Testimony Statement

Ford J Lauer III
Manager
Federal Aviation Administration
Manufacturing Inspection District Office
10100 Reunion Place, Suite 650
San Antonio, Texas 78216

Aircraft Certification: Alleged Regulatory Lapses in the Certification and Manufacture of the Eclipse EA-500

Given before the U.S. House of Representatives Committee on Transportation and Infrastructure's Subcommittee on Aviation on September 17, 2008

Statement of Ford J Lauer III, Supervisory Aviation Safety Inspector/Manager, San Antonio Manufacturing Inspection District Office, Rotorcraft Directorate.

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My name is Ford J Lauer III. I appear before you in compliance to the Subcommittee's invitation letter dated September 4, 2008, and the Subcommittee's subpoena served to me on September 10, 2008.

I am the Manager of the FAA Manufacturing Inspection District Office in San Antonio, Texas. My personal involvement in the Eclipse project spanned the period from July 2006 through March 2007. In July of 2006, I was appointed as a new probationary Supervisory Aviation Safety Inspector and Manager of the San Antonio Manufacturing Inspection District Office. The San Antonio Manufacturing Inspection District Office is staffed by a manager, five aviation safety inspectors, and an administrative assistant. The San Antonio Manufacturing Inspection District Office has geographical responsibility in the states of Texas, Louisiana, and New Mexico. The San Antonio Manufacturing Inspection District Office reports to the Rotorcraft Directorate Manufacturing Inspection Office. The Fort Worth Manufacturing Inspection District Office and the Oklahoma City Manufacturing Inspection District Office both also report to the Rotorcraft Directorate Manufacturing Inspection Office. At the time of my appointment as the San Antonio Manufacturing Inspection District Office Manager, FAA manufacturing inspection responsibilities for the Eclipse project were under the authority of a Program Manager assigned by the Rotorcraft Directorate Manufacturing Inspection Office. Since I was a newly appointed manager and was unfamiliar with the Eclipse project, the Manager of

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the Rotorcraft Directorate Manufacturing Inspection Office elected to maintain the assigned Program Manager in place rather than turn the Eclipse project over to me. In this capacity I assisted the Program Manager as a subordinate. In late December of 2006, the assigned Program Manager moved on to other duties, and I was given more responsibility on the Eclipse project. Specifically, those responsibilities consisted of coordinating and scheduling an FAA District Office Audit in connection with the Eclipse application for a Production Certificate, and airworthiness certification of Eclipse airplanes manufactured under type certificate only. In addition to personally conducting these activities at the Eclipse facilities in Albuquerque, New Mexico, I also assigned FAA inspectors from the San Antonio Manufacturing Inspection District Office to conduct these activities on a rotational basis. Because of the nature of the Eclipse project, I never had the relative autonomy or decision making authority FAA Manufacturing Inspection District Office managers typically have on similar projects. All decisions and actions were coordinated with and concurred with by the Manager of the Rotorcraft Directorate Manufacturing Inspection Office prior to implementation.

In the July through December timeframe, I made several trips to the Eclipse facility to assist the FAA Program Manager in various tasks. These tasks included inspecting the first production airplane. The FAA Program Manager and I witnessed functional test procedures and inspected the airplane to verify it conformed to design drawings. The

FAA Program Manager and I observed numerous instances where the airplane did not conform, yet had been signed off by Eclipse company inspectors and FAA designees as though it did conform. Eclipse company inspectors and FAA designees were repeatedly instructed by the FAA Program Manager that airplanes and functional test procedures should not be signed off and presented for FAA inspection unless everything conformed. Functional Test Procedures are common in the industry, and are used to test various aircraft systems for proper operation before releasing the aircraft for flight. The Program Manager and I observed numerous instances where the Eclipse functional test procedures were not being complied with. For example, tools referenced by part number in the functional test procedures were identified with different part numbers and in some cases tools completely different than those called out were being substituted. Oils, hydraulic fluids, and other materials called out in the functional test procedures were also being substituted. Rather than complying with or revising the functional test procedures, identifying tools properly, or obtaining the referenced tools and materials as applicable, Eclipse elected to sign off the functional test procedures as being properly accomplished. The Program Manager and I also conducted conformity inspections to verify that aircraft were manufactured in accordance with the design drawings included in the Type Certificate. Numerous nonconforming characteristics were observed, such as improperly installed fasteners, misrouted electrical wiring, unsatisfactory safety wire, wrong fasteners being used, inadequate clearances between moving parts, etc. The Program

