



**VIA CERTIFIED MAIL RETURN RECEIPT REQUESTED**

December 14, 2023

United States District Court  
Northern District of Texas  
Judge Reed O'Connor  
501 West 10th Street, Room 201  
Fort Worth, TX 76102-3673

Dear Judge O'Connor:

We are writing to you concerning the United States v. The Boeing Company fraud case. The Deferred Prosecution Agreement (DPA) between Boeing and the Department of Justice will time out on Jan 7, 2024. At that time, we believe Boeing will request that you dismiss the criminal charges against them, stating they have complied with all the DPA provisions and that MAX airplanes are now totally safe.

We are an independent aviation safety organization, and I am the Executive Director. I am also a former senior manager at Boeing's 737 Factory in Renton, Washington, and was the Boeing whistleblower who testified before Congress during their investigations of the MAX tragedies. This letter is co-signed by Joe Jacobsen who is one of our foundation's advisory members. Joe was also a Senate whistleblower, and he has over 40 years of aerospace safety engineering experience. We would be happy to testify at any official or unofficial proceeding, under oath, regarding all the information, arguments, and conclusions included in this letter.

You might be interested in reviewing our website at [www.FoundationForAviationSafety.org](http://www.FoundationForAviationSafety.org)

We have been closely monitoring the MAX developments and have determined that MAX airplanes that are currently in-service fail to meet legally mandated requirements, and for various reasons discussed below, believe the MAX airplane is unsafe. We also believe Boeing has violated the conditions of the DPA.

Since the signing of the DPA, Boeing has deliberately provided false, incomplete, and misleading information to the FAA, the flying public, airline customers, regulators, and investors. We have provided detailed letters, emails, and phone calls to the DOJ. This correspondence includes additional evidence of gross negligence on the part of senior Boeing executives and a list of potential witnesses. DOJ has made no effort to respond except for one form letter telling us to speak to our legislator. Frankly DOJ has shown zero interest in investigating anything related to these crimes.

For whatever reason, the DOJ decided not to appoint an outside independent monitor to ensure Boeing’s compliance to the DPA. As Professor John Coffey of Columbia University stated, “Rarely did a clearer case exist for such a monitor”. We urge you to not dismiss these charges and we are calling for further criminal investigation. We have evidence supporting all these assertions.

**1. Legally Required Engineering Design Standards**

737-8 and 737-9 MAX airplanes currently in-service are unsafe because they do not comply with legally required engineering design standards. Despite the deaths of 346 people, an estimated loss to Boeing of \$20B, and an 18-month “comprehensive” FAA recertification, the MAX airplane still doesn’t comply with the law (14 CFR Part 25 – Airworthiness Standards). Company leaders have withheld critically important safety information. The following four examples are among those that have recently come to light.

1	The Stall Management Yaw Damper (SMYD) Computer fails to comply with lightning and High Intensity Radio Frequency (HIRF) protection requirements.
2	The Flap-Slat Electronics Unit has insufficient redundancy. Trailing edge devices not in their commanded position, combined with no crew awareness of the flaps being out of position during takeoff and landing, is a potentially catastrophic failure condition.
3	The Engine Anti-Ice system can overheat the engine inlet causing a catastrophic failure of the structure.
4	LEAP-1B engines have failed due to vibrations leading to high pressure compressor stalls. In addition, some components were found to be manufactured from material suspected to have reduced material properties due to iron inclusion.

Company leaders continue to deceptively withhold this important safety information from the public. The company routinely states Boeing *“airplanes meet or exceed all safety standards.”* This is a false and misleading statement. The company does not say, *“our airplanes meet or exceed all safety standards except for the 737 MAX that does not meet Stall Management Yaw Damper Computer, Flaps/Slats electronics, Anti-ice, & Engine standards...”*

It has been over five years since the first MAX disaster and three years since the airplane reentered service after a “grueling” and “comprehensive” FAA recertification, and the public is just now learning that flight critical systems on MAX airplanes still don’t meet existing safety design requirements? It is understandable that investigations take time, but informing people about known safety problems gives them an opportunity to choose a different airplane. Instead of being forthcoming and truthful about the safety of MAX airplanes as the DPA demands, what is Boeing doing? They are requesting engineering design exemptions (delays) from low level FAA managers via an obscure exemption process knowing full well that passengers are unaware of the labyrinth of government processes.

Clearly Boeing knew about these legally required engineering “nonconformances” long before they alerted the FAA. Why wasn’t the public notified sooner? We trust all the stakeholders are interested in knowing the accurate status of the MAX’s flight control systems including the FAA Administrator. It makes one wonder what other engineering design requirements have been missed?

We understand that Boeing and the FAA maintain a confidential list of engineering design “nonconformances” not just for 737 MAX airplanes, but for all of Boeing’s commercial airplanes to include the 767, 777, and 787 airplanes. If this is true, such a list should be made public.

