

**SENATE COMMITTEE ON COMMERCE, SCIENCE, AND
TRANSPORTATION**

*Full Committee
Nomination Hearing
April 10, 2024*

REPUBLICAN QUESTIONS FOR THE RECORD
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COVER PAGE

SENATOR TED CRUZ (R-TX)

1. National Transportation Safety Board (NTSB) recommendations to extend the length of cockpit voice and flight data recorders to 25 hours has been open since 2017. Cockpit video recorders were first recommended by the NTSB more than ten years ago and were included in the 2021-2022 list of “most wanted” safety improvements.

- a. Do you agree with the open recommendations regarding cockpit safety?

Yes, I strongly support our recommendations regarding cockpit safety, including extending the length of cockpit voice (CVR) and flight data recorders (FDR) to 25 hours. It is important to note that FDRs already contain the last 25 hours of data so this recommendation would ensure parity between the CVR and FDR.

- b. If confirmed, how would you work with the airline industry to improve adoption of cockpit video recorders?

I have been very vocal about my support for extending the length of CVRs and FDRs to 25 hours, and – if confirmed – would continue my work with the airline industry to improve adoption of 25-hour CVRs. I believe they are critical, not just for our investigations, but also for operators to use to ensure safety.

2. NTSB maintains its reputation for transportation safety by undertaking thorough investigations that take time. Yet when a major transportation incident makes headlines, media outlets and stakeholders often rush to prejudge the case and offer speculative solutions.

- a. Do you agree that it is important for regulators and Congress to wait for the NTSB to complete its final report on an investigation along with any recommendations it may have?

See subpart (b).

- b. Why it is important to understand the cause of an accident before taking action? Please cite specific examples.

High-profile NTSB investigations result in significantly greater calls for policy action than other investigations, and the safety issues that lead to such investigations are often not immediately identified. When Congress acts with the intent of addressing safety deficiencies identified in a specific investigation before that investigation is complete, there is a risk of not fully addressing all deficiencies that are cited in NTSB's final investigative report. The risk is in missing something or getting

something wrong. The risk is in acting with incomplete information and not addressing our final recommendations which, if acted upon, will improve safety.

For example, following the 2015 Amtrak 188 derailment, there was an immediate reaction in Congress to address cell phone use by locomotive engineers. Many had jumped to the conclusion that the Amtrak locomotive engineer was distracted by his cell phone just prior to the derailment. There were calls by media and on the Hill for immediate action. While banning cell phone use during operations is something the NTSB strongly supports, and – subsequent to the derailment – DOT did take action to ban use during operations, it had no role in this particular accident.

In fact, we found that the engineer's cell phone and records from his cell phone provider showed it was not used during the trip. Specifically, there was no record of any calls, texts, instant messages, or data activity. Amtrak records indicated that the engineer's cell phone did not connect to the train's onboard wireless Internet system on the accident train. Furthermore, an examination of metadata downloaded from the cell phone was consistent with it's being powered off during the accident trip. NTSB found that the engineer's acceleration to 106 mph as he entered a curve with a 50 mph speed restriction was due to his loss of situational awareness likely because his attention was diverted to an emergency situation with another train. Contributing to the accident was the lack of a positive train control system. Contributing to the severity of the injuries were the inadequate requirements for occupant protection in the event of a train overturning, and issue we regularly encounter in train accidents. The latest: Joplin, Montana. This is something that has NOT been adequately addressed by FRA eight years later which Congress can and should take action on before another tragedy occurs.

That being said, the NTSB's investigative process is explicitly designed to ensure urgent safety issues *can* be addressed before we complete an investigation. We have issued numerous critical investigative updates, urgent or early safety recommendations, and safety alerts over the course of our many investigations when such updates are warranted by the facts at hand.

Although all safety issues specific to any particular incident may not be immediately identified, nothing precludes an operator, regulator, or Congress from addressing any of the various safety recommendations, including urgent safety recommendations, we have already made before a specific investigation is completed.

