

Total IFTA Compliance Platform

New York HUT Exception Engine

Highway Use Tax — Technical Specification

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Purpose of This Document

This document defines the complete technical specification for the New York Highway Use Tax (HUT) Exception Engine within the Total IFTA Compliance Platform. It covers all NY HUT-specific exception types, their detection logic, severity classifications, threshold values, user interface behavior, resolution paths, and escalation rules.

New York HUT is one of the most aggressively enforced highway use tax programs in the United States. Carriers operating vehicles over 18,000 pounds on New York State highways must register for a Certificate of Registration, display a valid HUT decal on every qualifying vehicle, and file quarterly returns through the New York State Department of Taxation and Finance. Penalties for non-compliance range from \$500 to \$2,000 per vehicle per occurrence, and New York State DMV will not renew vehicle registration for carriers with an open HUT tax clearance issue.

The NY HUT exception engine is designed to prevent registration failures, decal violations, and late filing penalties across the carrier's entire New York-operating fleet.

1. New York HUT Background & Program Rules

1.1 Registration & Weight Threshold

Any motor carrier operating a motor vehicle with a gross vehicle weight or combination weight of more than 18,000 pounds on New York State public highways must register for the NY HUT program and obtain a Certificate of Registration before operating.

Weight threshold: Over 18,000 lbs gross vehicle weight or combination weight.

Registration authority: New York State Department of Taxation and Finance (DTF).

Certificate of Registration: Issued per carrier (not per vehicle). One certificate covers all registered vehicles under the carrier's NY HUT account.

Renewal: Annual — expires December 31 for all carriers universally. Renewal window opens October 1.

Filing: Quarterly — same schedule as IFTA (Q1 April 30, Q2 July 31, Q3 October 31, Q4 January 31).

1.2 HUT Decals

Each vehicle operating under the carrier's NY HUT registration must display a valid HUT decal. Decals are issued per vehicle and are valid for a three-year period from the date of issue. This means decal expiration is vehicle-specific and does not necessarily align with the annual certificate renewal.

Decal validity: 3 years from issue date (vehicle-specific, not universal).

Display requirement: Decal must be affixed to the left front of the vehicle cab.

Penalty for missing decal: \$500 to \$2,000 per vehicle per inspection.

Important: The certificate renews annually on December 31 but decals renew on their own 3-year cycle. The platform must track both independently.

1.3 Tax Rates by Weight Class

NY HUT tax is calculated on a per-mile basis, with the rate determined by the vehicle's unloaded weight. Rates are set by the New York State Tax Law and are subject to change. The platform must apply the correct rate for each vehicle's weight class.

Unloaded Weight Class	Rate Per Mile
18,001 – 26,000 lbs	\$0.0785
26,001 – 30,000 lbs	\$0.0880
30,001 – 36,000 lbs	\$0.1020
36,001 – 46,000 lbs	\$0.1190

Unloaded Weight Class	Rate Per Mile
46,001 – 54,999 lbs	\$0.1365
55,000 lbs and over	\$0.1555

Note: Rates shown are representative. The platform must maintain a current rate table updated whenever New York State changes applicable rates, and must apply the correct rate per vehicle based on unloaded weight classification.

1.4 Quarterly Filing Schedule

NY HUT quarterly filings follow the same schedule as IFTA and must be filed through the New York State Tax Department's Online Services portal. Zero returns are required even in quarters where the carrier had no New York miles.





- Q1 (January – March): Due April 30
- Q2 (April – June): Due July 31
- Q3 (July – September): Due October 31
- Q4 (October – December): Due January 31

1.5 Tax Clearance & DMV Registration Link

New York State DMV will not renew vehicle registration or transfer ownership of any motor vehicle subject to HUT unless the Tax Department provides a Certificate of Tax Clearance confirming the carrier has no outstanding HUT obligations. This creates a direct operational impact: unresolved HUT issues block vehicle registration renewals.

2. Severity Level Definitions

All NY HUT exceptions follow the same four-level severity framework used across the compliance platform.

