previously discussed, to assess an individual pilot's abilities and risks of subtle and sudden incapacitation. 60 Fed. Reg. 65,980 (1995).

On April 11, 2000, a petition for exemptions was filed on behalf of Jerry L. Adams and sixty-eight other commercial airline pilots. In support of the petition, the pilots submitted their complete medical records and 286 additional exhibits. Besides evidence which tended to attack the basis of the Age Sixty Rule, the petitioners also included the recommendations of a panel of eight renowned physicians in the fields of cardiology, geriatric medicine, internal medicine, aerospace medicine, and neuropsychology ("Age Sixty Exemption Panel"). According to the petitioners, the Age Sixty Exemption Panel had developed a comprehensive and realistic protocol to evaluate the

medical/neuropsychological status of pilots seeking to continue their services in airline operations after the age of sixty. Despite the panel's recommendation that the petitioners be granted exemptions, the FAA determined that the pilots' proffers did not meet the agency's promulgated standards, and thus summarily denied the petition. When the petitioners filed for review of that decision in this court, the FAA requested and received a remand in order to reconsider whether the petitioners had demonstrated that an exemption to the Age Sixty Rule was warranted. Following the remand, the FAA solicited comments from interested parties, receiving over eight hundred such statements. Nonetheless, in a fairly extensive opinion dated December 13, 2000, the FAA again denied the petitioners' requests, prompting this appeal.

II. DISCUSSION

In reviewing the FAA's order, we are not to judge whether the petitioning pilots are fit to fly. Further, we are not to reexamine the validity of the Age Sixty Rule itself, already affirmed as it has been, or reweigh the evidence introduced before the FAA when the determination was made to keep the rule in force.² See *Starr*, 589 F.2d at 309. Rather, we focus solely on the petition for exemptions, reviewing the FAA's findings of fact for substantial evidence. See *Aman*, 856 F.2d at 951. In other respects, including most notably the administrator's application of the legal standards to the facts as found, the FAA's decision to deny an exemption may be set aside if arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law—the generally applicable standard of review for administrative actions under 5 U.S.C. sec. 706(2)(A). See *id.* As such, we examine the agency's decision to ensure that it was based on a consideration of the relevant factors and articulated a rational connection between the facts found and the choice made. See *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 42-43 (1983). All the while, petitioners have the burden of showing that circumstances justify exemptions from the Age Sixty Rule, especially given the FAA's discretionary authority to act in this

area. See Baker, 917 F.2d at 319. Indeed, it is a heavy burden that petitioners bear, as daunting problems of public safety are implicated by the decision whether to grant exemptions to the Age Sixty Rule. And though it cannot be denied that possible age discrimination forms a dimension of the issue, safety is and must be the dominant consideration. See id.

A. Inconsistent Determinations

In *Aman*, we cautioned that the deference accorded to agency action "should not be equated with a license to issue inconsistent determinations." 856 F.2d at 957. A long line of precedent has established that an agency action is considered arbitrary when the agency has offered insufficient reasons for treating similar situations differently. See, e.g., *State Farm Mutual Auto.*, 463 U.S. at 57 (citing *Greater Boston Television Corp. v. FCC*, 444 F.2d 841, 852 (D.C. Cir. 1970)); *Transactive Corp. v. United States*, 91 F.3d 232, 237 (D.C. Cir. 1996); *Airmark Corp. v. FAA*, 758 F.2d 685, 691- 92 (D.C. Cir. 1985). Here, the pilots assert that the FAA has rendered inconsistent determinations. According to the petitioners, the FAA has allowed certain pilots past the age of sixty to fly in United States airspace, and has granted exemptions to pilots with known medical conditions. Petitioners claim that the agency's failure to adequately explain why it has chosen to treat those pilots differently from the petitioners here renders the FAA's decision in this instance an abuse of discretion.

1. Pilots Flying Past The Age Of Sixty

In support of the assertion that the FAA has rendered inconsistent determinations, the pilots have advanced two circumstances in which the FAA has allowed pilots past the age of sixty to fly. First, the pilots note that while the FAA prohibits United States common carriers from employing healthy pilots who are over the age of sixty, at the same time, the agency allows foreign carriers operating in United States airspace to employ pilots who are beyond that age. Second, the petitioners point out that from 1995 through 1999, while the FAA sought to bring commuter

planes/3 under the safety rules that apply to major airline carriers, the agency allowed commuter airlines to employ pilots who were past the age of sixty. The petitioners further note that during that time period, National Transportation Safety Board ("NTSB") reports reveal that no accidents involving pilots over sixty occurred, though the regional airline pilots were operating similar equipment and flying in and out of the same airports as the pilots for the larger commercial airlines.

