

Committee on Transportation and Infrastructure's Subcommittee on
Aviation Regarding FAA Aircraft Certification:

**Alleged Regulatory Lapses in the Certification and Manufacture of the
Eclipse Aviation EA-500**

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Opening

Good morning, Chairman Oberstar, Chairman Costello, Congressman Mica, Congressman Petri, and Members of the Subcommittee.

I am an Aviation Safety Inspector (ASI) in the Fort Worth Manufacturing Inspection Office of the FAA. **One** of my duties as an ASI, is to evaluate new and existing manufacturing companies that produce commercial aircraft and new replacement parts for aircraft. I have been called to present the facts pertinent to the issuance of the Manufacture of the Eclipse EA-500 aircraft at Eclipse Aviation Corporation, located in Albuquerque, New Mexico.

I have worked for the FAA for 20 years. After coming to the FAA, I obtained my Airframe and Powerplant License. This required 3 years of night school while working full time. During my tenure as an ASI, I have performed over 485 evaluations including Aircraft Certification Systems Evaluation Program (ACSEP) of aircraft manufacturing facilities. As of this date I have been on three Production Certification Boards (PCB's). The purpose of the PCB is to evaluate the eligibility of the applicant for issuance of a Production Certificate based upon the preliminary findings and recommendations of the of the Manufacturing Inspection District Office (MIDO) and the PCB's review of the applicant's facilities and Quality Control Data.

Eclipse Aviation submitted an application for an Approved Production Inspection System (APIS). This was the first step in preparing Eclipse for a Production Certificate (PC). On July 10 through 21, 2006, I was a team member for the APIS preliminary District Office audit at Eclipse Aviation. The team consisted of five members. This evaluation was to determine if Eclipse Aviation's Quality System had the capability to comply with 14 CFR, Subpart F, §21.125. During the evaluation 15

noncompliances of the system were documented. The FAA sent a letter to Eclipse Aviation identifying the noncompliances, and requested corrective action.

On September 15, 2006, Eclipse made application for a Production Certificate. On September 25, through 29, 2006, I returned to Eclipse, as a team member, to review the corrective actions from the previous July APIS preliminary District Office (DO) audit and to review the Functional Test Procedures for production aircraft serial number 000001. When we arrived at Eclipse, corrective actions for the previous DO audit were not presented to us and had not been implemented. Since the corrective actions were not in place, we began our evaluation of the Functional Tests. The procedures were failing the review. The testes were written incorrectly, documentation was incomplete, and were not passing the specification requirements as documented. Once we determined the tests were not in compliance, the team leader switched the focus of the team to continue with the ongoing preliminary District Office audit. During this audit 20 additional noncompliances were identified. The FAA sent a letter to Eclipse identifying the noncompliances, and requested corrective action.

During the September 2006, visit at Eclipse it seemed that the company was not seriously working toward corrective action of the noncompliances discovered from the July 2006, audit. The push was to get the first production aircraft certified rather than work toward corrective actions of the quality system. The more we tried to coach the company to correct the quality system, the more resistance there seemed to be.

December 11 through December 20, 2006, I returned to Eclipse. The company's focus had shifted from getting a Production Certificate to getting an airworthiness certificate issued on aircraft Serial Number 000001. Eclipse sent corrective actions from the July and September audits to the FAA on November 16, 2006. These corrective actions were not verified because our management conveyed to

us that we were to work on nothing but the airworthiness of the aircraft. There were three inspectors on-site to complete 31 Functional Tests and verify the conformity of the aircraft to type design. Eclipse was to conduct all FTP's prior to presenting the aircraft to the FAA for approval. The agreement in place between FAA and Eclipse was that the company would present a signed FAA Form 8130-9, "Statement of Conformity" certifying that, the company had complied with 14 CFR, Subpart B, Section 21.33(a) which refers to Section 21.33(b) and states in part, "the applicant must make all inspections and tests necessary that materials and products conform to specifications, parts of the products conform to the drawings and manufacturing processes, construction, and assembly conform to those specified in type design." When the FAA received the signed certifying documents, we would conduct all the Functional Tests on one aircraft. Once the first aircraft passed all the tests, we would look at fewer tests for the second aircraft, and even less on the third. When Eclipse demonstrated they could produce a conforming aircraft, we would allow the Organizational Delegation Airworthiness Representatives to conduct the conformity and inspection of the aircraft. The FAA would then spot check the aircraft and issue a Standard Airworthiness Certificate.

Eclipse presented the aircraft to the FAA with a signed "Statement of Conformity" and we began conducting the tests. The tests failed repeatedly. During the December visit, we reviewed 28 of the 31 Functional Tests. 11 of the 28 tests passed. Examples include:

- ◆ The Cabin Pressure Vessel and Delta P Limiter was presented to the FAA five times. When we checked it on December 13, 2006, it failed again.
- ◆ The BASS (VORE/FACV) & CCS Door Actuator was presented to the FAA four times and failed again on December 15, 2006. After three attempts, the test passed.
- ◆ The Avionics RTS was presented to the FAA three times. When conducting the test the display panel went blank. When I asked the technician what happened, she stated "That happens all the time." The test failed.