 CRITICAL	Action is blocked. Exception must be resolved before the carrier can be certified as compliant. Vehicle registration renewal or roadside compliance is at immediate risk.
 HIGH	Filing deadline is approaching, decal is expiring, or certificate renewal is overdue. Carrier or administrator must explicitly acknowledge and provide written confirmation before the exception clears.
 MEDIUM	Data quality warning or informational flag requiring attention but not immediately threatening operations. No acknowledgment required.
 INFO	Background compliance awareness displayed in the carrier dashboard. Does not interrupt any workflow.

3. Critical Exceptions — Action Blocked

The following exceptions indicate an immediate threat to vehicle registration or roadside compliance. The system blocks compliance certification and displays prominent alerts on both the vehicle record and carrier dashboard.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
HUT Certificate of Registration Expired	hut_certificate_expiry, current_date	current_date > December 31 AND renewal_status != 'renewed'	Full red banner on carrier dashboard. Message: 'Your NY HUT Certificate of Registration expired on December 31. All vehicles operating in New York are out of compliance. Renew immediately through the NY DTF Online Services portal.' All NY-operating vehicle compliance certificates blocked.	Carrier renews HUT certificate through NY DTF. Platform records new certificate number and expiry date.
Quarterly Return Overdue — Past Due Date	quarter_due_date, return_status, current_date	current_date > quarter_due_date AND return_status != 'filed'	Red banner on carrier dashboard. Message: 'Your NY HUT Q[X] return is OVERDUE as of [date]. Outstanding returns block vehicle registration renewal and may result in penalty assessment. File immediately.' Compliance certificate blocked.	Carrier files overdue return through NY DTF portal. Platform records filing confirmation and clears exception.
Open Tax Clearance Issue — DMV Block	tax_clearance_status	tax_clearance_status = 'hold' OR 'blocked'	Full red banner. Message: 'A NY HUT tax clearance issue is on file with the New York State Tax Department. Vehicle registrations cannot be renewed until this is resolved.'	Carrier resolves outstanding HUT balance with NY DTF. Platform re-validates clearance status.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
			Contact NY DTF immediately.' All vehicle compliance certificates blocked.	
Vehicle Operating in NY — No HUT Registration	vehicle_ny_miles, hut_registration_status	vehicle_ny_miles > 0 AND hut_registration_status = null or 'not registered'	Red alert on carrier dashboard and vehicle record. Message: 'Vehicle [VIN] has recorded miles in New York State but the carrier has no NY HUT registration on file. Operating without HUT registration is a violation subject to immediate penalty.' Compliance certificate blocked.	Carrier registers for NY HUT immediately. Platform activates HUT tracking upon registration confirmation.
HUT Account Number Not on File	hut_account_number	hut_account_number = null or empty AND ny_miles > 0	Red alert on company profile. Message: 'No NY HUT account number is on file. NY HUT compliance cannot be tracked without this field. Add your Certificate of Registration number.' HUT module blocked.	Carrier enters HUT account number. System enables full HUT tracking.
Vehicle Decal Missing — Confirmed at Inspection	decal_status, inspection_flag	decal_status = 'missing' AND confirmed by inspection record	Red alert on vehicle record. Message: 'Vehicle [VIN] was found operating without a valid NY HUT decal at a roadside inspection on [date]. Obtain a replacement decal immediately.' Compliance certificate blocked for this vehicle.	Carrier obtains replacement decal. Platform updates decal record with new issue date.