The FAA suggests that there are compelling reasons why it permits foreign pilots, and why it permitted commuter pilots, to contravene the substance of its Age Sixty Rule. In responding to its policy of permitting certain pilots employed by foreign air carriers to serve beyond sixty, the FAA notes that the United States is a signatory to the Convention on International Civil Aviation, Dec. 7, 1944, 61 Stat. 1180, 15 U.N.T.S. 295 ("Chicago Convention"). Pursuant to Article 37(d), the International Civil Aviation Organization ("ICAO") is directed to adopt standards for the licensing of pilots. While the ICAO has adopted an age sixty limitation for pilots-in-command of large aircrafts traveling internationally, the organization only recommends that age limitation for co-pilots. As the FAA points out, under 49 U.S.C. sec. 40105(b)(1)(A) & (B), the FAA must act consistently with obligations of the United States Government under an international agreement, and consider applicable law and requirements of a foreign country. Thus, the FAA maintains, it must as a matter of law allow foreign co-pilots over sixty to fly irrespective of the FAA's own regulations.

As for its decision to allow pilots over sixty to fly commuter planes between 1995 and 1999, the FAA seeks to explain the uniqueness of that situation. Responding to a series of high profile accidents involving commuter planes, the FAA, at the behest of the NTSB, sought to increase safety in scheduled passenger-carrying operations and to clarify, update, and consolidate the certification and operations requirements for persons who transport passengers or property by air for compensation or hire.

60 Fed. Reg. 65,832. Thus, in 1995, the agency determined that commuter airline pilots should be subject to the FAA regulations applicable to major airline carriers, including the Age Sixty Rule. Originally, when the FAA sought to bring Part 135 operations under the Part 121 requirements, it proposed that the Age Sixty Rule would take effect for commuter operations one year after publication of the final rule. However, in response to comments requesting a more delayed effective date, the FAA agreed to a four-year compliance period for pilots already employed by commuter airlines. The FAA asserts that by granting the extended compliance period, it provided pilots who had a reasonable expectation that they would be allowed to fly time to plan for retirement or for changing jobs, and allowed for regional airlines to recoup services for a longer period from pilots whom they had recently invested money in training. Thus, according to the FAA, these special circumstances provided a rational basis for the agency's decision to temporarily treat commuter pilots differently.

Statistics accumulated from the flights of foreign and commuter airline pilots, sixty and over, may provide the FAA with the data needed in order to determine whether continuation of the Age Sixty Rule is warranted. These pieces of evidence, and other comparable statistics, would certainly be relevant in a challenge to the Age Sixty Rule itself. But, under this exemption review, most are not. Here, we are limited to determining whether the FAA's decision to allow foreign and commuter pilots "virtual exemptions" while denying domestic pilots those opportunities constitutes an abuse of discretion. That being said, we find that the FAA has provided rational justifications for these supposed inconsistencies.

The FAA has a legitimate rationale for treating foreign carriers differently from domestic carriers. Section 40105 does require that the FAA act consistently with, in this instance, our obligations under the Chicago Convention. Thus, if foreign carriers have adequately licensed co-pilots past the age of sixty, we must allow them to operate in our airspace. Yet, by no means does the fact that our treaty obligation mandates that

we allow foreign countries to take actions inconsistent with our regulations call into question the validity of our regulations. See Professional Pilots Fed., 118 F.3d at 768. Likewise, in the confines of this review, we believe the temporary inconsistency involving commuter pilots to be of little import. The FAA has provided a rational explanation why it allowed Part 135 pilots over sixty to fly for four years. We fail to see how the practical delay in implementation, while the FAA increased the scope of its Age Sixty Rule, could call into question the validity of the FAA's decision not to grant these exemptions.