For example, we currently have over 190 open rail safety recommendations. These include 5 recommendations to the US Department of Transportation (DOT), 90 recommendations to the Federal Railroad Administration (FRA), including the recommendation on occupant protection described above, and 12 recommendations to the Pipeline and Hazardous Materials Safety Administration (PHMSA). There are

also over 115 recommendations to the FRA that are closed with unacceptable action. Every one of these recommendations could be addressed *today*.

3. The NTSB has provided recommendations for the National Weather Service many times, including following the sinking of the El Faro and the capsizing of the Seacor Power.
 - a. Does confusing, unclear, or poorly timed weather information reduce transportation safety?

Yes, confusing, unclear, or poorly timed weather information significantly reduces transportation safety.

- b. Can you provide examples of how specific failures in the U.S. weather forecasting system lead to accidents?

Two examples:

On February 15, 2019, about 1730 Pacific standard time, a Cirrus SR22, N917SR, was destroyed when it impacted terrain about 3.4 nautical miles (nm) north-northeast of Ely Airport (ELY), Ely, Nevada, while the pilot was maneuvering at low altitude in an attempt to locate the airport. The private pilot and passenger received fatal injuries.

About 1908 central daylight time on July 19, 2018, the 33-foot-long, modified WWII amphibious passenger vessel Stretch Duck 7, part of a fleet of vessels operated by Ride The Ducks Branson, sank during a storm with heavy winds that developed rapidly on Table Rock Lake near Branson, Missouri. Of the 31 persons aboard, 17 fatalities resulted.

As a result of these accidents, the NTSB issued a report to urge the National Weather Service (NWS) and the Federal Aviation Administration (FAA) to revise processes, procedures, and reporting capabilities of automated weather systems to prevent tragedies. Here is a link to the report:

<https://www.nts.gov/investigations/AccidentReports/Reports/ASR2101.pdf>.

Additionally, I have attached a list of our open recommendations to the National Oceanic and Atmospheric Administration and the NWS.

NTSB Open Recommendations to NOAA/NWS

Number	Status	Recommendation
A-22-027	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Work with the Federal Aviation Administration to develop the special federal aviation regulation in Safety Recommendation A-22-25 for air tour airplane flights in the Ketchikan area that imposes weather minimums that are more conservative than those specified in Title 14 Code of Federal Regulations Part 135.
M-22-009	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: In collaboration with the Federal Aviation Administration and the US Air Force, determine if it is appropriate to lower the radar angle for coastal weather radar sites without compromising aviation safety or other products, and lower the radar angle at those sites where it is appropriate.
A-22-022	Open - Initial Response Received	TO THE NATIONAL WEATHER SERVICE: Work with the Federal Aviation Administration to develop a graphical forecast depicting potential areas of supercooled large droplet icing conditions in Alaska and make this information available to pilots.
A-21-043	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Work with the Federal Aviation Administration to modify airmen’s meteorological information (AIRMET) advisory issuing practices to include graphical AIRMET advisories with higher granularity, taking into account the effect it would have on all National Airspace System users.
A-21-044	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Work with the Federal Aviation Administration to operationalize a turbulence nowcast, such as the graphical turbulence guidance nowcast.
M-21-011	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Make your Ocean Prediction Center freezing spray website operational and promote its use in industry.
A-21-001	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Revise National Weather Service Instruction 30-2111 to clearly define “outage,” “failure,” and similar terms regarding individual automated surface observing system (ASOS) sensor and component performance and to include explicit maintenance actions intended to mitigate presumed erroneous ASOS sensor reporting that does not generate failure flags in maintenance monitoring data.