4. High Exceptions — Acknowledgment Required

The following exceptions do not immediately block operations but require the carrier or administrator to explicitly review, acknowledge, and provide written confirmation before the exception clears. All acknowledgments are logged with timestamp, user ID, and entered reason.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
Certificate Renewal Due Within 60 Days	hut_certificate_expiry, current_date, renewal_status	current_date >= (December 31 - 60 days) AND renewal_status != 'initiated'	Orange banner on dashboard. Message: 'Your NY HUT Certificate of Registration expires on December 31 — [X] days from today. Renewal opens October 1. Renew through the NY DTF Online Services portal.' Acknowledgment required.	Carrier initiates renewal or confirms date is noted. Override logged.
Quarterly Return Due Within 14 Days	quarter_due_date, current_date, return_status	current_date >= (quarter_due_date - 14 days) AND return_status != 'filed'	Orange banner. Message: 'Your NY HUT Q[X] return is due on [date] — [X] days from today. File now through the NY DTF Online Services portal to avoid penalties.' Acknowledgment required.	Carrier files return or confirms filing is in progress. Override logged.
Vehicle Decal Expiring Within 60 Days	decal_expiry_date, current_date	current_date >= (decal_expiry_date - 60 days) for any vehicle	Orange alert on affected vehicle records. Message: 'The NY HUT decal for vehicle [VIN] expires on [date] — [X] days from today. Order a replacement decal through the NY DTF portal before expiration.' Acknowledgment required.	Carrier orders replacement decal. Override logged. Expiry tracked per vehicle.
NY Miles Present — No Quarterly	ny_miles_quarter, return_status	ny_miles_quarter > 0 AND return_status =	Orange flag. Message: 'NY HUT miles have	Carrier initiates return preparation.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
Return Initiated		'not started' AND days until due <= 21	been recorded for Q[X] but no return has been initiated. Filing is due on [date]. Acknowledgment required.	Override logged.
Zero Return Quarter — Not Acknowledged	ny_miles_quarter, return_status	ny_miles_quarter = 0 AND return_status = 'not started' AND days until due <= 14	Orange flag. Message: 'No NY HUT miles recorded for Q[X]. A zero return is still required and is due on [date]. Confirm you will file a zero return.' Acknowledgment required.	Carrier acknowledges zero return obligation. Platform generates zero return for filing. Override logged.
Weight Class Changed — Rate Recalculation Required	vehicle_unloaded_weight_current, vehicle_unloaded_weight_prior	Weight crosses into a different HUT rate tier	Orange alert on vehicle record. Message: 'The unloaded weight for vehicle [VIN] has changed and crosses into a different NY HUT rate tier. Tax calculations for this vehicle will be updated. Verify the new weight is accurate.' Acknowledgment required.	Carrier confirms weight change. System applies new rate tier. Override logged.
New Vehicle Added — Decal Not Ordered	vehicle_add_date, vehicle_ny_operating, decal_status	Vehicle added AND ny_operating = true AND decal_status = null AND days since add > 7	Orange alert. Message: 'Vehicle [VIN] was added [X] days ago and is flagged as operating in New York but no HUT decal has been ordered. A decal is required before this vehicle operates in New York.' Acknowledgment required.	Carrier orders decal and enters order confirmation. Override logged.
NY HUT Return Amount	return_tax_amount, prior_quarter_avg	Amount > 3x OR < 0.33x prior quarter average	Orange flag. Message: 'The NY HUT tax amount for Q[X]	Carrier reviews mileage and weight data.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
Unusually High or Low			differs significantly from your prior quarter average. Please verify mileage and weight data before filing.' Acknowledgment required.	Override logged.

