

**Report By:**

National TAB  
1329 E. KEMPER ROAD  
SUITE 4210  
CINCINNATI, OH 45246



**Report: TAB Report**  
**Function: Test, Adjust, & Balance**  
**Date: 03/30/2026**  
**Completed By: National TAB**

**PROJECT**  
**01-25-26 QT #1182 COLUMBIA, SC**

580 JAMIL RD

COLUMBIA, SC

**Client**

QUIKTRIP  
4705 SOUTH 129TH EAST AVENUE  
TULSA, OK 74134

# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

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# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC  
Function: Test, Adjust, & Balance

## Project Summary

### Project Summary

The summary below provides a quick understanding of our scope of work and general testing procedures. Enclosed in the report are further details about your building performance including recommendations, asset data, and pictures. Our focus is to work with the trades to remedy any issues or deficiencies during the actual field balancing and not after the balancing has occurred to achieve a positive environment and outcome. The level of success is determined by the availability of the trades, possible parts needed, or time constraints.

### RTU's (Roof Top Units) w/ Diffusers

Each of the RTU's were measured at their terminal devices or via traverse to establish a total flow for that unit. Each RTU was adjusted to within tolerance of the engineer's design flow. Each outlet was then adjusted for comfort and hood performance. Outside air was measured by reading the intake air opening with a velocity grid and multiplying by the free area. The outside air damper was adjusted until the airflow was within the design requirements. Any equipment that fell outside of that tolerance is noted throughout the report.

### Kitchen Exhaust Hood & Associated Fans

Each kitchen exhaust fan was measured at the hood filter bay utilizing a velocity matrix and a manufacturer's correction factor. Each filter velocity is multiplied by the manufacturer's corrected area. The sum of these readings equals the total flow of the exhaust fans. The total flow of the exhaust was then adjusted to within tolerance of the design flow. Any EF's that fell outside of this tolerance is noted throughout the report.

### Final Building Tests

After completing the test and balance the final building pressure was measured. It was confirmed that the building pressure fell within acceptable tolerances and that the pressure measurement coincides with the actual and design net airflow. Any deviations from these standards are noted throughout the report. The hood capture was tested at the perimeter of the hood and the cook top level with the equipment heat on to ensure satisfactory hood capture and containment.

## Issue List

- EF-1 combo-oven grille/ no access
- Expose wires
- RTU 3 damper
- RTU 3 restricted air flow
- RTU OA wiring
- Specified diffusers not installed



01-25-26 QT #1182 COLUMBIA, SC

Project Issue Information

**Issue Name :** EF-1 combo-oven grille/ no access  
**Description :** EF-1 does not serve the combo-oven grille as planned. New asset was installed with an inline fan. Unable to access motor assembly. The unit is powered off and ductwork not connected. Install needs to be completed and a speed controller installed.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** High                                      **Asset Tag :** EF2  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/17/2026



03/17/2026



03/17/2026



01-25-26 QT #1182 COLUMBIA, SC

**Project Issue Information**

**Issue Name :** Expose wires  
**Description :** Cat 5 cable exposed from conduit  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** Medium                                      **Asset Tag :** EF3  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/17/2026

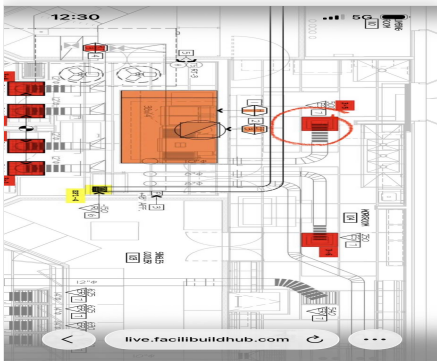


01-25-26 QT #1182 COLUMBIA, SC

Project Issue Information

**Issue Name :** RTU 3 damper  
**Description :** SGRD 3-5 non-functioning damper. Change direction of damper handle and no change to airflow. unable to proportionally balance unit due air forced to back 3 diffusers.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** Medium                                      **Asset Tag :** SGRD5  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