## 2. Chronic Production Quality Defects

In addition to the design flaws there have been at least 20 reports of serious production quality defects on MAX airplanes since the two crashes. These defects are in addition to the flawed MCAS software. This list includes improper electrical bonding and grounding; installing defective slat tracks on the wings; leaving foreign object debris inside wing fuel tanks; installing unapproved heads-up guidance system displays; grinding down wiring protection around engines; improperly installing fuel sealant within the center fuel tank; installing a refueling panel that does not indicate an automatic shutoff system failure; installing defective stab trim motors that move the horizontal stabilizer; faulty electronic flow control of air conditioning packs that vent air into the cargo hold; clamping defects on APU fuel lines; improper torquing of engine anti-ice exhaust duct fasteners; cap sealing fasteners in the center fuel tank with an unapproved clear overcoat; misdrilled holes in the aft pressure dome; and improper shimming of fittings that hold the vertical fin on the tail of the airplane. In addition to not complying with the law, these production defects don’t comply with Boeing’s own engineering standards.

Like the engineering design issues, the torrent of production quality defects raises lots of fundamental questions. What are the root causes? Where is the transparency? How long did Boeing know about these quality defects before alerting the FAA? The FAA cannot be expected to catch all these defects to protect the public. The Boeing Company has primary responsibility. Why is the company not halting production and leveraging their immense engineering resources to immediately investigate and fix the production defects? Instead, months or years later they issue instructions to airlines to fix the problem. This is a pattern of negligence and exactly what happened in 2018 & 2019 leading up to the two MAX disasters.

*“The tragic crashes of Lion Air Flight 610 and Ethiopian Airlines Flight 302 exposed fraudulent and deceptive conduct by employees of one of the world’s leading commercial airplane manufacturers,” said Acting Assistant Attorney General David P. Burns of the Justice Department’s Criminal Division. “Boeing’s employees chose the path of profit over candor by concealing material information from the FAA concerning the operation of its 737 MAX airplane and engaging in an effort to cover up their deception.”*

*“This landmark deferred prosecution agreement will forever serve as a stark reminder of the paramount importance of safety in the commercial aviation industry, and that integrity and transparency may never be sacrificed for efficiency or profit.”*

*~ Deferred Prosecution Agreement (DPA), Jan 7, 2021*

## 3. Removal of Quality Control Inspections

We believe that Boeing illegally removed thousands of mandatory quality control inspections without the FAA’s knowledge. This action started several years ago and has continued since the signing of the DPA. In 2018, Boeing executives informed their IAM union in Everett, WA about a new quality improvement initiative called Boeing’s Quality Assurance (QA) Transformation Plan. The plan involved removing thousands of quality control inspections on individual airplanes and

the elimination of 900 quality inspector jobs. Boeing began removing inspections on MAX airplanes before this 2018 announcement.

Many human inspections in place for decades and key to the 737's longstanding reputation of high quality were now deemed inefficient. Manufacturing employees on Boeing's 737 MAX production lines were instructed not to call out a quality inspector to review their work, but rather to self-certify their work. The removal of quality inspections spread to all of Boeing's commercial airplane programs. By removing large numbers of human inspections, the company could speed up production, sell more airplanes, and make more profit.

Serious problems can and do occur when manufacturing employees are asked to self-certify their own work. Factory workers are human. They can make mistakes because of inexperience, fatigue, poor training, feeling rushed, etc. At precisely the moment when Boeing should have been enhancing quality, the company's leadership took steps to diminish it. Boeing's IAM union fought back. From the outset they knew this was a dangerous and horribly shortsighted financially motivated plan.

They knew the removal of quality control inspections would complicate the build process and more importantly, they (unlike Boeing's C-suite) realized the impacts to production quality and public safety. They also knew Boeing did not have "modern inspection technologies" to replace even a small number of the human inspections. Since 2019 the union successfully fought to reinstate most, but not all the removed inspections. The renewal of thousands of inspections underscores the fact these inspections should have never been removed in the first place.

The major problem that still exists, however, is there is no containment plan for the hundreds of Boeing airplanes, including MAX airplanes, that left Boeing's factories without those thousands of inspections. They are in-service and nothing is being done about them. It appears the airlines that purchased these MAX airplanes may be unaware these inspections were removed when their airplanes were being built and are unaware that many, but not all, have been reinstated.

#### **4. Boeing Downplays MAX Safety Incidents**

Given the above information it should come as no surprise that MAX airplanes are experiencing an unusually large and growing number of serious malfunctions involving a wide array of flight safety related aircraft systems including stab trim motors, flight management computers, engines, anti-ice, autopilot, autothrottle, hydraulics, pressurization, speed trim, weather radar, predictive windshear system, brakes, auxiliary power units, and emergency lighting.