5. Medium Exceptions — Informational Warning

The following exceptions display a warning in the compliance dashboard but do not require acknowledgment. They are logged automatically and visible in the carrier's compliance history.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
Certificate Renewal Due Within 90 Days	hut_certificate_expiry, current_date	current_date >= (December 31 - 90 days) AND current_date < (December 31 - 60 days)	Yellow reminder on dashboard. Message: 'Your NY HUT Certificate of Registration expires December 31. Renewal opens October 1 — approximately [X] days away.'	Carrier notes reminder. Escalates to HIGH at 60 days.
Vehicle Decal Expiring Within 90 Days	decal_expiry_date, current_date	current_date >= (decal_expiry_date - 90 days) AND current_date < (decal_expiry_date - 60 days)	Yellow flag on vehicle record. Message: 'The NY HUT decal for vehicle [VIN] expires on [date] — approximately [X] days away. Plan to order a replacement decal.'	Carrier notes reminder. Escalates to HIGH at 60 days.
NY Miles in Quarter With No HUT Account	ny_miles_quarter, hut_account_number	ny_miles_quarter > 0 AND hut_account_number = null	Yellow flag. Message: 'NY miles have been recorded this quarter but no NY HUT account number is on file. Verify HUT registration status.'	Carrier adds HUT account number. Escalates to CRITICAL if NY miles exceed 100.
Mileage Discrepancy — IFTA vs. HUT NY Miles	ifta_ny_miles, hut_ny_miles	Variance > 5% between IFTA-reported NY miles and HUT-reported NY miles for same quarter	Yellow flag. Message: 'NY miles reported on the IFTA return differ from NY miles on the HUT return by more than 5%. Verify mileage data is consistent across both filings.'	Carrier reconciles mileage data. No action required to proceed.
Vehicle Unloaded	vehicle_unloaded_weight	vehicle_unloaded_weight = null for any NY-operating vehicle	Yellow flag. Message: 'No unloaded weight	Carrier enters unloaded weight.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
Weight Not on File			on file for vehicle [VIN]. This is required to calculate the correct NY HUT rate. Enter the unloaded weight in the vehicle profile.'	System applies correct rate tier.
HUT Decal Issue Date Not Recorded	decal_issue_date	decal_issue_date = null for any vehicle with active HUT registration	Yellow flag. Message: 'No decal issue date is recorded for vehicle [VIN]. Without this date the 3-year expiration cannot be tracked. Enter the decal issue date.'	Carrier enters decal issue date. System calculates expiry date automatically.
Consecutive Zero Returns — Possible NY Operations Missed	zero_return_count	3 or more consecutive quarters with zero NY miles	Yellow flag. Message: 'NY HUT zero returns have been filed for [X] consecutive quarters. If this vehicle regularly operates in New York, verify that mileage is being captured correctly.'	Carrier confirms NY operations status. No action required.
Round Number Mileage Entries in NY	ny_miles_entries[]	NY miles are a round number (divisible by 100) for 2 or more consecutive quarters	Yellow flag. Message: 'NY HUT mileage entries appear to be estimated round numbers. NY HUT requires actual recorded mileage and round numbers are an audit flag.'	Carrier verifies mileage records. No action required.

6. Informational Exceptions — Compliance Dashboard

The following conditions are displayed in the carrier's compliance dashboard for awareness and audit preparedness. They do not appear in any filing workflow and do not block any action.

Exception Name	Field(s)	Threshold / Trigger	UI Behavior	Resolution Path
HUT Certificate Active — Next Renewal Set	hut_certificate_expiry, renewal_status	Certificate renewed AND expiry = December 31 of current year	Dashboard green status: 'NY HUT Certificate of Registration active. Expires December 31, [year].'	No action required.
Quarterly Return Filed — Confirmation Recorded	return_status, return_confirmation_number	return_status = 'filed' AND confirmation_number present	Dashboard notice: 'NY HUT Q[X] return filed on [date]. Confirmation: [number].'	No action required.
All Vehicle Decals Current	decals_expiry_dates[], current_date	All decals have expiry_date > (current_date + 90 days)	Dashboard notice: 'All NY HUT vehicle decals are current. Next decal expiration: [date] for vehicle [VIN].'	No action required.
Next Quarterly Filing Date	next_quarter_due_date	Always displayed regardless of status	Dashboard display: 'Next NY HUT filing due: [date] ([X] days away).'	No action required. Escalation chain begins at 14 days.
Zero Return Filed — Quarter Confirmed	return_status, ny_miles_quarter	return_status = 'filed' AND ny_miles = 0	Dashboard notice: 'NY HUT Q[X] zero return filed on [date]. No New York miles recorded for this period.'	No action required.
New Decal Issued — Expiry Calculated	decals_issue_date, decals_expiry_date	New decal recorded AND expiry_date auto-calculated (issue + 3 years)	Dashboard notice: 'NY HUT decal issued for vehicle [VIN] on [date]. Decal expires on [date].'	No action required.