Project Issue File Details



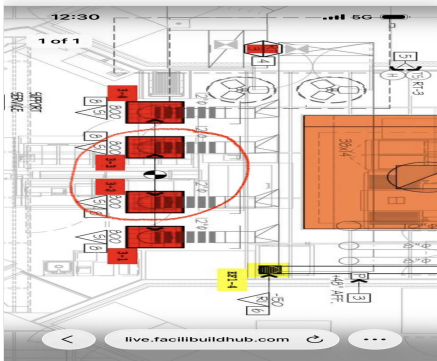


01-25-26 QT #1182 COLUMBIA, SC

Project Issue Information

**Issue Name :** RTU 3 restricted air flow  
**Description :** SGRD 3-2/3-3 has a face damper which is restricting flow and putting the RTU at a high static pressure. Dampers from the trunk are 100% open, but the face dampers are restricting the air.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** High                                      **Asset Tag :** RT-3  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/17/2026



03/17/2026



03/17/2026



01-25-26 QT #1182 COLUMBIA, SC

Project Issue Information

**Issue Name :** RTU OA wiring  
**Description :** It seems the dampers are wired / operating in reverse. Set point for hood on at 46%, normally 26% would close the damper but it's actually opening them more. Manually set and marked on units.  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** High                                      **Asset Tag :** HVAC EQUIPMENT1  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

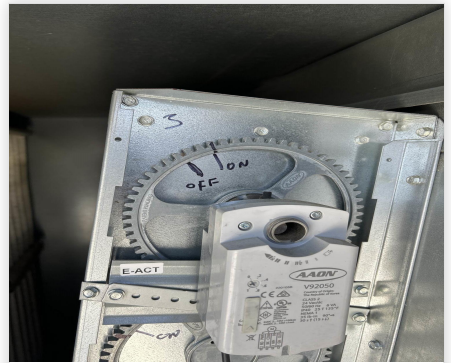
Project Issue File Details



03/17/2026



03/17/2026



03/17/2026



01-25-26 QT #1182 COLUMBIA, SC

**Project Issue Information**

**Issue Name :** Specified diffusers not installed  
**Description :** Specified diffusers not installed  
**Created By :** National TAB                      **Assigned To :** National TAB - Dan Hertenstein  
**Status :** Open  
**Priority :** High                                      **Asset Tag :** RT-3  
**Originated Date :** 03/17/2026 - Jearod Ferrette - National TAB

Project Issue File Details



03/17/2026



03/17/2026

### AIR BALANCE SCHEDULE

UNIT	AREA SERVED	HOOD ON OA		HOOD OFF OA		HOOD ON EXHAUST		HOOD OFF EXHAUST	
		DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL	DESIGN	ACTUAL
RTU 1	SALES	800	808	350	358				
RTU-2	SALES	800	836	350	358				
RTU-3	BOH/KITCHEN	800	829	350	372				
EF-1	RR/JANITOR					750	648	750	648
EF-3	HOOD					1350	1397	0	0
<b>TOTALS</b>		<b>2400</b>	<b>2473</b>	<b>1050</b>	<b>1088</b>	<b>2100</b>	<b>2045</b>	<b>750</b>	<b>648</b>

### HOODS ON

#### NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	2400	2473
TOTAL EXHAUST	2100	2045
<b>NET AIRFLOW</b>	<b>300</b>	<b>428</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.009
SIDE	0.009
REAR	0.01
<b>AVERAGE</b>	<b>0.0093</b>

### HOODS OFF

#### NET AIRFLOW CALCULATION

TOTALS	DESIGN	ACTUAL
TOTAL OA	1050	1088
TOTAL EXHAUST	750	648
<b>NET AIRFLOW</b>	<b>300</b>	<b>440</b>

DOOR TESTED	BUILDING PRESSURE MEASUREMENTS
FRONT	0.008
SIDE	0.007
REAR	0.009
<b>AVERAGE</b>	<b>0.008</b>

**NOTES:**

HIGH WINDS PUSHING ON DOORS.

