

## HOUSE OF REPRESENTATIVES STAFF ANALYSIS

**BILL #:** HB 77 Diesel Exhaust Fluid

**SPONSOR(S):** Overdorf

**TIED BILLS:** **IDEN./SIM. BILLS:** SB 1082

| REFERENCE  | ACTION    | ANALYST | STAFF DIRECTOR or<br>BUDGET/POLICY CHIEF |
|--|-----------|---------|--|
| 1) Tourism, Infrastructure & Energy Subcommittee           | 14 Y, 3 N | Johnson | Keating                                  |
| 2) Infrastructure & Tourism Appropriations<br>Subcommittee | 14 Y, 0 N | Davis   | Davis                                    |
| 3) Commerce Committee                                      |           |         |  |

### SUMMARY ANALYSIS

The United States Environmental Protection Agency requires diesel exhaust fluid (DEF) to be used in newer diesel engines, including diesel-powered vehicles used for aircraft and airport support. DEF is an exhaust additive that reduces diesel emissions by neutralizing nitrogen oxide into harmless nitrogen gas and water.

In recent years, aircraft have experienced engine shutdowns and other engine operability issues resulting from the contamination of jet fuel due to the inadvertent filling of an aircraft fuel truck's anti-icing injection system reservoirs with DEF instead of a fuel system icing inhibitor. The Federal Aviation Administration has made preliminary safety recommendations regarding the use of DEF at airports, including additional training and the adoption of best management practices.

The bill requires certain public airports that utilize DEF to create a DEF safety mitigation and exclusion plan and provides minimum requirements for each plan. The plan must be approved by the governing body of the airport and submitted to the Department of Transportation (DOT). The airport must regularly review its plan and annually certify compliance to DOT.

The bill may have an indeterminate but likely insignificant, negative fiscal impact on state and local governments. Tenants of public airports may incur expenditures associated with complying with DEF safety mitigation and exclusion plans. See Fiscal Analysis for details.

The bill has an effective date of July 1, 2021.

# FULL ANALYSIS

## I. SUBSTANTIVE ANALYSIS

### A. EFFECT OF PROPOSED CHANGES:

#### Current Situation

##### Diesel Exhaust Fluid

Under the Clean Air Act of 1990, the United States Environmental Protection Agency (EPA), in order to curb air pollution, has mandated stronger emission control standards for vehicle engines. Nitrogen oxide (NOx) emissions can be a major pollutant from diesel engines and the EPA has targeted them for significant reductions. In 2007, the EPA mandated that all new on-road heavy duty vehicles manufactured after 2010 meet certain requirements, with light duty vehicles to meet these requirements in 2014. In order to meet these standards, technologies such as selective catalytic reduction have been developed.<sup>1</sup>

In diesel vehicles, selective catalytic reduction reduces NOx emissions by injecting diesel exhaust fluid (DEF) into ammonia, which in the presence of the catalyst, reacts with the exhaust NOx to neutralize it into harmless nitrogen gas and water.<sup>2</sup>

DEF is a nontoxic, nonhazardous, and colorless aqueous solution of automotive grade Urea in deionized water.<sup>3</sup>

##### Airport Use of Diesel Exhaust Fluid

At public airports, the airport and its tenants use DEF in various diesel-powered vehicles including aircraft refueling equipment, diesel aircraft fire-fighting equipment, life-saving equipment, and emergency generators.<sup>4</sup>

In recent years, aircraft have experienced engine shutdowns and other engine operability issues due to the contamination of jet fuel as a result of the inadvertent filling of aircraft fuel trucks anti-icing injection system with DEF instead of fuel system icing inhibitor.<sup>5</sup>

Due to fuel system designs, some aircraft require fuel system icing inhibitor to prevent engine operability issues in cold weather. Due to this requirement, for many years, airport refueling trucks have been equipped with fuel system icing inhibitor injection systems, which require a fuel system icing inhibitor fluid reservoir mounted on the truck to supply the injection system during refueling. Newer refueling trucks contain a DEF reservoir in addition to the fuel system icing inhibitor reservoir. Since the EPA's mandate for selective catalytic reduction on non-road diesel trucks began in 2014, airport refueling trucks with two reservoirs have begun appearing at airports.<sup>6</sup>