2. Medical Exemptions For Disqualified Pilots Under Sixty

While the petitioners acknowledge that the age sixty pilots who have flown in this country have not done so pursuant to exemptions similar to the type that is being requested here, they nonetheless assert that the FAA has an inconsistent standard for granting exemptions. In support, petitioners submit that the FAA grants special issuance exemptions to pilots under sixty with a wide array of demonstrable, progressive, and otherwise disqualifying diseases, subject to periodic monitoring, 14 C.F.R. sec. 67.401, while denying exemptions to age sixty pilots with no known diseases because of a professed fear of unknown or subtle and undetectable defects. For example, petitioners note that the FAA will forbid an apparently healthy pilot over the age of sixty to fly because of the risk that he or she might have a first heart attack while, at the same time, allow a younger pilot to fly in spite of the higher statistical risk that he or she might suffer a second heart attack. Not only is such a decision arbitrary and capricious, according to the petitioners, but it calls into question the veracity of the agency's proffered explanation for grounding pilots over sixty--for if the FAA is able to adequately monitor the health of those under sixty with known medical conditions, then surely the agency could monitor those healthy pilots who have reached the age of sixty.

This is not the first time that pilots have presented this exact argument to

this court. In 1978, we rejected this argument. See *Starr*, 589 F.2d at 313. In 1990, we rejected this argument. See *Baker*, 917 F.2d at 322. The fact that petitioners have sought to reintroduce it in the year 2001 has not added any validity to the contention.⁴ First, as we noted in *Starr*, just because the FAA may have established more lax exemption policies for one set of circumstances does not require such a policy in other circumstances. "[E]ven if those more liberal exemption policies were found to be unsafe, that does not justify introduction of another program which the FAA's own experts consider unsafe." *Starr*, 589 F.2d at 313. A policy of exemptions is intended to provide an administrator with flexibility. To mandate that the FAA is required to give exemptions to age sixty pilots simply because it grants exemptions to pilots under sixty with known medical conditions would be to completely cabin the FAA's discretion--forcing the agency to either grant every exemption or never grant an exemption.

Yet more importantly, the FAA has provided a rationale for its decision to grant exemptions to younger pilots with known medical conditions. "When a special issuance medical certificate is granted, the condition in question has been clearly identified, and the agency has been able to develop a means of assessment and surveillance specially designed to demonstrate the individual's capabilities and to identify any adverse changes." 60 Fed. Reg. 65,984. However, the more subtle forms of physical and mental decline that may accompany aging often cannot be detected, let alone monitored or controlled. While we may not find this distinction convincing in all respects, see *Baker*, 917 F.2d at 322, the difference between the two groups is adequate to warrant the distinction that the FAA has drawn, and to preclude a finding that the FAA is acting arbitrarily and capriciously in this regard. See *Professional Pilots Fed'n*, 118 F.3d at 767.

3. Change In World Standards

Finally, the petitioners assert that the FAA's decision to deny their petition is inconsistent, given the fact that there has been a change in the world standard

with regard to age limitations for pilots. Effective July 1, 1999, Europe's Joint Aviation Authority adopted age sixty-five as the standard retirement age for commercial pilots among its 29 member states. Furthermore, the petitioners note that the ICAO age sixty standard has been rejected by two-thirds of the ICAO member states. That the FAA has maintained its Age Sixty Rule in the face of viable alternatives, according to the pilots, goes to show that the agency has blindly adhered to an outdated rule.

Once again, we do not dispute that the practices of foreign carriers might provide guidance for the FAA in considering alternatives to its Age Sixty Rule. Perhaps statistics accumulated regarding foreign pilots over sixty will assist in showing that the age cutoff in this country should be raised, or dispensed with altogether. However, such evidence is of little significance in our review of the petition for exemptions. There is nothing inconsistent, arbitrary, or capricious in the FAA's decision to adopt a standard different from that of other countries. Caution, even excessive caution, will not constitute an abuse of discretion if the decision is made after considering the relevant medical advances. "[I]f it is evident that the agency has not shirked its duty to examine [new advances in medical testing] standards, but simply has chosen what it considers the safer of two or more opposing standards, this court will not examine further." *Starr*, 589 F.2d at 312. The pilots have not presented anything to suggest that the FAA has deliberately disregarded medical studies that other countries have not. Thus, we find the fact that other countries may have adopted an age sixty-five limitation (or even no limitation at all) not to warrant the granting of these exemptions.