Manager gathered the Eclipse inspectors and supervisors, and instructed them to thoroughly inspect the airplanes and functional test procedures, and to have them revised where necessary. Additionally, Eclipse personnel were instructed that airplanes and functional test procedures should not be signed off and presented for FAA inspection unless everything was correct. On subsequent visits to Eclipse, the Program Manager, I, and other FAA inspectors encountered the same or similar issues on other airplanes being presented for FAA inspection. Through a preexisting agreement between Eclipse and the FAA, it had been established that the Eclipse FAA designees would accomplish key inspections and witness functional test procedures. When FAA inspectors re-inspected to verify that the Eclipse FAA designees were performing adequately, nonconforming characteristics were consistently observed.

It was my perception that Eclipse employees were under constant pressure from their management to deliver airplanes. I observed that Eclipse management would not hesitate to complain to FAA management when they perceived FAA inspectors were interfering with Eclipse's ability to deliver airplanes. On numerous occasions, when FAA inspectors told Eclipse personnel something they did not want to hear, the reply was to the effect that Eclipse could not live with that and the issue would be elevated. To support the airplane delivery schedule, Eclipse expected an FAA inspector presence virtually around the clock, and made this known to FAA management. As a result, I and several of the

FAA inspectors worked a great deal of overtime at Eclipse, including weekends and holidays. Having to maintain a virtually constant FAA inspector presence at Eclipse had a huge effect on the San Antonio Manufacturing Inspection District Office's ability to keep up with other work. I proposed to establish certain days of each week (i.e. Tuesday & Wednesday) where FAA inspectors would be at Eclipse. Anything Eclipse had ready on those days would be FAA inspected, and anything not ready would be inspected the following week. My proposal was not accepted, and I was directed to have FAA inspectors available at Eclipse to support their schedule, which pretty much meant seven days a week. It should be noted here that Rotorcraft Directorate management became concerned about FAA inspectors becoming fatigued. Rotorcraft Directorate management thus directed that FAA inspectors would not work or travel on weekends. This decision was reversed however, and FAA inspectors were instructed to support Eclipse as necessary, including weekends.

With the departure of the assigned FAA Program Manager from the Eclipse project, I realized that I needed to assign one of the San Antonio Manufacturing Inspection District Office inspectors to serve as the Principal Inspector. FAA inspectors are typically assigned to serve as the Principal Inspector of several aviation manufacturing companies. Principal Inspectors typically conduct all necessary FAA oversight at the companies assigned them. The Eclipse project required too much FAA involvement however for

any one FAA inspector to be able to keep up with. I assigned several FAA inspectors to assist the Principal Inspector in carrying out the required tasks.

The first production airplane was issued a standard airworthiness certificate by me at the end of December 2006, after some two months of ongoing inspection, rework by Eclipse, and re-inspection, as well as ongoing functional test procedure witnessing, rework by Eclipse, and re-witnessing, until all nonconformances were resolved and it was found that the airplane conformed to the type certificate and was in condition for safe operation. During my visits, I spent a great deal of time providing assistance and advice to Eclipse inspectors on how they could bolster the quality system to ensure airplane inspection status. I let the Eclipse inspectors know what I had seen work in other companies. On individual levels the Eclipse inspectors seemed interested in what I was showing them. However, I never saw any of my recommendations or suggestions tried or implemented.

In late January, Eclipse presented the second production airplane for FAA inspection and airworthiness certification. Eclipse had submitted signed FAA forms containing certifying statements that the airplane had been inspected by Eclipse, was found to be airworthy, conformed to its type certificate, and was in condition for safe operation. The FAA inspector's inspection of the airplane indicated that Eclipse had neglected to adequately inspect the airplane before making application for an airworthiness certificate,