## CheckList List

- 01: RTU's/AHU's
- 02: Exhaust Fans
- 03: Hoods
- 04: Final Tests



01-25-26 QT #1182 COLUMBIA, SC

CheckList Information

**Name :** 01: RTU's/AHU's **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 09/24/2025 - Trinity Dodds - National TAB  
**Completed Date :** 03/17/2026 - Jearod Ferrette - National TAB

CheckList Item Details

RTU's/AHU's

Evaporator coils are clean? Pass

Comment:

Condenser coils are clean? Pass

Comment:

Gas piping is installed and valves are turned on? N/A

Comment:

Unit free of noticeable noise and vibration Pass

Comment:



**01-25-26 QT #1182 COLUMBIA, SC**

**CheckList Information**

**Name :** 02: Exhaust Fans **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 09/24/2025 - Trinity Dodds - National TAB  
**Completed Date :** 03/17/2026 - Jearod Ferrette - National TAB

**CheckList Item Details**

EF's

---

Hinge kit installed installed on hood fan? Pass

Comment:

---

Flex conduit is long enough so that fan can be completely tilted back? Pass

Comment:

---

No major leakage around the fan base Pass

Comment:

---

Unit is free of noise and vibration Pass

Comment:



**01-25-26 QT #1182 COLUMBIA, SC**

**CheckList Information**

**Name :** 03: Hoods **Status :** Completed  
**Assigned Organization :** National TAB **Asset :**  
**Requesting Organization :** National TAB  
**Created Date :** 09/24/2025 - Trinity Dodds - National TAB  
**Completed Date :** 03/17/2026 - Jearod Ferrette - National TAB

**CheckList Item Details**

**HOODS**

---

**Hood is free of alarms?** Pass

**Comment:**

---

**Hood is free of damage?** Pass

**Comment:**

---

**End panels are installed per prototype?** Pass

**Comment:**

---



01-25-26 QT #1182 COLUMBIA, SC

CheckList Information

**Name :** 04: Final Tests **Status :** Completed

**Assigned Organization :** National TAB **Asset :**

**Requesting Organization :** National TAB

**Created Date :** 09/24/2025 - Trinity Dodds - National TAB

**Completed Date :** 03/17/2026 - Jearod Ferrette - National TAB

CheckList Item Details

**FINAL CHECKS**

**HOOD CAPTURE TEST**

**List kitchen equipment turned on for testing**

**Comment:**

FRYER, PIZZA OVEN

**List smoke candle type used**

**Comment:**

SMOKE CANDLE

**Smoke test capture % - Perimeter of hood**

**Comment:**

100%

**Smoke test capture % - Top of cooking surface**

**Comment:**

100%

**WITNESS**

**Date test was completed**

03/17/2026

**Comment:**

---

**TAB tech name / Firm**

**Comment:**

JEAROD FERRETTE/ NTAB

---

**Site super name / Firm**

**Comment:**

NA

---

**Owner representative name / Firm (if Applicable)**

**Comment:**

NA

---

**BUILDING PRESSURE**

---

**Do actual net building airflow, design net building airflow, and pressure coincide? If not why? (All three should either be positive or negative)**

Pass

**Comment:**

FRONT 0.009", SIDE 0.009", REAR 0.01"

---

**Notes/Comments :**

HIGH WINDS PUSHING ON DOORS.

**Date :**03/17/2026



# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: AHU/RTU

Asset: RT-1

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202204-ANEK24502
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4187
SF RPM	-	DD/ 43.8 HZ
OA CFM (Hoods On)	800	808
OA CFM (Hoods Off)	350	358
RL Voltage	-	144.2 VFD
RL Amperage	-	7.4 VFD
VFD Max SetPt	-	43.8 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	(1)

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.33"
Fan Suction SP	-	-0.53"
Fan Discharge SP	-	0.58"
Total ESP	-	0.91"
Fan Total SP	-	1.11"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/17/2026

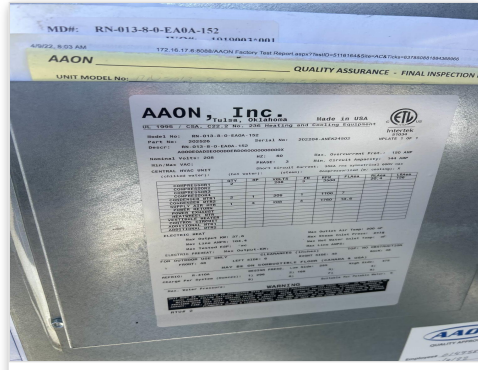
Notes:  
SEE ISSUES

Written By: Jearod Ferrette on 03/17/2026

# Unit Data - PHOTO LOG



03/17/2026



03/17/2026



# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: AHU/RTU

Asset: RT-2

AREA:SALES FLOOR

Unit Data	
	Actual
MFG	AAON
Serial Num	202204-ANEK24501
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	4195
SF RPM	-	DD/ 43.8 HZ
OA CFM (Hoods On)	800	836
OA CFM (Hoods Off)	350	358
RL Voltage	-	144.4 VFD
RL Amperage	-	7.4 VFD
VFD Max SetPt	-	43.8 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	(1)