Safety reports indicate these failures started occurring soon after the airplane returned to service in the U.S. in Dec 2020. We have also seen reports out of Canada reporting chaffed wire bundles, burn marks, and evidence of electrical arcing. We have analyzed thousands of these malfunction reports. Here are four recent examples from U.S. airlines:

Alaska	11/11/23	737-9 MAX airplane was descending thru 12,000 feet in icing conditions when the pilots selected wing anti-ice. A left valve amber light illuminated and, in an effort, to avoid an asymmetrical anti-icing situation the pilots deselected wing anti-ice.
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American	1/20/23	737-8 MAX airplane took off out of Miami on its way to Jamaica when the crew reported control issues and a stabilizer trim failure.
Southwest	2/24/23	737-8 MAX airplane took off out of Phoenix and the pilots immediately declared an emergency reporting no autopilot trim and no electrical trim. The airplane was delivered to Southwest the day prior. It was the maiden flight with customers.
United	11/8/23	737-8 MAX airplane suffered an engine failure at 37,000 feet. The airplane had 40 total operating hours.

On Sep 21, 2023, we issued a news release reporting on an exceedingly high number of MAX malfunction reports on 53 new MAX airplanes over a two year period at just one U.S. airline, (>1,200 reports at Alaska Airlines averaging 23 reports per airplane). As a comparison, during this same period, Airbus A320 series airplanes reported an average of three reports per airplane. These reports may be submitted under different safety programs (e.g., Service Difficulty Reporting and ETOPS), but regardless of the reporting mechanism, these failures should not be happening—especially on new airplanes. It is important to note that many of these malfunctions are recurring on the same airplane, indicating the problem is ongoing.

Although the sheer number of reports is alarming, what is more concerning is the content of the reports and the young age of the airplanes. One Alaska airplane N933AK has already had 55 reports and it is 1.7 years old. If this is happening on MAX airplanes in the United States, what is happening on the 900+ MAX airplanes overseas? We have no idea since these airlines are not required to report malfunctions to the FAA.

Safety reports are supposed to serve as an early warning system so problems can be resolved before disaster strikes. They point to intermittent and recurring problems. As the manufacturer, Boeing is required to investigate these incidents in a timely manner in conjunction with the FAA, identify root causes, and implement corrective action.

In the past when confronted with information like this, Boeing downplays the incidents, omits important information, promises to investigate, and then proceeds to tout impressive sounding operating statistics, like “Since Nov. 2020, the 737 MAX has flown more than 5.6 million flight hours and over 2.2 million revenue flights. Schedule reliability is well above 99%, which is consistent with other commercial airplane models.” Meanwhile passengers continue to board MAX airplanes reassured by the promises from Boeing.

But these trite statistics are misleading and completely useless to passengers. We should not forget that before JT610 and ET302 crashed, MAX airplanes had similar operating statistics. Indeed, both airplanes had 100% dispatch reliability on their fateful days. These statistics have never prevented a single accident and provide zero insight into the quality of individual airplanes.

It is well known in the aviation industry that the MAX airplane has an obsolete and confusing crew alerting system dating back to the 1970s that also doesn’t comply with current regulations. When these aircraft systems fail in conjunction with other factors, such as taking off or landing in poor weather, pilots can lose situational awareness and a catastrophic result can occur.



Many of these incidents have resulted in emergency action being taken by pilots to include emergency communications, using their "non-normal" checklists, conducting inflight troubleshooting, shutting down engines, conducting emergency descents, returning to the departure airport, or diverting to another airfield. And once on the ground the airplane is grounded. If these were "normal" incidents why are pilots consulting a non-normal checklist?

Frankly there have been so many reports that we are having difficulty keeping up with them. We believe most of these safety incidents are directly related to rushed engineering, chaotic production operations, undue schedule pressure being put on factory workers, and the removal of quality control inspections.

This is not the same Boeing company of the past and the MAX is not like any other airplane. The company routinely issues news releases proudly touting new MAX airplane sales, yet they remain silent on these other important issues. When Boeing learns a safety related system isn't working properly on one of their airplanes or it fails to comply with the law, doesn't the company have a legal, moral, and financial obligation to immediately notify the public? Waiting to initiate or carry out an investigation before alerting the public is unacceptable because people are unknowingly exposed to the hazard in the meantime. If they were informed, they might choose not to fly on a MAX airplane until they were confident the problems were fixed. The public has the right to know if the airplane they, or a loved one, is flying on is potentially unsafe. This should not be a secret.

Boeing is an amazing company with truly incredible people. This is a leadership problem, plain and simple. Boeing's CEO, C-suite, and Board of Directors are not only failing to protect the public, but they are also failing to protect the company. No one wants to wake up one morning and hear about another tragedy. What will happen to Boeing and our economy if another MAX airplane has a preventable crash?