and thus possibly violated FAA regulations by making an apparent false statement on the FAA forms. I consulted with the Rotorcraft Directorate Manufacturing Inspection Office Manager in Fort Worth, and it was determined that an investigation should be initiated for a possible violation of federal regulations. An investigation case was initiated in accordance with FAA policy. It should be noted here that FAA policy established that every apparent or alleged violation must be investigated, and that the Enforcement Investigation Report is the means for documenting an investigation. A letter of investigation notification was sent to Eclipse in early February, requesting any statements they cared to make. Additionally, Eclipse was notified that they should accomplish thorough re-inspection of the airplane to determine its true conformity status. Eclipse responded to the investigation notification in writing and stated that they internally investigated and could find no evidence of violations or any unsafe condition with the aircraft. Eclipse management had taken exception to both the investigation and the communication that the airplane should be re-inspected, and elected to take those matters to a higher level of FAA management. Application for FAA airworthiness certification of an aircraft must be accomplished by the applicant submitting FAA Forms 8130-6, *Application for Airworthiness Certificate*, and 8130-9, *Statement of Conformity*. The Eclipse submitted FAA Form 8130-6 contained the certifying statement— *"I hereby certify…the aircraft has been inspected and is airworthy and eligible for the airworthiness certificate requested."* The Eclipse submitted FAA Form 8130-9

contained the certifying statement—"*The aircraft described above, produced under type certificate only…conforms to its type certificate, is in a condition for safe operation, and was flight checked on 1-30-2007.*" Upon inspection, the FAA inspector found that the airplane pitot static functional test procedure failed; the airplane weight and balance report contained numerous errors; unqualified parts tags found on installed AHORS units; numerous improperly installed HiLok and Huck fasteners; production flight test not signed off in airplane log; and the keyboard for pilot data entry was labeled "EXPERIMENTAL ONLY." Both flap actuators were found identified as "EXPERIMENTAL ONLY" as well as several other numerous other nonconforming characteristics. Title 14 Code of Federal Regulations part 21, section 21.2 states that "*No person shall make or cause to be made (1) any fraudulent or intentionally false statement on any application for a certificate or approval under this part; (2) Any fraudulent or intentionally false statement in any record or report that is required to be kept, made, or used to show compliance with any requirement for the issuance or the exercise of the privileges of any certificate…*" FAA Order 2150.3A (in effect at the time), paragraph 202.f. required that "*every apparent or alleged violation must be investigated and appropriately addressed.*" Paragraph 202.e. required that "*when an investigation is warranted, it should be conducted promptly.*" Paragraph 900.a. established that "*the EIR is the means for documenting, assembling, organizing, and presenting all evidence and other pertinent information obtained during an investigation.*"

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In February a District Office Audit was accomplished, prior to preparation for the Production Certification Board Audit. FAA policy (FAA Order 8120.2) requires both a District Office Audit and Production Certification Board Audit prior to issuance of an FAA Production Certificate. The District Office Audit was a thorough evaluation of the Eclipse airplane production quality control system. During the District Office Audit, over one hundred discrepancies were documented and consolidated into forty-two separate noncompliances. A notification of results was sent to Eclipse so that they could implement corrective action. The San Antonio Manufacturing Inspection District Office did not accomplish any follow-up to the District Office Audit. The Eclipse project was reassigned to the Fort Worth Manufacturing Inspection District Office in the late March-April timeframe, so all District Office Audit follow-up was accomplished by that office. It should be noted that there were two previous attempts at accomplishing a District Office Audit, the first being in approximately July of 2006. Not all areas of the Eclipse quality control system were evaluated. There was also a problem in that issuance of the type certificate had to be postponed, which affected the District Office Audit. Additionally, most of the areas of the Eclipse quality control system that were evaluated were relocated by Eclipse to other facilities after being evaluated. In approximately October of 2006 a second attempt at a District Office Audit was attempted. I was not

personally involved, but was informed that virtually nothing was audited due to the team having to focus on inspection of Eclipse airplanes.

In mid March, the FAA Aircraft Certification Service Director assigned a Senior Advisor from outside the Rotorcraft Directorate to assume responsibility for the Eclipse project. FAA inspectors were notified that they would report to the assigned Senior Advisor for all Eclipse production and airworthiness activities. I was informed by the Rotorcraft Directorate Manufacturing Inspection Office Manager that the Senior Advisor wanted the in progress investigation suspended immediately, and the case was to be closed with no further action. The investigation was suspended and the case closed as directed. The assigned Senior Advisor brought in two assistants from outside the Rotorcraft Directorate. In emails from an assistant to the Senior Advisor, I was informed that the investigation case was wrong because Eclipse's nonconforming airplane could not result in a violation of 14 CFR part 21, section 21.2. I discussed the matter with FAA legal at the FAA Fort Worth Regional Office and was told that the investigation was indeed proper. I described the entire investigation case in detail in a report I assembled, entitled *Sequence of Events, Enforcement Case Number 2007SW430002, Eclipse Aviation Corporation.*