Between November 2017 and May 2019, there were three instances, two in Florida, in which multiple aircraft had jet fuel contaminated with DEF or were refueled using equipment exposed to DEF. Because of these instances, numerous aircraft had to perform emergency landings. The Federal Aviation Administration (FAA) conducted a hazard analysis and issued preliminary recommendations to address the problem, including additional training for ground support crews, adoption of best

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<sup>1</sup> Aircraft Diesel Exhaust Fluid Contamination Working Group, *A collaborative Industry Report on the Hazard of Diesel Exhaust Fluid Contamination of Aircraft Fuel*, June 11, 2019, pp. 3-4. Available at: [https://download.aopa.org/advocacy/2019/2019\\_06\\_11\\_Aircraft\\_DEF\\_Contamination\\_Working\\_Group\\_Report\\_FINAL.pdf#:~:text=AIRCRAFT%20DIESEL%20EXHAUST%20FLUID%20CONTAMINATION%20WORKING%20GROUP%20REPORT,events%20that%20have%20occurred%20to%20date;%20to%20immediately](https://download.aopa.org/advocacy/2019/2019_06_11_Aircraft_DEF_Contamination_Working_Group_Report_FINAL.pdf#:~:text=AIRCRAFT%20DIESEL%20EXHAUST%20FLUID%20CONTAMINATION%20WORKING%20GROUP%20REPORT,events%20that%20have%20occurred%20to%20date;%20to%20immediately) (last visited February 3, 2021).

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> Email from Lisa Waters, President/CEO Florida Airports Council, Diesel Exhaust Fluid, Nov. 4, 2019.

<sup>5</sup> Federal Aviation Administration, *Safety Assessment for Jet Fuel Contamination with Diesel Exhaust Fluid*. August 30, 2019, p.4. Available at: [https://www.nata.aero/assets/Site\\_18/files/GIA/NATA\\_News/2019-08-30\\_Safety\\_Risk\\_Assessment\\_Report\\_DEF-Final.pdf](https://www.nata.aero/assets/Site_18/files/GIA/NATA_News/2019-08-30_Safety_Risk_Assessment_Report_DEF-Final.pdf) (last visited February 3, 2021).

<sup>6</sup> *Id.*

management practices, and dyeing either DEF or fuel system icing inhibitor so they can be distinguished from each other.<sup>7</sup> One recommendation called for the aviation industry to request that EPA issue permanent relief from emission control/system performance inducements (which require the use of DEF) for any non-road diesel powered vehicles at or on airports.<sup>8</sup>

The Florida Airports Council<sup>9</sup> has initiated efforts to address fuel contamination issues and specifically DEF. According to the Council, this effort is broad and intended to call attention to the issue and to educate airports, users, fuel providers and community leaders about the safety concerns and how to avoid fuel contamination. The Council indicates that it is working closely with its industry partners to develop a program of operational best management practices that all Florida airports and fuel providers can add to their training programs.<sup>10</sup>

## Effect of the Bill

The bill requires the governing body of certain public airports<sup>11</sup> to create a DEF safety mitigation and exclusion plan for each fixed-base operator<sup>12</sup> that performs onsite treatment of aviation fuel with a fuel system icing inhibitor. This requirement applies to public airports at which:

- Aviation fuels receive onsite treatment with fuel system icing inhibitors;
- Aviation fuel is delivered by a publicly or privately owned fixed-base operator; and
- Any aircraft fuel delivery vehicle or ground service equipment that uses DEF is operated within 150 feet of any aircraft.