- ◆ The Landing gear System was presented to the FAA nine times before it passed the FAA review.

Eclipse needed to rewrite some of the FTP's to meet the requirements so the tests could be performed properly.

I went on vacation the week following the trip to Eclipse and returned to work on January 3, 2007.

When I returned I was informed that a Standard Airworthiness Certificate had been issued to aircraft serial number 000001 on December 31, 2006. This was surprising to me due to the numerous Functional Tests that had failed inspection and were incomplete when we left Eclipse on December 20, 2006.

The July and September, 2006, audits documented 35 noncompliances. Eclipse sent corrective actions from the July and September audits to the FAA on November 16, 2006. These corrective actions were not verified.

The official Production Certification District Office Audit was conducted February 5, 2007, through February 15, 2007. I was not on this team. The team documented 42 noncompliances during the audit. From July 10, 2006 to February 15, 2007, three audits of Eclipse Aviation's quality system were conducted. A total of 77 noncompliances were documented.

During my visits to Eclipse, I felt that Eclipse was controlling our schedules and managing FAA resources. An example of Eclipse calling the shots was when we called our manager and asked that we be allowed to return to Fort Worth one day early due the weather conditions. We were told to stay and complete our inspections. We continued with the inspection, while most of the Eclipse employees were told to leave due to hazardous weather. Another example; in April, 2007, Eclipse was preparing

an aircraft for certification. We were told by Eclipse to go back to the hotel and we would be on-call all weekend. They said it may be midnight before the aircraft was ready for certification, but whenever they called we should be ready. The aircraft was not ready for certification until the following week.

On March 2, 2007, Manager, FAA AIR-1 appointed an independent team to oversee airworthiness and the Production Certificate for Eclipse. The Rotorcraft Directorate Manager was removed from the program and we were informed that the independent team leader was now managing the project. When the team leader took over, he removed the FAA Principal Inspector from the program. The project was then transferred from the San Antonio Manufacturing Inspection District Office (MIDO) to the Fort Worth MIDO. A MIO inspector was assisting the San Antonio MIDO with the transition to the Fort Worth MIDO. A short time later, the MIO inspector was removed from the project.

In April 2007, I was selected to be a team member on the Production Certification Board for the issuance of the Production Certificate. The evaluation was conducted April 9, 2007, through April 16, 2007. Sitting in the back of the room were five FAA managers. My Manager was assigned as the Production Certificate Board Chairman. During the internal FAA in-brief, the independent team leader spoke to the team and stated that Eclipse had been audited numerous times. He talked about how the company had improved since he had been appointed leader of the program. Because I had been to Eclipse on several previous occasions, I was surprised that they had made such a turn-around in just a few months. The independent team leader continued his briefing and stated that we were there to look at the quality system and determine if a Production Certificate should be issued. He stated that we should do a high level or overview of the system because the company had already been audited numerous times. It was then stated "in other words we need to only go an inch-deep when evaluating the quality system." I was shocked when I heard this statement. I had never been told to go only an inch-deep when conducting an audit. Order 8120.2D, Production Approval and Certificate

Management Procedures, paragraph 48 b., states that the applicant should be advised that the PCB is responsible for making a **thorough** evaluation of the applicant's QC system/data, organization, production facilities, and if deemed necessary, supplier facilities. I remembered that Eclipse hadn't provided corrective action for the first audit for 4 months and the second audit for 2 months. Then the focus shifted from audits to getting the first production aircraft certified and the corrective action from the first two audits had never been verified. To do only an overview of the system when corrective actions were not verified and Functional Tests were failing was in conflict with our guidance.

When the meeting was over I went to the production floor to conduct my evaluation of the manufacturing system. I am a very thorough evaluator. During my evaluation I found issues with the Horizontal Stabilizer Assembly. The position light wire was crimped too tight, which could cause chafing. The bonding application on the de-ice boot was not fully covering the entire area approximately 1/2-inch from the leading edge. These discrepancies should have been corrected before the Eclipse inspector signed it off. I requested the drawings to evaluate the condition further. When looking at drawings, one drawing led to another and so on. My escort said to me "Maryetta you are going more than an inch-deep. You are going too deep." I was surprised that my escort had heard that statement. I do not know how he received the same information that was briefed only to the FAA. I acknowledged his remark.

With the five managers sitting in the back of the room, taking notes on everything that was said, I felt as if we were being monitored on our performance. In all my years as an inspector for the FAA, I have never felt the pressure from FAA Managers that I felt when Eclipse was trying to get their Production Certificate. We were being monitored on our performance and with the removal of Managers and Inspectors from the project; I was cautious about what I said and did. I have successfully approved several other companies for production and have never experienced this level of involvement or

monitoring from Washington Headquarters. We followed our guidance and regulations and spent enormous amounts of time coaching and providing assistance to Eclipse. Issues were identified to prevent safety problems. We were directed to get the job done and money and resources was no object. I am proud to represent the FAA and be a part of a world-class organization in advancing aircraft safety. Our actions during this trying time were honest.

One of the core values of AIR is to praise each other publicly, and recognize and regard others for excellence. I feel the inspectors were pressured and discredited when we were trying so hard to accomplish our job.

This concludes my statement.