7. Escalation Rules

The following rules govern automatic escalation of NY HUT exceptions based on proximity to filing deadlines, certificate renewal, and decal expiration.

7.1 Time-Based Escalation — Certificate Renewal

Exception	Info Fires At	Escalates to HIGH At	Escalation Condition
Certificate Renewal	October 1 (renewal opens)	November 1 (60 days to Dec 31)	Renewal not yet initiated
Certificate Renewal	November 1	December 1 (30 days to Dec 31)	Still not renewed
Certificate Renewal	January 1 (expired)	Immediately on expiry	Escalates to CRITICAL

7.2 Time-Based Escalation — Quarterly Filings

Exception	Info Fires At	Escalates to HIGH At	Escalation Condition
Quarterly Return	30 days before due date	14 days before due date	Return not filed
Quarterly Return	14 days before due date	Due date passes	Escalates to CRITICAL — overdue

7.3 Time-Based Escalation — Vehicle Decals

Exception	Info Fires At	Escalates to HIGH At	Escalation Condition
HUT Decal Expiry	90 days before expiry date	60 days before expiry date	Replacement not ordered
HUT Decal Expiry	60 days before expiry date	Expiry date passes	Escalates to CRITICAL if decal confirmed expired

7.4 Pattern-Based Escalation

Any Medium exception appearing for three or more consecutive quarters automatically escalates to High for the following quarter.

Affected exceptions: Mileage Discrepancy IFTA vs. HUT, Round Number Mileage Entries, Consecutive Zero Returns.

Database field: exception_history.consecutive_quarter_count

Trigger: consecutive_quarter_count >= 3

Action: Set exception.severity = HIGH. Log escalation event with timestamp.

7.5 Audit Trail Requirements

Every exception acknowledged or overridden at the High level must generate an immutable audit log entry containing the following fields:

- exception_id — unique identifier for the exception instance
- carrier_id — carrier account associated with the NY HUT record
- hut_account_number — the NY HUT certificate of registration number
- user_id — user who acknowledged the exception
- user_name — full name of acknowledging user
- timestamp — UTC datetime of acknowledgment
- exception_type — exception code from the master exception list
- severity_at_time — severity level at the time of acknowledgment
- reason_entered — free-text explanation (required, minimum 20 characters)
- quarter — tax quarter and year associated with the exception (where applicable)
- vehicle_id — specific vehicle the exception applies to (where applicable)

Audit log entries are read-only once created and cannot be edited or deleted by any user role including system administrator.

8. Configurable Threshold Reference

The following thresholds are configurable at the platform level by a system administrator. Default values are shown below.

Parameter	Default Value	Allowable Range	Notes
Certificate Renewal — MEDIUM Reminder	90 days (Oct 1)	60 – 120 days	First reminder when renewal window opens
Certificate Renewal — HIGH Escalation	60 days	30 – 90 days	Acknowledgment required
Quarterly Return — MEDIUM Reminder	30 days before due	14 – 45 days	Yellow warning fires
Quarterly Return — HIGH Escalation	14 days before due	7 – 21 days	Orange acknowledgment required
Quarterly Return — CRITICAL	0 days	Non-configurable	Immediately on due date if not filed
Decal Expiry — MEDIUM Reminder	90 days	60 – 120 days	Per-vehicle yellow reminder
Decal Expiry — HIGH Escalation	60 days	30 – 90 days	Per-vehicle acknowledgment required
IFTA vs. HUT Mileage Variance	5%	2% – 10%	Triggers MEDIUM mileage discrepancy flag
Tax Amount Variance vs. Prior Quarter	3x or 0.33x	Non-configurable	Triggers HIGH acknowledgment
Consecutive Zero Return Threshold	3 quarters	2 – 5 quarters	Triggers MEDIUM flag
Round Number Mileage — Consecutive	2 quarters	2 – 4 quarters	Triggers MEDIUM flag
Pattern Escalation — MEDIUM to HIGH	3 quarters	2 – 5 quarters	Consecutive occurrence escalation
NY Miles for CRITICAL Registration Alert	100 miles	50 – 500 miles	Triggers CRITICAL if no HUT account
Reason Text Minimum Length	20 chars	10 – 100 chars	Required for HIGH acknowledgment