B. Petitioner's Age Sixty Exemption Protocol

In addition to claiming that the FAA has a practice of rendering inconsistent determinations with regard to the Age Sixty Rule, the petitioners also present a more specific challenge to the FAA's decision in this case. Their contention is that the agency has disregarded the fact that these pilots have met the promulgated standard for granting exemptions--presenting (and passing) a

protocol which can accurately gauge an individual pilot's abilities and risks of sudden incapacitation. The petitioners assert that they have been examined by the Age Sixty Exemption Panel, which was formed in 1999 specifically to evaluate the medical/ neuropsychological status of airline pilots seeking to continue their employment after age sixty. According to the pilots, the panel has developed and approved medical and neuropsychological protocols for their use in evaluating the fitness of applicants for exemptions from 14 C.F.R. sec. 121.383(c). The testing which makes up the Age Sixty Exemption Protocol includes a complete medical history, physical examination, chem-screen profile, hemoccult, urinalysis, chest x-ray, audiometry, vision tests, tonometry, electrocardiogram, and exercise stress testing. The protocol also contains neuropsychological testing comprised of CogScreen Aeromedical Edition ("CogScreen-AE"), Wechsler Adult Intelligence Scale-Revised, Rey Auditory Verbal Learning Test, Trail Making Test, Controlled Oral Word Association Test, and the Paced Auditory Serial Addition Test. The Age Sixty Exemption Panel has determined that these tests, performed competently, together with other and further testing which may be medically and psychologically indicated, are sufficient to evaluate the fitness of pilots over sixty. Further, with regard to these sixty-nine pilots, the panel has utilized the protocol and concluded that subject to the satisfactory completion of the customary operational requirements of the FAA, the petitioners should be granted exemptions.

While the Age Sixty Exemption Protocol is certainly comprehensive, the vast majority of the protocol has been previously submitted to the FAA and rejected in the petitions for exemptions in Aman and Baker. With regard to the medical protocol suggested by the exemption panel, the FAA has concluded that the protocol is essentially identical to the one presented in Aman. That protocol was found insufficient to evaluate pilots, and petitioners have not put forth anything to suggest that the protocol, at this point, has any greater predictive value. As for the neuropsychological protocol, we recognize that there are several differences between the present protocol and the one

submitted in Aman. The Rey Auditory Verbal Learning Test, Controlled Word Association, and Paced Auditory Serial Addition Test in this petition substitute for the Welcher Memory Scale, Stroup Color Word Test, and Perceptual Speed Calculation Test relied upon in Aman. However, the FAA maintains, and the petitioners do not truly dispute, that these substitutions have been made without improving the test battery's diagnostic or predictive value. Thus, we must focus on what is truly new and relevant in the Age Sixty Exemption Protocol--the Cogscreen-AE--and determine whether, when combined with the previously rejected protocol, it provides an adequate means of evaluating petitioners as they reach and pass the age of sixty.

CogScreen-AE is a cognitive-screening instrument designed to rapidly assess deficits or changes in attention, immediate and short-term memory, visual-perceptual functions, sequencing functions, logical problem solving, calculation skills, reaction time, simultaneous information processing abilities, and executive functions. The test, which was initially designed to meet the FAA's need for an instrument that could detect subtle changes in cognitive functioning, is a measure of the underlying perceptual, cognitive, and information processing abilities associated with flying. CogScreen-AE is actually a battery of eleven computer-administrated tests, all which operate as a screening tool for the rapid assessment of a pilot's cognitive functions. All petitioning pilots here have been examined using CogScreen-AE, and have been certified by the Age Sixty Exemption Panel as being fit for exemptions from the Age Sixty Rule.

The FAA does not dispute that CogScreen-AE shows promise as a tool for detecting brain dysfunctions, and for predicting flight performance. The CogScreen-AE was developed and is employed by the FAA in assessing cognitive function for the grant of special medical exemptions. In fact, the FAA has noted that CogScreen-AE has the potential to serve the agency as a relatively inexpensive and efficient adjunct to traditional neuropsychological assessment in the medical certification of airmen. Studies have clearly

demonstrated CogScreen-AE's sensitivity and specificity as a tool for assessing brain dysfunction and for detecting early stages of cognitive pathology. Additionally, there are some research findings which demonstrate that performance of selected CogScreen-AE measures are related to cockpit performance, both in a general aviation simulator and in commercial aviation.

