Mar 2nd, 8:00 AM - 9:30 AM

Drones: Where does the National Airspace System Start?

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DRONES: Where does the National Airspace System Start?

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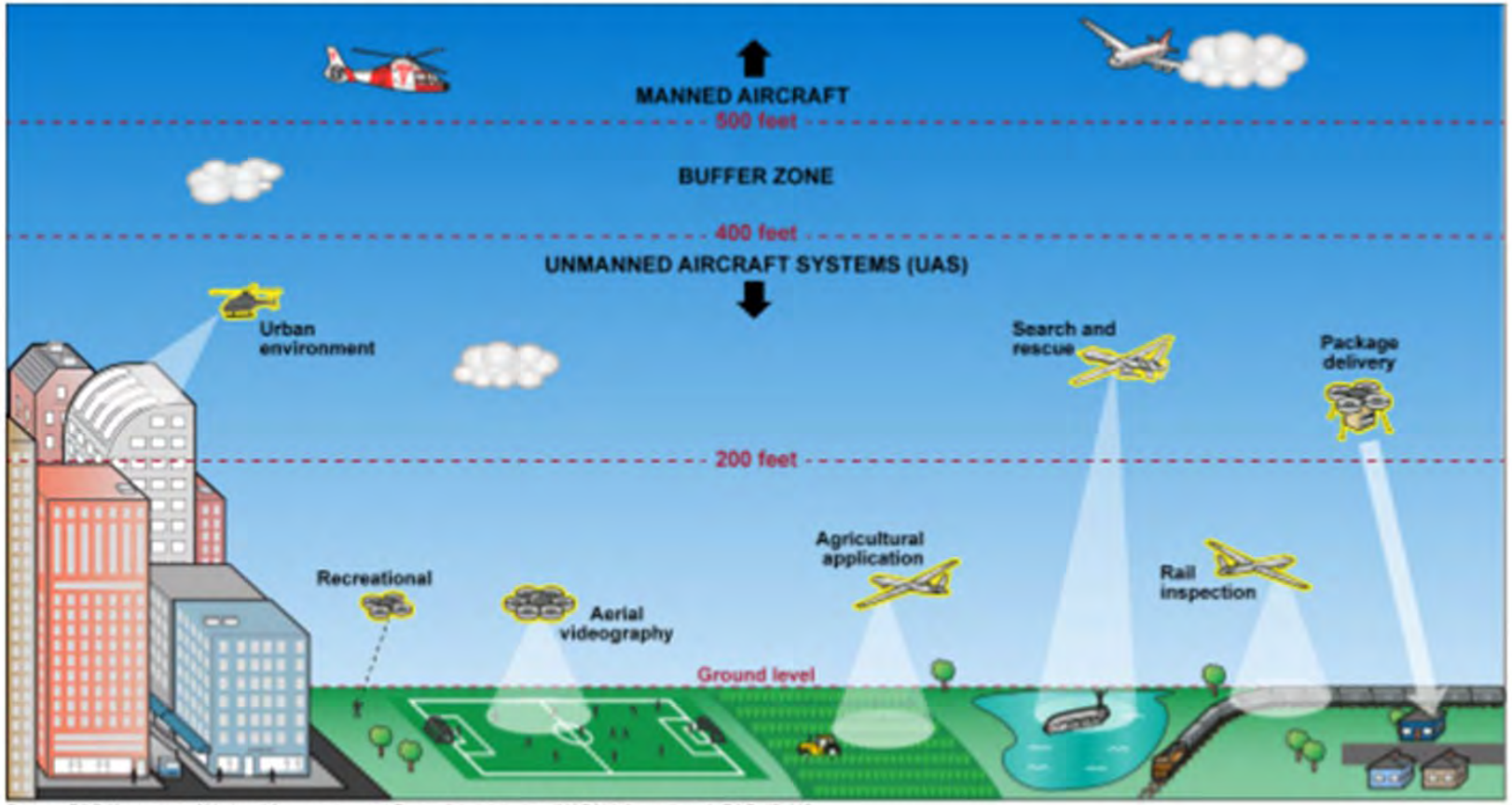
Monday March 2, 2020
8:00 am
National Training Aircraft Symposium
Embry-Riddle Aeronautical University, Daytona Beach, Florida

Where does the National Airspace System Start?

Figure 6: Illustration of a Potential Model for the National Aeronautics and Space Administration's (NASA) Concept of Operations for the Unmanned Aircraft System Traffic Management System



Source: GAO illustration of National Aeronautics and Space Administration (NASA) information. | GAO-18-110

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Where does the National Airspace System Start?