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A-21-002	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Revise National Weather Service Instruction 30-2112 to provide operational (forecasting) staff at weather forecast offices the authority to determine whether report processing for an automated surface observing system sensor at an unattended site (or other site not currently being appropriately augmented) should be turned off immediately if the sensor is believed to be reporting erroneously but does not yield flags in its maintenance monitoring data and to include clear instructions for performing this task.
A-20-019	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Add terminal doppler weather radar data to the HEMS Weather Tool overlay (as recommended in Safety Recommendation A-20-16 to the Federal Aviation Administration).
A-20-020	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Provide capability in the HEMS Weather Tool to graphically display areas of weather radar limitations, including areas where beams may lack low-altitude coverage, areas that lack radar coverage, and areas of beam blockages (as recommended in Safety Recommendation A-20-17 to the FAA).
A-18-021	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Revise National Weather Service Instruction 10-811 to include guidance on the issuance of airmen’s meteorological information advisories and other products that advise of nonconvective turbulence hazards when convective significant meteorological information advisories are active, or may be issued, in the same region.
A-18-022	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Develop and provide formal training to your aviation weather forecasters on the analysis, interpretation, and forecasting of low-level turbulence.
M-17-052	Open - Acceptable Response	TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION: Coordinate with the National Weather Service, vessel operators, automatic identification system (AIS) service providers, and required onboard technology vendors to perform a “proof-of-concept” project to establish whether AIS, or another suitable alternative, can practically deliver, in a single message, (1) meteorological and oceanographic data obtained directly from automated instrumentation and manual observation on board vessels at sea, (2) vessel

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		position and time of observation, and (3) other important metadata, by satellite and land-based receivers, to global meteorological authorities via the Global Telecommunication System with acceptable time delay.
M-17-008	Open - Acceptable Response	TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION: Develop and implement a plan specifically designed to emphasize improved model performance in forecasting tropical cyclone track and intensity in moderate-shear environments.
M-17-009	Open - Acceptable Response	TO THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION: Develop and implement technology that would allow National Weather Service forecasters to quickly sort through large numbers of tropical cyclone forecast model ensembles, identify clusters of solutions among ensemble members, and allow correlation of those clusters against a set of standard parameters.
M-17-010	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Work with international partners to develop and implement a plan to ensure immediate dissemination to mariners, via Inmarsat-C SafetyNET (and appropriate future technology), of the Intermediate Public Advisories and Tropical Cyclone Updates issued by the National Weather Service, in a manner similar to the current process of disseminating the Tropical Cyclone Forecast/Advisory.
A-14-017	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Modify National Weather Service (NWS) aviation weather products to make them consistent with NWS nonaviation-specific advisory products when applicable, so that they advise of hazardous conditions including aviation hazards less than 3,000square miles in area that exist outside of terminal aerodrome forecast coverage areas.
A-14-018	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Provide a primary aviation weather product that specifically addresses both the potential for and the existence of mountain wave activity and the associated aviation weather hazards (as

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		recommended in Safety Recommendation A-14-14 to the Federal Aviation Administration).
A-14-019	Open - Unacceptable Response	TO THE NATIONAL WEATHER SERVICE: In cooperation with the Federal Aviation Administration (FAA), revise the Interagency Agreement between the FAA and the National Oceanic and Atmospheric Administration/National Weather Service (NWS) for the center weather service units (CWSU) and its accompanying statement of work if needed to add the new responsibilities of CWSU personnel in response to Safety Recommendations A-14-17 and/or A-14-18 to the NWS, which are in addition to the other responsibilities currently performed by the NWS under this agreement.
A-14-020	Open - Acceptable Response	TO THE NATIONAL WEATHER SERVICE: Establish a protocol that will enhance communication among meteorologists at the center weather service units, the Aviation Weather Center, and, as applicable, other National Weather Service facilities to ensure mutual situation awareness of critical aviation weather data among meteorologists at those facilities.
A-14-021	Open - Unacceptable Response	TO THE NATIONAL WEATHER SERVICE: Establish standardized guidance for all National Weather Service aviation weather forecasters on the weighting of information reported in pilot reports (PIREPs) that will (1) promote consistent determination of hazard severity reported in a PIREP and (2) assist in aviation weather product issuance.