Nonetheless, the agency maintains that the addition of CogScreen-AE to the protocol does not make it sufficient to evaluate pilots as they reach sixty. This conclusion is based upon two serious contentions. First, the FAA notes that CogScreen-AE has not been sufficiently validated for the use proposed in the pilots' protocol. The research to this point does not provide a sufficient basis for determining which CogScreen-AE measures and what level of performance indicate that a person has brain dysfunction that renders the individual unfit to serve as a captain. The FAA points out that with the exception of the initial set of validation studies, there is little additional empirical evidence concerning the degree to which CogScreen-AE is sensitive to alterations in brain functioning associated with substance abuse, trauma, or other illness.

Yet even more troubling to the FAA, the petitioners offer essentially no discussion or analysis of how CogScreen-AE was used to evaluate these petitioners, and the agency suggests that there are serious questions as to how it was in fact used. According to the FAA, it is not clear, for example, what scores on what portions of CogScreen-AE would have proved unsatisfactory to the panel. The agency notes that, in one instance, the panel recommended a certain fifty-four year-old pilot be granted an exemption even though that person had three scores on CogScreen-AE which placed him below the fifth percentile, and four scores which placed him below the fifteenth percentile for speed. While the psychologist administering the test considered the pilot normal, the pilot's results denoted that he had scored lower than eighty percent of the pilots in the fifty-five to seventy normative age group. Furthermore, the FAA notes that the panel considered the Logistic Regression Probability Value ("LRPV").

While the Professional Manual of CogScreen-AE cautions against the use of LRPV, the panel disregarded that warning, as using logistic regression to estimate the probability of brain dysfunction is one of several ways to interpret CogScreen-AE scores. Nevertheless, the panel recommended certain pilots for exemptions whose LRPV's suggested a high probability of brain dysfunction./5 Finally, the FAA also suggests that it was error for the Age Sixty Exemption Panel to examine pilots' scores in relation to pilots ages fifty-five through seventy, as the purpose of testing is to assess a respondent's absolute level of ability in relation to the total population of pilots. As one report which cautions against the use of such age-adjusted scores correctly points out, older pilots do not have the benefit of landing on age- corrected runways.

We do not doubt that in the future, CogScreen-AE, and similar testing batteries may be sufficient gauges for assessing the abilities of pilots past the age of sixty. However, at this early stage, there is quite simply no evidence in the research literature that allows the FAA to establish a CogScreen-AE score or set of scores to identify when a pilot is incapable of safely operating an aircraft, nor is there evidence that CogScreen-AE provides an appropriate set of cognitive/psychomotor measures for making this prediction. Furthermore, there is limited empirical information available to allow for the use of CogScreen-AE as a clinical tool for adequately determining whether a pilot may have brain damage, especially an older pilot.

As for the application of CogScreen-AE in this case, we believe that the individual problems in testing noted above call into question the validity of the entire CogScreen-AE examination here./6 That certain pilots could obtain scores that suggest a high probability of brain dysfunction, and still be qualified for exemptions, is highly suspect. Further, if a pilot, age fifty-four, scores below the twentieth percentile of a normative group of pilots age fifty-five through seventy, and is still certified as normal, we must question what pilot would not be considered by the panel as worthy of an

exemption. Even a test which has been established as an accurate predictor of future performance in a given field loses all predictive value when the benchmark becomes taking the examination, rather than attaining some minimum score. Here, while there is no doubt that the FAA views CogScreen-AE in high regard, absent established and explained cutoffs, the agency is correct to dismiss the Age Sixty Exemption Panel's reliance on the test.

Ultimately, we find that substantial evidence supports the FAA's finding that CogScreen-AE is not, at this point, an adequate cognitive tool for determining whether an exemption to the Age Sixty Rule is warranted. Far from ignoring CogScreen-AE, the FAA actually developed the test. Yet, it has determined that, at present, the test is properly utilized in the medical recertification evaluation of pilots with known or suspected neurological and/or psychiatric conditions. The FAA has consistently maintained that unlike other medical conditions, certain cognitive disorders are incapable of detection. That assertion has been at the heart of the agency's justification of its more liberal exemption policy with regard to younger pilots with known medical conditions. As recently as above, we accepted that the petitioners had not met their burden in disproving that distinction. Thus, we cannot say that the distinction is irrelevant here. We find it rational to suggest that a test's results may be more authoritative when the test is administered to detect the effects of a known ailment on a subject, rather than when it is used as an all-inclusive diagnostic tool. Of course, in keeping in line with the requirement that the agency consider new advances, we expect that the FAA will continue to examine CogScreen-AE to determine whether it can be a sufficient tool for assessing pilots, and if so, what scores would be sufficient to allow for the granting of exemptions.