HISTORICAL CONTEXT

- Confusing property rights with the need for technological advancement versus the benefit of flight over someone's property
- Garrettsville, Ohio and 2500 Longhorn Hens (1928)
- Smith v. New England Aircraft Company, 170 N.E. 385 (Mass 1930)- Five Hundred Foot Rule
- Swetland v. Curtiss Airports Corporation, 55 F.2d 201 (6th Cir. 1932)
- Limitation on "cujus est solum"
- Banner Stuart, *Who Owns the Sky* (2008).

Where does Private Property Start?

Trespass

"One is subject of liability to another for trespass, irrespective of whether he thereby causes harm to any legally protected interest of the other, if he intentionally enters land in the possession of the other, or causes a thing or a third person to do so, or Remains on the land, or fails to remove from the land a thing which he is under a duty to remove"

Restatement (Second) of Torts 158 (1965)

Where Does Private Property End?

American Bar Association and the American Law Institute
Restatement of Torts (1934)

(Draft) Trespass- A Trespass on land may be committed by entering or remaining:

(a) On the surface of the earth, or
(b) Beneath the surface thereof, or
(c) Above the surface thereof

Where does Private Property End and the National Airspace Begin?

Restatement (Second) of Torts

"Flight by an aircraft in the air space above the land of another is a trespass if, but only if,

(a) it enters into the immediate reaches of the air space next to the land, and
(b) it interferes substantially with the other's use and enjoyment of his land."

(RESTATEMENT (SECOND) OF TORTS 159(2)).

Private Property vs National Airspace System (NAS)

National Conference of Commissioners on Uniform State Law (2018)
Tort Law Relating to Drones Act

Aspirational hopes of a ”uniform per se aerial trespass law”
“The Intrusion Rule”: Presumption of Intrusion

(1) Drones are operated below a certain height; and
(2) Within a certain distance of the property line

Private Property vs National Airspace

National Conference of Commissioners on Uniform State Law (2019)
Tort Law Relating to Drones Act

SECTION 5. AERIAL TRESPASS BY UNMANNED AIRCRAFT

(a) A person is liable for aerial trespass if the person intentionally and without the consent of the land possessor operates an unmanned aircraft in the airspace over the land possessor's real property and causes substantial interference with the use and enjoyment of the property.

Property Rights, Airplanes and the NAS

U.S. v. Causby, 328 U.S, 256 (1946)

- Taking under the Fifth Amendment
- Never addresses trespass or airspace
- Low altitude of 83 feet to 365 feet above the property

Griggs v. Allegheny, 369 U.S. 857 (1962)

- Noise from airplanes- unbearable for residential use
- “Griggs liability”

Privacy & Judicial Cases: Private Property vs. NAS

California v. Ciraolo, 476 U.S. 207 (1986)

Defendant's yard was not constitutionally protected from observation from a public vantage point, such as public airspace

Kyllo v. United States, 533 U.S. 27 (2001)

Thermal imaging to see inside persons home – was a search and an intrusion into the Defendant's home

United States v. Jones, 565 U.S. 400 (2012)

Police attached a GPS tracker constituted a trespass on defendant's personal effects and was a search per se

Florida v. Riley, 488 U.S. 445 (1989)

Aerial Surveillance above 400 feet does not constitute a search and does not require a warrant

Federal Law: 49 U.S.C. § 40103 (a)

THE UNITED STATES CONSTITUTION

CASE LAW

CODE LAW

(a) Sovereignty and Public Right of Transit. —

(1) The United States Government has exclusive sovereignty of airspace of the United States.

(2) A citizen of the United States has a public right of transit through the navigable airspace.

(b) USE OF AIRSPACE.—

(1) The Administrator of the Federal Aviation Administration shall develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace. The Administrator may modify or revoke an assignment when required in the public interest.

REGULATIONS

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Local and State Law and Private Property

FAA has increasingly asserted exclusive jurisdiction over all airspace “above the grass”

Where does Local Authority end and Federal Authority begin?

Resolution:

(1)By Legislation

(2)By Litigation

Advanced Notice of Proposed Rule Making Pub. L 112-95

Integration of UAS Into the NAS

The FAA is working to safely integrate small UAS operations into the NAS using a phased, incremental, and risk-based approach to rulemaking within the FAA's existing statutory authority.