At a minimum, each airport's plan must include:

- A full inventory of each fixed-base operator's DEF on the airport's premises.
- Designation of specific areas where the fixed-base operator's DEF may be stored on the airport's premises. To the extent practicable, such areas may not be located within or on a vehicle operated for the fueling or servicing of aircraft or at any aviation fuel transfer facility or bulk aviation fuel storage facility.
- Designation of specific areas where DEF may be added to vehicles. Such areas may not be located in aircraft operating areas.
- Incorporation of best practices for ensuring the proper labeling and storage of diesel exhaust fluid.
- Training in the proper use and storage of DEF for all employees of the fixed-base operator who may come in contact with such fluid in the ordinary course of their duties.
- Designation of specific areas where the fixed-base operator's fuel system icing inhibitor may be stored on the airport's premises.
- Best practices for ensuring the proper labeling and storage of the fixed-base operator's fuel system icing inhibitor.
- Training in the proper use and storage of fuel system icing inhibitors for all employees of the fixed-base operator who may come in contact with fuel system icing inhibitors in the ordinary course of their duties.
- Physical measures to secure fuel system icing inhibitor fill points on the fixed-base operator's aircraft fuel delivery vehicles. Such measures must prevent the addition of any fluid to the fuel system icing inhibitor fill point by unauthorized personnel.

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<sup>7</sup> *Id.*

<sup>8</sup> *Id.* at 2

<sup>9</sup> The Florida Airports Council is the official association of Florida's publicly-owned and –operated airports. Florida Airports Council, <https://www.floridaairports.org/about-us/> (Last visited January 15, 2021).

<sup>10</sup> Florida Airports Council: <https://www.floridaairports.org/> (last visited January 15, 2021).

<sup>11</sup> Section 330.37(6), F.S., defines the term “public airport” as an airport, publicly or privately owned, which is open for use by the public.

<sup>12</sup> The term “fixed base operator” refers to commercial businesses allowed to operate on airport grounds in order to provide services to the airport. Fixed based operators include, but are not limited to, fueling service, aircraft maintenance services and baggage handling. <https://www.presidential-aviation.com/fbo/> (last visited December 21, 2020).

Each airport's governing body, by September 1, 2021, must approve the DEF safety mitigation and exclusion plan. By October 1, 2021, the governing body must submit the plan to the Department of Transportation (DOT) and certify that all diesel exhaust fluid within the airport's premises has been secured.

By January 1, 2022, the DEF safety mitigation and exclusion plan must be fully implemented on each airport's premises.

By January 1 of each year, beginning in 2023, each public airport must certify to DOT the airport's compliance with its diesel exhaust fluid safety mitigation and exclusion plan.

**B. SECTION DIRECTORY:**

**Section 1** Creates s. 330.401, F.S., relating to the diesel exhaust fluid safety mitigation and exclusion plans for public airports.

**Section 2** Provides an effective date of July 1, 2021.

**II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT**

**A. FISCAL IMPACT ON STATE GOVERNMENT:**

1. Revenues:

The bill does not appear to impact state government revenues.

2. Expenditures:

There is an indeterminate, but likely insignificant fiscal impact to DOT associated with reviewing airport DEF safety mitigation and exclusion plans. These expenditures can be absorbed within existing resources.

**B. FISCAL IMPACT ON LOCAL GOVERNMENTS:**

1. Revenues:

The bill does not appear to impact local government revenues.

2. Expenditures:

There is an indeterminate, but likely negative fiscal impact to local governments operating public airports associated with complying with DEF safety mitigation and exclusion plans.

**C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:**

Tenants of public airports, including fuel providers, will incur expenditures associated with complying with the DEF safety mitigation and exclusion plans; however, the impact is indeterminate.

The bill may reduce costs associated with aircraft engine damages caused by DEF contamination and emergency response related to engine failures.

**D. FISCAL COMMENTS:**

None.

### **III. COMMENTS**

#### **A. CONSTITUTIONAL ISSUES:**

##### **1. Applicability of Municipality/County Mandates Provision:**

The county/municipality mandates provision of Art. VII, s. 18, of the Florida Constitution may apply because the bill requires public airports to develop DEF safety mitigation and exclusion plans; however, an exemption may apply because there is likely an insignificant fiscal impact.

##### **2. Other:**

None.

#### **B. RULE-MAKING AUTHORITY:**

This bill does not grant rulemaking authority, nor does it require rulemaking authority.

#### **C. DRAFTING ISSUES OR OTHER COMMENTS:**

None.

### **IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES**

Not applicable.