C. Accident Studies

In *Aman*, the petitioning pilots argued that any undetected aging decrements or increased risks of incapacitation that accompanied pilots sixty and over were offset by the added experience that

attends to pilots of that age. See 856 F.2d at 952. As a result, according to the petitioners, the granting of exemptions to selected pilots over sixty would not only "provide a level of safety equal to that provided by the rule from which the exemption is sought," 14 C.F.R. sec. 11.25(b)(5), but actually cause a net decrease in the risk of accidents. Thus, the petitioners argued that the FAA, in denying the requested petition for exemptions, had not presented substantial evidence to support its antithetical conclusion--namely, that granting selected exemptions would result in a net decrease in safety. After noting that the agency had responded to petitioners' evidence on experience with an "offhand dismissal," the court remanded the matter, concluding that the FAA had failed to present findings of fact supported by substantial evidence or set forth a rational connection between the facts found and the choice made. *Aman*, 856 F.2d at 955.

On remand, the FAA again refused to grant the exemptions. In *Baker*, we thus examined a second time whether substantial evidence supported the FAA's conclusion that the added experience of pilots over sixty compensates for any risks that accompany having pilots of that age flying. While we noted that the petitioners had made some suggestive anecdotal showings and presented expert opinion evidence, we concluded that they had been unable to develop a persuasive statistical record comparing average risks for pilots in various relevant age categories. See *Baker*, 917 F.2d at 320. Though the FAA's contrary evidence was no more persuasive than that of the petitioners, see *id.* at 320-21, it was the petitioners' burden to present persuasive evidence that granting the exemptions would not impair safety, *id.* at 322. Having failed to meet their burden, we cautiously upheld the agency's determination.

Recognizing the precedential hurdle that the *Baker* decision poses to their claim, petitioners here suggest that since that opinion, two "critical events" have occurred which have supplied the persuasive statistical record that was found lacking in *Baker*. First, the pilots put forth that the FAA has admitted that it was aware from the beginning that the

Flight Time Study upon which it supported its position in Baker contained major data deficiencies and could not be used to support any position. Second, they contend that the Hilton System Study, together with studies conducted by George W. Rebok and the Chicago Tribune, prove unequivocally that aviation accident rates do not go up with pilot age through the sixties.

In presenting their argument, petitioners create the impression that our decision in Baker was clouded by a mistaken conviction that the Flight Time Study was an impeccable accident experience report. However, a quick perusal of our Baker decision elucidates that we were under no such illusion. Though we need not rehash all of the shortcomings of the Flight Time Study, from the beginning, we noted that the report "has serious flaws," including, but not limited to, understating the accident rates for pilots over sixty, and grouping all pilots in a ten-year age cohort into a single statistic. See 917 F.2d at 321-22. Furthermore, we outright stated that "[n]umerous comments of record from various experts, even some from the FAA, state that the study should not be relied on as determinative--or even probative--on the question of the continued validity of the Age Sixty Rule. As discussed *infra*, even if the study is relevant, it is only of very limited usefulness." *Id.* at 321 n.1 (emphasis added). Notwithstanding the failures of the Flight Time Study, we concluded that the FAA's evidence must be characterized as substantial, even though it might not be considered compelling. *Id.* at 322. Petitioners have failed to explain how the FAA's awareness of the deficiencies in the Flight Time Study--incidentally, a fact that we were aware of in Baker--impacts our substantial evidence inquiry. While perhaps the petitioners would will that we grant them their exemptions because of the agency's purported unclean hands, we believe it inappropriate to base decisions of great public safety on such factors.

Thus, we must turn our attention to the truly new evidence which petitioners have put forth in support of their position--the results from the 1993 Hilton System Study, the Rebok Study, and the Chicago Tribune Study. The first of these

studies, the Hilton Study, examined accident data for pilots in Part 91, 121, and 135 operations holding Class I, Class II, and Class III medical certificates. The study, which was discussed extensively in the FAA's 1995 decision not to alter the Age Sixty Rule, see 60 Fed. Reg. 65,978, 65,981-83, concluded that there was "no hint of an increase in accident rate for pilots of scheduled air carriers as they neared their 60th birthday." And though the study recognized that there was no available data regarding Part 121 pilots beyond the age of sixty, the study suggested that the FAA could cautiously increase the retirement age of pilots to sixty-three. The second study, which was conducted in 1999 by a group of scientists headed by Professor George Rebok of the distinguished Johns Hopkins University, examined pilots ages forty-three through sixty who flew air carrier and air taxi operations. Similar to the Hilton Study, the Rebok Study concluded from the data that there were no significant age differences in the pilot performance factors contributing to aviation crashes. Finally, a study conducted by the Chicago Tribune, in collaboration with Northwestern Professor Ian Savage, demonstrated that air carrier accident/incident rates for the years 1990-1999 declined among pilots over fifty-five years of age.