The good news is these problems are fixable, but only if Boeing admits to these problems and devotes the necessary resources. At this point this will only happen if there is legal accountability or another crash.

We urge you to not grant Boeing's request to dismiss the charges and to direct further investigation into what has rightfully been called, "the deadliest corporate crime in U.S. history."

Sincerely,



Ed Pierson  
Executive Director



Joe Jacobsen  
Advisory Board Member

cc: Attorney General Merrick B. Garland, Department of Justice  
Ethiopian Airlines Flight 302 & Lion Air Flight 610 Victim Families

**References:**

**DOT/FAA Exemption No. 21246, Sep 19, 2023**

Boeing reviewed the system safety assessment for the yaw damper system and re-analyzed potential failures of the SMYD. A lightning or high intensity radiated fields (HIRF) induced failure of the SMYD may result in rudder oscillation. As a consequence, this failure could trigger a hardover condition and exceed structural limit loads. This catastrophic failure condition does not comply with §§ 25.1316(a) and 25.1317(a), lightning and HIRF, respectively.

**DOT/FAA Exemption No. 21006, Aug 25, 2023**

Boeing reviewed the system safety assessment for the high-lift system and reanalyzed potential failures of the FSEU. One of these newly analyzed potential failure modes could not be shown to comply with the requirements of §§ 25.671(c), 25.672(c), 25.1301(a), and 25.1309(b). A failure of the FSEU microprocessor could lead to simultaneous failures that affect the high-lift system. A microprocessor failure could result in the trailing edge (TE) flaps not being in the commanded position, an incorrect flap position indication, and incorrect left and right flap position indication agreement. As a consequence, this failure could potentially lead to the shutdown of the TE flap system without providing correct indication of the actual flap position. TE devices not in their commanded position, combined with no crew awareness of the flaps being out of position during takeoff and landing, is a potentially catastrophic failure condition that does not comply with §§ 25.671(c), 25.672(c), 25.1301(a), and 25.1309(b).

**FAA Airworthiness Directive Docket No. FAA-2023-1650, Aug 10, 2023**

This AD was prompted by a report indicating that use of engine anti-ice (EAI) in dry air for more than five minutes during certain environmental and operational conditions can cause overheating of the engine inlet inner barrel beyond the material design limit, resulting in failure of the engine inlet inner barrel and severe engine inlet cowl damage. This condition as previously described, if not addressed, could result in departure of the inlet and potential fan cowl failure and departure from the airplane. The departure of the inlet may cause fuselage and/or window damage, potentially resulting in decompression and hazard to window-seated passengers aft of the wing and/or impact damage to the wing, flight control surfaces, and/or empennage, which could result in loss of control of the airplane.

**FAA Airworthiness Directive Docket No. FAA-2023-1400, Aug 7, 2023**

This proposed AD was prompted by a determination that the loss of ground through the P6 panel results in the failure of the standby power control unit (SPCU). The loss of the SPCU and P6 would result in the loss of significant flight crew instrumentation and displays. During a bonding analysis, it was determined that separate redundant ground paths from the two ground blocks on the SPCU tray to airplane primary structure are required in order to prevent a single point of failure condition, which could result in a potentially confusing combination of flight deck effects and a combination of lost functionality. This condition, if not addressed, would result in loss of significant flightcrew instrumentation and displays and may lead to loss of continued safe flight and landing (CSFL).

**FAA Airworthiness Directive Docket No. FAA-2022-1422, May 9, 2023**

This AD was prompted by a report of multiple aborted takeoffs and air turn-backs (ATBs) caused by high-pressure compressor (HPC) stall, which was induced by high levels of nonsynchronous vibration (NSV). A subsequent investigation by the manufacturer revealed that wear on the No. 3 bearing spring finger housing can lead to high levels of NSV, which could induce HPC stall.

**FAA Airworthiness Directive Docket No. FAA-2023-1216, Dec 11, 2023**

This AD was prompted by a manufacturer investigation that revealed that certain high-pressure turbine (HPT) rotor stage 1 disks (HPT stage 1 disks) and a certain compressor rotor stages 6-10 spool were manufactured from material suspected to have reduced material properties due to iron inclusion. This AD requires replacing certain HPT stage 1 disks and a certain compressor rotor stages 6-10 spool. The FAA is issuing this AD to address the unsafe condition on these products.

**FAA Airworthiness Directive Docket No. FAA-2021-0319, Apr 30, 2021**

Investigation identified insufficient bonding of certain metallic support panel assemblies installed in two areas of the flight deck, which affects the electrical grounding of installed equipment. Degradation of bonds essential for the electrical grounding of equipment, if not addressed, could affect the operation of certain systems, including engine ice protection, and result in loss of critical functions and/or multiple simultaneous flight deck effects, which may prevent continued safe flight and landing. The FAA is issuing this AD to address the unsafe condition on these products.