Stand-Off Distances

Small UAS have the capability to operate in locations that are inaccessible to manned aircraft as well as operate at reduced horizontal and vertical stand-off distances from people and structures compared to manned aircraft.

Stand-off distances are the amount of space between a small UAS and the closest person or object. They can have a horizontal component, a vertical component, or be measured directly using a slant range.

Notice of Proposed Rule Making: Operations over Moving Vehicles 84 FR 3856 Feb 2019

- This waiver applies to operations over moving vehicles:
- Under existing regulations, an operator may seek a waiver to operate over moving vehicles using the waiver provision applicable to operations over people. (14 C.F.R. § 107.205(g))
- This proposal would establish a stand-alone waiver provision applicable to operations over moving vehicles to make the process clearer for operators.

Developing Airways Over Roadways, and Public Roadways and Public Easements

NORTHWEST U.S.

SOUTH CENTRAL MONTANA

OPERATIONS IN SOUTH CENTRAL MONTANA

Unmanned Aircraft System activity over railroad track in south central Montana. Pilots flying above the railroad track between Broadview, MT and Raynesford, MT from surface to 400'AGL within one nautical mile from the railroad should be alert for unmanned aircraft systems operating at 300-400' AGL. Launch and recovery operations from surface to 400'AGL will occur at multiple sites along the railroad. Day and night UAS operations will be conducted in accordance with Visual Flight Rules, beyond visual range of the UAS pilots. Monitor CTAF 122.9 in the vicinity of Rye Gate (8U0) and Wheatland County Harlowton (HWO), and 122.8 in the vicinity of Stanford (S64). Flight periods will be available via NOTAM.

NORTHEASTERN MONTANA

OPERATIONS IN NORTHEASTERN MONTANA

Unmanned Aircraft System activity over railroad track in northeastern Montana. Pilots flying above the railroad track between Vandalia, MT and Chinook, MT from surface to 400'AGL within one nautical mile from the railroad should be alert for unmanned aircraft systems operating at 300-400' AGL. Launch and recovery operations from surface to 400'AGL will occur at multiple sites along the railroad. Day and night UAS operations will be conducted in accordance with Visual Flight Rules, beyond visual range of the UAS pilots. Monitor CTAF 122.8 in the vicinity of Opheim (S71), CTAF 122.9 in the vicinity of Harlem (4S3) and Fort Belknap Agency (U09). 122.8 in the vicinity of Malta (M75), and 122.9 in the vicinity of Hinsdale (6U5). Flight periods will be available via NOTAM.

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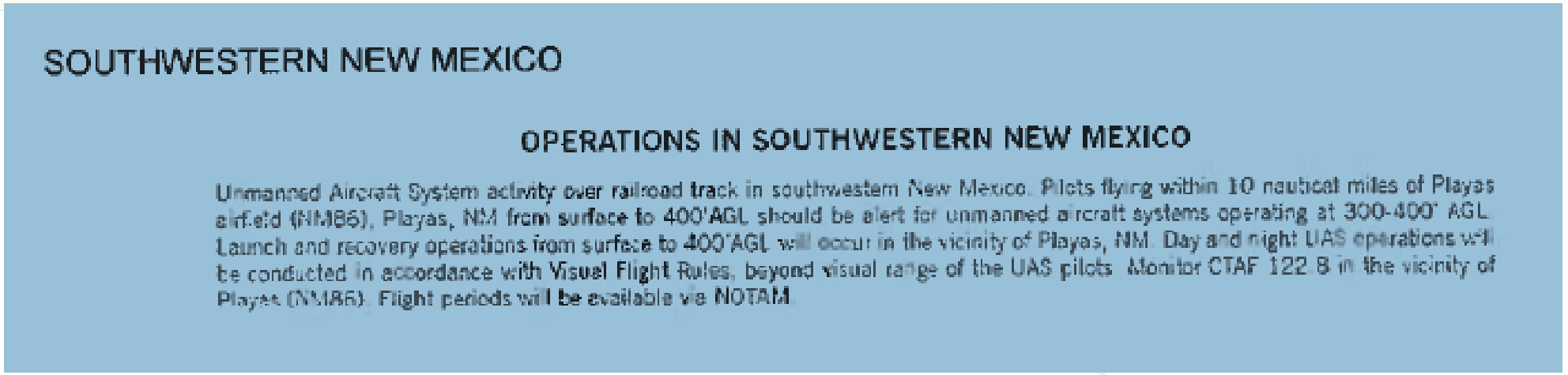
Developing Airways Over Roadways, and Public Easements



SOUTHWESTERN NEW MEXICO

OPERATIONS IN SOUTHWESTERN NEW MEXICO

Unmanned Aircraft System activity over railroad track in southwestern New Mexico. Pilots flying within 10 nautical miles of Playas airfield (NM86), Playas, NM from surface to 400'AGL should be alert for unmanned aircraft systems operating at 300-400' AGL. Launch and recovery operations from surface to 400'AGL will occur in the vicinity of Playas, NM. Day and night UAS operations will be conducted in accordance with Visual Flight Rules, beyond visual range of the UAS pilots. Monitor CTAF 122.8 in the vicinity of Playas (NM86). Flight periods will be available via NOTAM.