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.48"
Fan Suction SP	-	-0.74"
Fan Discharge SP	-	0.24"
Total ESP	-	0.72"
Fan Total SP	-	0.98"

General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/17/2026

Notes:  
SEE ISSUES

Written By: Jearod Ferrette on 03/17/2026

# Unit Data - PHOTO LOG



03/17/2026



03/17/2026



03/17/2026



03/17/2026



# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: AHU/RTU

Asset: RT-3

AREA:BOH/KITCHEN

Unit Data	
	Actual
MFG	AAON
Serial Num	202204-ANEK24503
Model Num	RN-013-8-0-EA0A-152
Num OA Filters 1	1
OA Filter Size 1	22.5X45
Num Final Filter 1	2
Final Filter Size 1	56X45

Motor Data	
	Actual
Motor MFG	NA
Frame	NA
Horsepower	3
Motor Rpm	1760
Phase	3
Rated Voltage	208
Rated Amperage	10.6

Test Data		
	Design	Actual
SF CFM	4200	3934
SF RPM	-	DD/ 54 HZ
OA CFM (Hoods On)	800	829
OA CFM (Hoods Off)	350	372
RL Voltage	-	184 VFD
RL Amperage	-	8.2 VFD
VFD Max SetPt	-	54 HZ
OA Damper Position (Hoods On)	-	46%
OA Damper Position (Hoods Off)	-	(1)

Performance Data		
	Design	Actual
MA Plenum SP	-	-0.65"
Fan Suction SP	-	-0.91"
Fan Discharge SP	-	1.99"
Total ESP	-	2.64"
Fan Total SP	-	2.90"

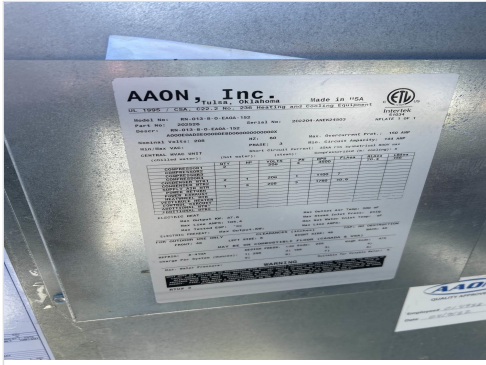
General	
	Actual
Fan Rotation Correct	YES
Unit Filters Clean	YES
Condensate Drain Installed	YES

Completed By: Jearod Ferrette on 03/17/2026

Notes:  
SEE ISSUES

Written By: Jearod Ferrette on 03/17/2026

# Unit Data - PHOTO LOG



03/17/2026



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# National TAB

Project:01-25-26 QT #1182 COLUMBIA, SC

## AHU/RTU

**Diffuser Supply (GRD)**

**RT-3/BOH/KITCHEN**

Asset									
Asset Name	Location	Type	Size	DESIGN CFM	AK	CFM(1)	CFM(2)	FINAL CFM	% to design
SGRD1	SUPPORT SERVICE	SI	12"	800	1	705	923	923	115.4
SGRD2	SUPPORT SERVICE	SI	12"	800	1	390	124	124	15.5
SGRD3	SUPPORT SERVICE	SI	12"	800	1	839	505	505	63.1
SGRD4	SUPPORT SERVICE	SI	12"	800	1	281	389	389	48.6
SGRD5	DOCK	ES	10"	500	1	714	956	956	191.2
SGRD6	WORKROOM	ES	8"	250	1	410	551	551	220.4
SGRD7	PLUMBING	ES	8"	250	1	323	486	486	194.4
Total				4200		3662	3934	3934	93.67%

