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February 12, 2021

Mr. Brian J. Wagner  
President  
National Association of Postal Supervisors  
1727 King Street, Suite 400  
Alexandria, VA 22314-2753

**Certified Mail Tracking Number:**  
7019 2280 0001 7461 3551

Dear Brian:

This is in further reference to the Postal Service's January 27 correspondence (copy enclosed) concerning a proof of concept test on the use of Autonomous Mobile Robots (AMRs) in a plant environment at the Phoenix, AZ Processing and Distributions Center (P&DC).

Enclosed are overviews of the following training protocols, which will be administered to employees at the Phoenix, AZ P&DC in advance of the installation and activation of the subject AMRs:

- *Maintenance* (approximately 1 hour in length);
- *General* (approximately 15 minutes in length); and
- *Supervisor* (approximately 6-8 hours in length).

As previously advised, installation of the AMRs is expected to begin on March 1 and the proof of concept test will begin following installation.

Please contact Mike Faber at 215-432-0613 if you have any questions concerning this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Shannon R. Richardson".

Shannon R. Richardson  
A/Manager  
Contract Administration (APWU)

Enclosures



January 27, 2021

Mr. Brian J. Wagner  
President  
National Association of Postal Supervisors  
1727 King Street, Suite 400  
Alexandria, VA 22314-2753

**Certified Mail Tracking Number:**  
7019 2280 0001 7461 4527

Dear Brian:

As a matter of general interest, the Postal Service intends to conduct a proof of concept test regarding the use of Autonomous Mobile Robots (AMRs) in a plant environment.

The proof of concept test will consist of utilizing AMRs to transport mail, which is otherwise transported using Powered Industrial Vehicles (PIVs), to and from various locations within the plant environment.

The proof of concept test will be conducted at the Phoenix, Arizona Processing and Distribution Center (P&DC) and is expected to last up to four weeks.

Installation of the AMRs is expected to begin on March 1 and the proof of concept test will begin following installation.

Please contact Mike Faber at 215-432-0613 if you have any questions concerning this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "SRR", with a long horizontal flourish extending to the right.

Shannon R. Richardson  
A/Manager  
Contract Administration (APWU)

## Training Protocol

<b>performed on (Date)</b>	
<b>Customer</b>	
<b>Contact Person</b>	
<b>Address</b>	

### AGILOX ONE Commissioning & Support Training

The current AGILOX ONE Operating and Commissioning Manual serves as the basis for the training. The training participants were trained in the following topics (tick as appropriate):

- AGILOX ONE Commissioning & Support BASIC Training
  - AGILOX ONE Commissioning & Support IO Training (additional module)
  - AGILOX ONE Commissioning & Support API Training (additional module)

### Training Content

#### AGILOX ONE Commissioning & Support BASIC Training

##### Product Description

AGILOX ONE	What is AGILOX ONE? What can AGILOX ONE do? / What can AGILOX ONE not do? Technical Key Facts System Overview
ONE Charging System	Stationary charging station Mobile charging device Versions EU / US Required connections
Optional Components	ONE floor spot ONE forktip light indicator ONE obstacle avoidance ONE barcode identification - <i>show scan area and barcode sizes</i>

## Product Description (continued)

AGILOX IO	Fire alarm signal, high-speed door and conveyor Different Types of <b>AGILOX IO</b> - <i>SimpleBE / SimpleSI</i> - <i>StandardBE / StandardSI</i> - <i>StandardBE WIFI / StandardSI WIFI</i> - <i>DecentralBE</i>
AGILOX gateway appliance	central station for clients and ERP Different Types <b>AGILOX gateway appliance</b> - <i>Simple</i> - <i>HybridBE / HybridSI</i>
AGILOX BCO	
AGILOX BOX CONVEYOR	
AGILOX Analytics	Tool for analysing and Remote access for our support team

## Project Engineering

AGILOX ONE Intended Use	Operating Areas (Indoor Operation) Temperature range Floor conditions What is allowed? Marking of areas / Marking of Stations Load Requirements / Adjustment of Protective Fields
AGILOX ONE Mechanical Variants	Lifting height and nominal transport weight Fork Length Variants / Scissor Lift Types Load chart Use case conveyor technology vs heavy transport
AGILOX ONE Operating Area Design	
Requirements for commissioning	WLAN; Energy supply and location for charging station; HMI client device
Requirements positioning / driving paths	Floor conditions; navigation contours; traffic on the main paths; one-way/oncoming traffic
Requirements load handling stations	stations / station areas; block storage; conveyor technology (pallet/box)
Trigger Workflows	Workflow view; AGILOX IO; Scheduler; AGILOX json api
Connection to ERP	What is all possible or with which adjustments