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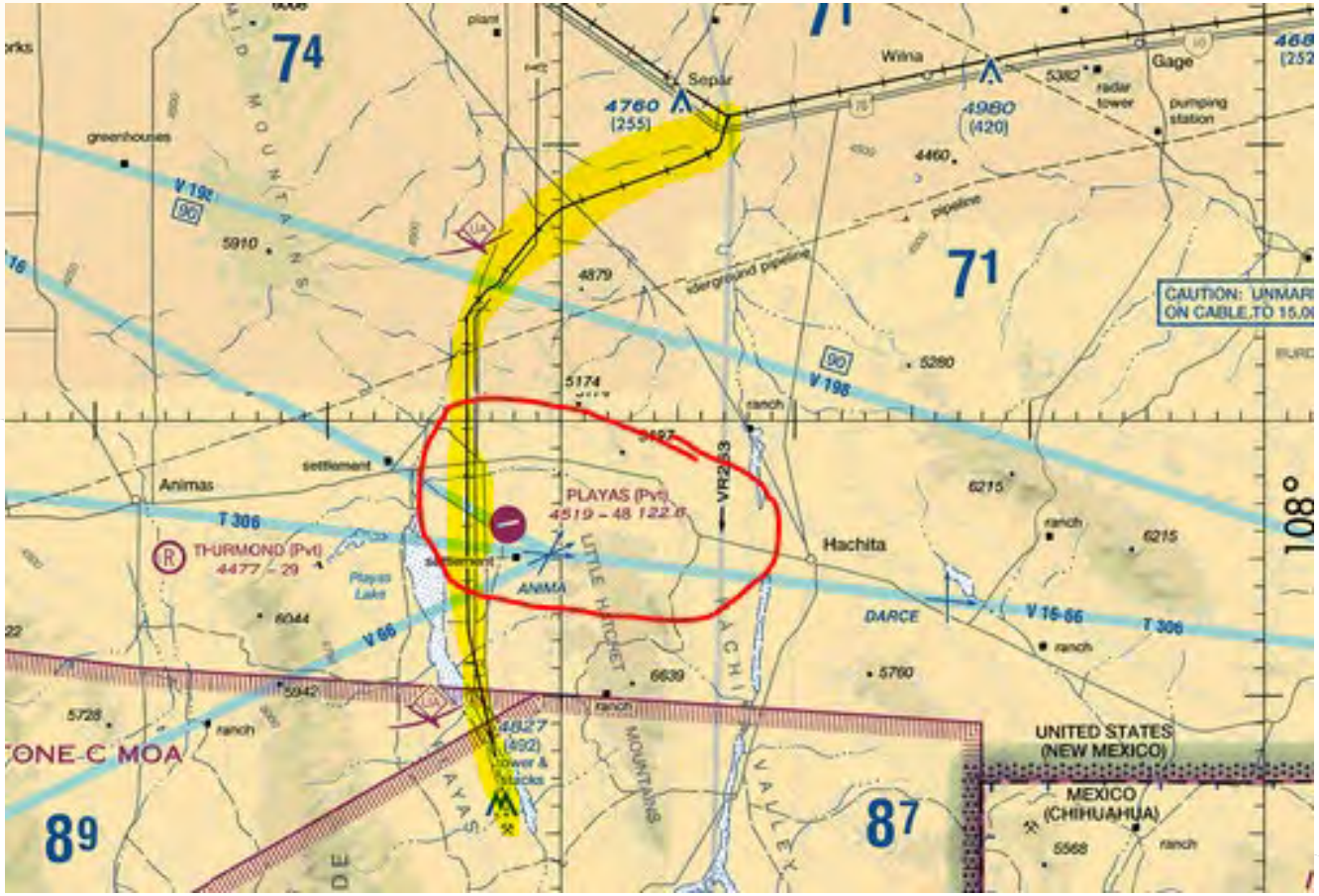