In explaining its decision not to rely on the reports submitted by the petitioners, the FAA points out various flaws with these studies. With regard to the Hilton Study, the FAA contends that the study does not address the basic concern of how to identify and predict age-related decline in pilot performance. The agency further notes that the study's conclusions regarding age sixty pilots were based largely upon accident data from air carrier operations. However, pilots who fly cargo transports, according to the agency, have different flying patterns which may subject them to lesser levels of fatigue and stress. Because accidents in air carrier operations are rare, and factors such as seniority bidding on more desirable routes precludes developing meaningful statistics regarding the effects of aging, the FAA suggest that caution precluded reliance on that study as justification for granting exemptions.

See Professional Pilots Fed'n, 118 F.3d at 769. Likewise, the FAA has determined that the Rebok Study is not an appropriate basis for making decisions relating to the Age Sixty Rule. That conclusion was reached in part upon the FAA's observation that the Rebok Study itself suggests that the role of cognition and other causative factors in the flight performance of older pilots needs further empirical study. As for the Chicago Tribune Study, the FAA has pointed out that a study which attempted to replicate the newspaper's analysis noted that the original study contained errors and did not clearly identify the source of its data. See Dana Broach, Pilot Age and Accident Rates: A Re-analysis of the 1999 Chicago Tribune Report and Discussion of Technical Considerations for Future Analyses, FAA Civil Aeromedical Institute (Dec. 23, 1999). Thus, according to the agency, it was well within its discretion in not relying on the study as a justification for granting the exemptions.

But more generally, the FAA has proposed that all accident studies (including those relied upon by the petitioners) are inherently flawed. The agency notes that the major deficiency in all accident studies is that such analyses must rely upon surrogate data that does not reflect the reality and actual operating conditions and procedures of Part 121 operations, as there are no pilots over sixty that fly in Part 121 operations. While we, as a matter of first impression, might have concluded that the surrogate data was sufficiently comparable to Part 121 operations to allow for meaningful analysis, the FAA has determined otherwise, and we have accepted its determination. In reviewing the agency's denial of the petition for exemptions in Baker, we recognized that by its insistence on precise data, the FAA had in a certain sense insulated itself from attack. See Baker, 917 F.2d at 322. "Admittedly, petitioners in this case face a Catch-22: from one perspective they cannot get exemptions until they show they can fly large passenger aircraft[s] safely, and they cannot show they can fly such planes safely until they get exemptions." Id. While it may seem unfair that by virtue of the Age Sixty Rule these pilots are being denied the opportunity to prove

that they warrant exemptions, nevertheless, it is the petitioners' burden to present persuasive evidence that granting exemptions would not impair safety. If the FAA was justified in imposing the Age Sixty Rule in the first place, then we cannot say that simply because it is the rule itself which blocks the generation of data necessary to consider the propriety of granting exemptions to the rule, that it was unreasonable for the FAA to find that it lacks that data. See *Professional Pilots Fed'n*, 118 F.3d at 770. While certainly, if the FAA were to begin granting exemptions, it, and we, would be better able to resolve the question before us. However, in this crucial area of public safety, we have accepted the FAA's conclusion that it needs precise data. The petitioners have not provided, as was their burden, strong evidence that the added experience of pilots sixty and over clearly neutralizes the danger of sudden incapacitation and deterioration of piloting skills associated with the aging process. Absent this required evidence, we must defer in these circumstances to the expert agency. *Baker*, 917 F.2d at 322. We find that the FAA, in accordance with our directive, has kept abreast of and considered new studies and advances in medical technology. See *Starr*, 589 F.2d at 314. Thus, we cannot conclude the FAA abused its discretion in not granting these exemptions on the basis of the aforementioned accident studies./7