9. UI Behavior Summary

9.1 Carrier HUT Compliance Dashboard Card

- A dedicated NY HUT compliance card is displayed on every carrier dashboard that has NY miles or an active HUT registration. It shows: certificate of registration number, certificate expiry date, renewal status, current quarter filing status, next filing due date, and total active vehicle decal count with a breakdown of current vs. expiring.
- CRITICAL exceptions display as a full-width red banner at the top of the dashboard with direct links to the NY DTF Online Services portal.
- HIGH exceptions display as orange banners with acknowledgment buttons and specific deadlines clearly stated.
- MEDIUM exceptions display as yellow inline flags within the HUT compliance card.
- INFO items display as a clean green status summary.

9.2 Vehicle-Level Decal Tracking

- Each vehicle with an active NY HUT registration displays a decal compliance card showing: decal issue date, decal expiry date, days until expiry, and current decal status (current, expiring soon, expired).
- Because decals are valid for 3 years from issue date, the platform calculates expiry automatically as `issue_date + 1095 days` (adjusting for leap years).
- When a new decal is issued, the carrier enters the issue date and the platform auto-calculates the 3-year expiry and sets the appropriate reminder schedule.
- A fleet-level decal summary shows all vehicles sorted by decal expiry date so carriers can proactively order replacements in batches.

9.3 Quarterly Return Preparation

- The platform pre-populates the quarterly HUT return with NY miles pulled from ELD data or manually entered IFTA records for the quarter.
- The platform cross-references NY miles on the HUT return against NY miles on the IFTA return and flags any variance above the configurable threshold.
- For zero-mile quarters, the platform auto-generates a zero return and prompts the carrier to review and file it, eliminating missed zero return filings.
- All NY HUT filings are submitted through the NY DTF Online Services portal — the platform provides the pre-populated data and a direct link to the portal.

9.4 Tax Rate Management

- The platform maintains a current NY HUT rate table indexed by vehicle unloaded weight class.
- When New York State updates HUT rates, the platform rate table must be updated before the first quarterly return of the applicable period.

- If a rate table update has not been applied and a return is being prepared, a MEDIUM warning is displayed: 'NY HUT rates may have changed. Verify the rate table is current before filing.'
- Rate changes that cross vehicle weight tiers trigger an automatic recalculation of the estimated quarterly tax for all affected vehicles.

9.5 Cross-Module Integration

- IFTA Module: NY miles from the IFTA quarterly return feed directly into the HUT quarterly return. Any variance between the two triggers a mileage discrepancy exception.
- IRP Module: If a carrier's NY HUT account has an open tax clearance issue, the IRP module displays a cross-module alert because DMV registration renewal will also be affected.
- Vehicle Profile: Any change to a vehicle's unloaded weight that crosses into a different HUT rate tier triggers a rate recalculation and a HIGH acknowledgment requirement.

9.6 Notification Delivery

- CRITICAL exceptions: immediate in-app full-page alert + email to carrier administrator with direct link to NY DTF portal.
- HIGH exceptions: in-app notification + email at each escalation threshold for certificate renewal, quarterly filings, and decal expiry.
- Decal expiry alerts: per-vehicle emails listing VIN, expiry date, and days remaining.
- MEDIUM and INFO: in-app dashboard only. No email unless carrier opts into all compliance notifications.
- Cross-module alert: if a tax clearance hold is detected, a CRITICAL alert is sent simultaneously to the HUT, IRP, and IFTA module administrators.