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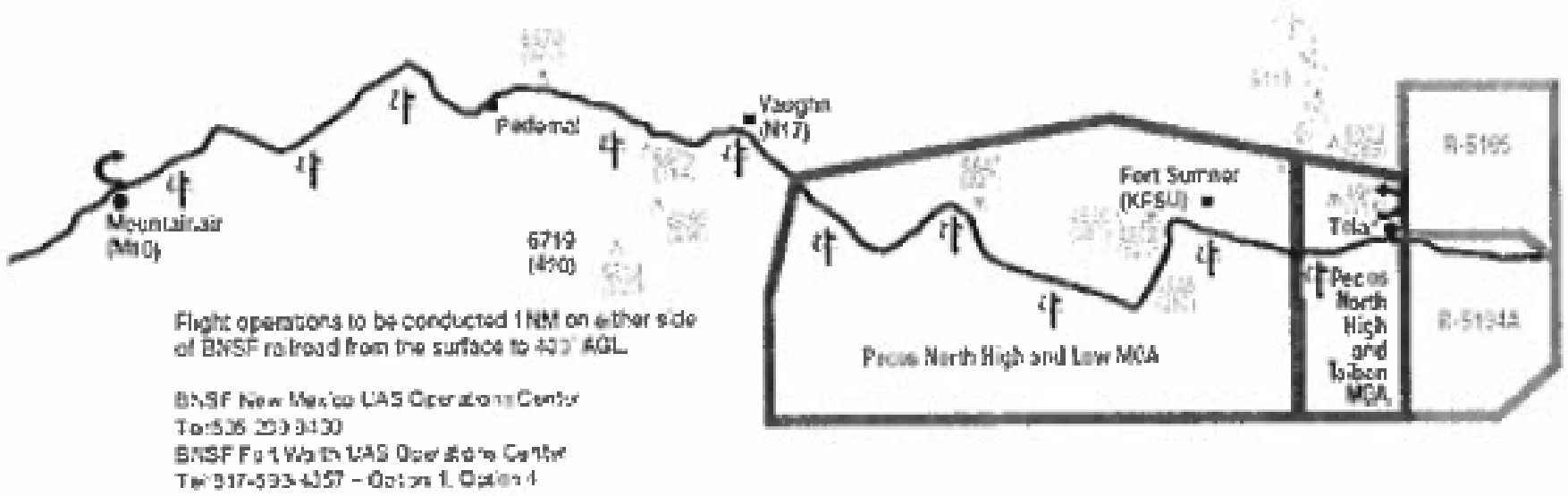
EAST CENTRAL NEW MEXICO

OPERATIONS IN EAST CENTRAL NEW MEXICO

Unmanned Aircraft System activity over railroad track in East Central New Mexico. Pilots flying above the railroad track between Mountainair, NM and Taiban, NM from surface to 400'AGL within one nautical mile from the railroad should be alert for unmanned aircraft systems operating at 300-400' AGL. Launch and recovery operations from surface to 400'AGL will occur at multiple sites along the railroad. Day and night UAS operations will be conducted in accordance with Visual Flight Rules, beyond visual range of the UAS pilots. Monitor CTAF 122.9 in the vicinity of Mountainair (M10) and Vaughn (N17) and 122.8 in the vicinity of Fort Sumner (KFSU). Flight periods will be available via NOTAM.

Launch & Recovery Operations




LAKE ERIE
CLEVELAND CLASS B
TORONTO
2500 MSL
1200 AGL
CLEVELAND
YOUNGSTOWN
13
18
22
21
27
41°


AT & BELOW 3500'
DAYTONA BEACH CLASS C
See NOTAMs/Supplement for Class D/E (and) off hrs
ORMOND BEACH (OMN)
CT 119.075
ATIS 118.475
Ormond Beach
122.18
VORTAC
122.4
ORMOND BEACH
OMN
ST PETERSBURG
VR1007
05
12
410
SFC
DAYTONA BEACH
TAC
DAYTONA BEACH INTL (DAB)
CT 120.7 ATIS 132.875
CROSS CREEK
LAFAYETTE (PVD)
SPRUCE CREEK
CTC DAYTONA BEACH APP
WITHIN 20 NM ON 123.35 322.3
AT & BELOW 3500'
See NOTAMs/Supplement for Class D off hrs
NEW SMYRNA BEACH (EVB)
CT 119.675
ATIS 124.625
VPLJA

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QUESTIONS?

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