III. CONCLUSION

We recognize that the FAA's requirements for granting exemptions to the Age Sixty Rule are so demanding that if the agency had initially chosen an age fifty cutoff, pilots above that age would have difficulty meeting those standards. Yet, the rigorous nature of the FAA's exemption requirements is not pertinent at this juncture. Our inquiry is limited to examining whether the FAA has appropriately considered the evidence, and provided sufficient justifications for its decisions. We cannot say that the FAA has failed to take into account new advances in medical technology. The fact that the agency (1) commissioned the Hilton System Study, and (2) developed and utilizes the CogScreen-AE in certifying pilots for flight shows that the agency has not shirked its obligation

to keep current with medical progress. Yet given the fact the FAA has nevertheless denied every petition for exemption, an argument could be made that the FAA has examined these studies and protocols only to satisfy the burden which we have placed on the agency. However, that would require that we delve into the motivations of the agency, an inappropriate inquiry under our deferential standard of review. While our review of the evidence submitted by the petitioners might lead us to conclude that a strict age sixty cutoff, without exceptions, is a rule better suited to 1959 than to 2001, this court is not an expert in aerospace medicine, and Congress did not endow this court with the duty to make such a policy judgment. See *Starr*, 598 F.3d at 314. The FAA has the discretionary power to establish a rigid policy, whereby no exemptions are granted, until it is satisfied that medical standards can demonstrate an absence of risk factors in an individual sufficient to warrant a more liberal exemption policy from the Age Sixty Rule. Until the FAA determines that such standards exist, it may adhere inflexibly to a rule whose validity has been upheld by the courts and reevaluated by Congress, so long as it continues to consider, as we are satisfied it has done here, new advances in medical technology. *Id.*

For the foregoing reasons, we Affirm the decision of the district court.

FOOTNOTES

/1 Most recently, the Professional Pilots Federation, a group devoted to abolishing the Age Sixty Rule, brought suit against the FAA in the D.C. Circuit, claiming that the Age Sixty Rule violates the Age Discrimination and Employment Act ("ADEA"), 29 U.S.C. sec. 621 et seq. See *Professional Pilots Fed'n*, 118 F.3d at 758. The court denied the Federation's challenge, holding that nothing in the ADEA could be read to restrict the FAA from making age a criterion for employment when it acts in its capacity as the guarantor of public safety in the air.

/2 We recognize, however, that the distinction between the request for an exemption and the validity of the rule itself is a bit muddled. Were we to grant the petitioners' requests for exemptions, resolving that the evidence relied upon by the FAA could not support the age limita-

tion, we would ipso facto be voiding the Age Sixty Rule itself, replacing it with a system of individualized testing for pilots who wish to fly beyond the age of sixty.

/3 To qualify as a commuter plane, the airplane had to have a passenger-seating configurations of 30 seats or less and 7,500 pounds or less payload capacity. The regulating of commuter planes was, until 1995, conducted under Part 135--considered less restrictive than Part 121, which provides the safety protocols for all major air carriers.

/4 Indeed, the petitioners' sole justification for considering this evidence "new" is that they have included data from years subsequent to that of the Baker decision. While we cannot deny that the FAA has increased the frequency with which it grants under-sixty pilots with disqualifying medical conditions exemptions, that fact does not alter our analysis.

/5 Throughout their examinations, the panel sought to explain low testing scores by noting that CogScreen-AE results are likely to underestimate the ability of pilots to perform familiar jobs. We agree with the FAA that an important (and perhaps the most important) aspect of cognitive function in pilots is the ability to respond to novel emergency situations in flight, and thus scores that may indicate a pilot's inability to function well in novel situations should not be lightly dismissed.

/6 Petitioners dismiss the individual problems noted by the FAA, claiming that the FAA retains the right not to grant any specific exemptions. While certainly the FAA has that power, we believe that the concerns noted by the FAA call into question the overall use of CogScreen-AE by the panel.

/7 We note in passing that the pilots suggested in their petition for exemptions that the Age Sixty Rule has created a significant shortage in experienced pilots. In this review, petitioners have all but abandoned that argument as a justification for granting these exemptions, and we believe that they were wise to do so. The petitioners have not presented any statistics to show that the Age Sixty Rule has played a significant role in any potential pilot shortage. Further, even assuming that the Age Sixty Rule has contributed to the pilot shortage, we agree with the FAA that potentially reducing safety standards is not an appropriate method of addressing the issue.