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In mid March, the Senior Advisor implemented a working agreement between Eclipse and the FAA, known as a Project Specific Certification Plan. Language within the Project Specific Certification Plan established that the FAA would recognize and utilize Eclipse's FAA designees to the greatest extent possible in inspecting Eclipse airplanes. FAA inspector utilization of FAA designees has been a common FAA practice, but only after companies have been able to demonstrate that their inspectors and FAA designees were reliable. In order to streamline FAA inspection of Eclipse airplanes, a flow chart within the Project Specific Certification Plan established a set amount of time for FAA inspection of each Eclipse airplane. Language within the Project Specific Certification Plan also established that the FAA would not require removal of airplane interiors, floor boards, etc., when FAA inspections were performed. The Project Specific Certification Plan mentioned was revision "A" and was signed on March 15, 2007. It is my understanding that it has been revised several times since then. It should be noted here that FAA policy (FAA order 8130.2) establishes that the FAA has full responsibility for ensuring that aircraft manufactured without a production approval conform to their design and are in condition for safe operation. Up to the time the Project Specific Certification Plan was implemented, the Eclipse inspectors and FAA designees had not yet demonstrated that they were reliable in signing off airplane inspections and functional test procedures. I have never encountered, nor have I ever heard of, any working agreement, project specific certification plan, or situation other than the Eclipse project,

where limits were placed upon the ability of FAA inspectors to thoroughly inspect aircraft.

In mid to late March I made the personal decision to obtain professional liability insurance. My decision was driven by all of the events I had experienced and observed in connection with the Eclipse project up to this point.

In March, the FAA Principal Inspector, while at the Eclipse facility, informed me that an FAA designee at Eclipse had issued an experimental airworthiness certificate without having obtained the required authorization from the San Antonio Manufacturing Inspection District Office. Additionally, the Principal Inspector informed me that the FAA designee did not possess the appropriate designee function code to be able to issue the airworthiness certificate, so could not have received such authorization anyway. The Principal Inspector communicated with the former Program Manager in the Rotorcraft Directorate Manufacturing Inspection Office to ask what the process was for revoking an airworthiness certificate. The former Program Manager replied with the requested information. I was informed later through informal communication that the Principal Inspector allegedly took it upon himself to take possession of the airworthiness certificate, but that he later gave it back. No formal complaint was brought to me concerning the alleged incident. I did however counsel the Principal Inspector as well as

ensured that all FAA inspectors at the San Antonio Manufacturing Inspection District Office were made aware of the requirements for pursuing revocation of an airworthiness certificate.

In mid to late March I was informed by the Manager of the Rotorcraft Directorate Manufacturing Inspection Office that the Fort Worth Manufacturing Inspection District Office would assume responsibility for the Eclipse project. Involvement of the San Antonio Manufacturing Inspection District Office in the Eclipse project thus ended. Two FAA inspectors from the San Antonio Manufacturing Inspection District Office were utilized by the Fort Worth Manufacturing Inspection District Office for a few more weeks to ensure a smooth transition.

I want to emphasize that throughout the time of my involvement in the Eclipse project, management within the Rotorcraft Directorate never once pressured me to do anything that was contrary to FAA regulations. I have no personal reservations concerning any level of Rotorcraft Directorate management, and consider them all to be high caliber people.

As a veteran of United States military service, I know the meaning of integrity, loyalty, and dedication. In the military I lived by those words, and as an FAA employee and

public servant, I continue to live by them. I have been with the FAA since 1997, having served in the New Cumberland Manufacturing Inspection District Office in Harrisburg, Pennsylvania and the Oklahoma City Manufacturing Inspection District Office in Oklahoma City, Oklahoma. I feel confident that the personnel of those offices will provide positive testimony as to my integrity, loyalty, and dedication.

This statement was assembled based on the history of events as I remember them. Additionally, I obtained some information from archived electronic correspondence and official FAA records.

This concludes my statement, and I await the Subcommittee's questions.

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