Asset	Notes	Date	Written By
SGRD5	NON-FUNCTIONING DAMPER	03/17/2026	Jearod Ferrette



# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: FAN - Exhaust

Asset: EF1

AREA:RR/JANITOR

Unit Data		
	Design	Actual
MFG	NA	CAPTIVE AIRE
Model Num	NA	DR50HFA
Serial Num	-	5461895
Type	-	DOWNBLAST
Configuration	-	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	HSSA
Frame	-	48Y
Horsepower	-	1/2
Motor Rpm	-	1380
Phase	-	1
Voltage (rated)	-	115
Amperage (rated)	-	5.6
Service Factor	-	1

Test Data		
	Design	Actual
CFM	600	
Fan RPM	-	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	50%
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.61"
Fan Inlet SP	-	-0.61"
Fan Discharge SP	-	ATMO

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**Unit Data - PHOTO LOG**





# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: FAN - Exhaust

Asset: EF2

AREA:

Unit Data		
	Design	Actual
MFG	NA	CAPTIVE AIRE
Model Num	NA	SIF10DD
Serial Num	-	NA
Type	-	INLINE
Configuration	-	HORIZONTAL

Motor Data		
	Design	Actual
Motor MFG	-	NA
Frame	-	NA
Horsepower	-	NA
Motor Rpm	-	NA
Phase	-	NA
Voltage (rated)	-	NA
Amperage (rated)	-	NA
Service Factor	-	NA

Test Data		
	Design	Actual
CFM	150	0
Fan RPM	150	DD
Fan Rotation	-	CCW
Motor RPM	-	DD
System SetPt	-	OFF
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	NA
Fan Inlet SP	-	0
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/17/2026

Notes:  
SEE ISSUES

Written By: Jearod Ferrette on 03/17/2026



# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

System/Unit: FAN - Exhaust

Asset: EF3

AREA:KITCHEN HD

Unit Data		
	Design	Actual
MFG	NA	CAPTIVEAIRE
Model Num	NA	DU50HFA
Serial Num	-	8385341
Type	UPBLAST	UPBLAST
Configuration	VERTICAL	VERTICAL

Motor Data		
	Design	Actual
Motor MFG	-	TELCO GREEN
Frame	-	NA
Horsepower	1/2	1/2
Motor Rpm	-	1800
Phase	-	1
Voltage (rated)	-	208
Amperage (rated)	-	NA
Service Factor	-	1

Test Data		
	Design	Actual
CFM	1350	1397
Fan RPM	-	1321
Fan Rotation	-	CCW
Motor RPM	-	1321
System SetPt	-	58.8 HZ
RL Voltage	-	NA
RL Amperage	-	NA
Total ESP	-	0.47"
Fan Inlet SP	-	-0.47"
Fan Discharge SP	-	ATMO

Completed By: Jearod Ferrette on 03/17/2026

# Unit Data - PHOTO LOG



03/17/2026



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# National TAB

Project: 01-25-26 QT #1182 COLUMBIA, SC

## System/Unit: Kitchen Hood Type I

Asset: HD1

AREA:GRIDDLE

Unit Data		
	Design	Actual
MFG	CAPTIVEAIRE	CAPTIVEAIRE
Model Num	6030ND-2-F	6030ND-2-F
Job / Serial Num	-	8385341
Type	TYPE I CANOPY	TYPE I CANOPY
Hood length	108"	108"
Hood Width	60"	60"

Test Data Exhaust		
	Design	Actual
Filter Type	CAPTRATE SOLO FILTER	CAPTRATE SOLO FILTER
Filter Size 1	20X16	20X16
Filter Qty 1	6	6
Filter AK factor size 1	2.08	2.08
Filter Total AK Area	12.48	12.48
Filter1 FPM	-	108
Filter2 FPM	-	108
Filter3 FPM	-	101
Filter4 FPM	-	113
Filter5 FPM	-	128
Filter6 FPM	-	114
Filter Ave FPM(corr)	-	112
CFM	1350	1397

Cooking Equipment	
	Actual
Item 1	FRYER
Item 2	PIZZA OVEN

Completed By: Jearod Ferrette on 03/17/2026

## Unit Data - PHOTO LOG



03/17/2026