## Operation

General description of the vehicle	Orientation (front, back, left, right) Mechanical construction (lift system, ...) Description of control cabinet and components (incl. status LED) Charging Station (charging plate, main switch)
Control elements on the vehicle	On-/Off switch, Emergency stop switch, Key switch, START push button, ACK push button, Antenna
Displays on the vehicle	Display of navigation scanner, light signals, audio signals Optional: Floor spot
Sensors on the vehicle	Navigation scanner, Safety laser scanner, Pallet distance sensor, fork tip monitoring
Energy management	Behavior of vehicle at different battery levels, What to do when vehicle shuts off automatically
Driving dynamics AGILOX ONE	Directions of movement (normal, parallel, lift) Detection of obstacles and bypassing (What does AGILOX ONE see? Not see?)
Personnel safety system AGILOX ONE	Protective fields depending on driving dynamics Personnel safety for stations (Monitoring / Limits) Personnel safety for block storage (Monitoring / Limits) Personnel safety for conveyor stations (Monitoring / Limits) Personnel safety for VNA (Monitoring / Limits) Protective stop Stop of AGILOX ONE before operator intervention
Extended machine protection: AGILOX ONE Obstacle Avoidance	Operating principle: What is monitored by the system? Where are blind spots?
Behavior in case of fire	Requirements for technical integration, Default behavior Change of default behavior

## Commissioning BASIC

Unboxing AGILOX ONE	open box, contents of the box, remove transport locks, lift AGILOX ONE out of the box, mount navigation scanner, make system ready for operation
Preparation for commissioning	WLAN access data, name of the union, positioning and setting up the charging station, Orientation of the map
Perform Init Setup	Connect to local access point, Union name, Connect to WLAN

## Commissioning BASIC (continued)

Vehicle user interface (Manual Operation Mode)	Connect to vehicle, General structure of HMI, read vehicle status, manual operation (normal, parallel, station, lift), Note: Residual risk "station" mode
Initial teaching of the area of movement	Orientation of the map, rectangular snap, single teach
Teach charging station	manually driving onto the charging plate create charging station in HMI start charging

Teaching	What is teaching?
Vehicle User Interface (Teaching)	backup/restore upload/download map, logo, search in map Visualization Toggles
Teaching area of movement	single teach / auto teach - Initial map acquisition - Extend / optimize existing map Clean map

Driving paths	How to define driving paths? Where is AGILOX ONE allowed to move.
Install Software tools for map editing	Installation of Inkscape, Setting up menus and color palette with presets General explanation of Software Tool (Menus) Tips for drawing (Add/Sub of areas, work with polygone)
Define driving paths	Walls, Blocked areas, Driving paths, tracks, Avoidance, two-way traffic areas, Signalling and speed reduction at critical points,, Clearway

Floor stations	What are floor stations?
Teach floor stations	Single stations [A,B], Station area [C] (two stations next to each other), Block storage [D] (2-3 stations in a row)

## Commissioning BASIC (continued)

Workflows	What are Workflows?
Vehicle User Interface (Automated Operation Mode)	Start Workflows, stop/cancel Workflows, cancel Workflows via START button or Workflow view
Create Workflow	Explanation of editor Workflow object structure, refer to help.agilox.net Develop Workflow examples: - STATION A to AREA D (with error handling) - AREA D to AREA A (with error handling) - DISPOSE B (B to C, with error handling, automatically and manually).
Start Workflow	Workflow View, Scheduler
Special Workflows	Purge, Protective stop, Fire
Vehicle User Interface (General Description)	General Structure of HMI System Settings (union configuration, load carrier) Heatmap
Perform AGILOX ONE system updates	Update ONE core, ONE motion and ONE safety incl. subsequent tests according to protocol
Vehicle user interface (Maintenance Operation Mode)	Connect to vehicle via internal hotspot, drive vehicle in maintenance mode (normal, parallel, station, lift), Note: Residual risk in maintenance mode
Self-Help	Retracting from protective field, remove blockages of drive units, Browser display problems (zoom), Obstacles in the drive path, Pallet cleanliness (cobwebs), Charging via mobile charging device
Customer maintenance procedures	see "Maintenance protocol CUSTOMER - AGILOX ONE" This document is part of the technical documentation.

## Commissioning BASIC (continued)

General Explanation AGILOX IO	Explanation AGILOX IO cabinet, Explanation of LEDs
Commissioning AGILOX IO	Connection, set IP Address, Connect to AGILOX System
High-speed door integration	see User Guide
Fire Alarm Signal Integration	see User Guide
Commissioning AGILOX gateway appliance	Connection (WLAN, LAN), Init Setup
Perform AGILOX IO system updates	Update AGILOX IO image.
Boxing AGILOX ONE	
Operation of AGILOX Analytics	General operation Remote Support



## AGILOX ONE Commissioning & Support IO Training (additional module)

Pickup / drop at Conveyor stations or lift table	Trigger Workflow via IO signal, condition_timeout
Target determination via barcode and mapping table	
Pallet Dispenser Integration	Palletising and depalletising
Elevator Integration	Several floors, elevator requirements
Crossing area with handshake	crossing area that requires a hardware handshake (e.g. cross traffic)
Use of special action areas	orientation, surveillance, enter
Definition of special load carriers	e.g.: Pallet feet with offset, ...
Use of barriers and application in Workflows	
Use of Toggle Buttons	
Use of heartbeat based on AGILOX IO	

## AGILOX ONE Commissioning & Support API Training (additional module)

Use and application of the JSON API	Explanation JSON API, query CI, starting Workflows
Barcode with Webservice Request	
Heartbeat with Webservice Request	

With their signature, the participants confirm that they have received training on the above-mentioned topics and that they have understood the discussed instructions.

Name	Signature

Trainer (Name)  
in block capitals

.....

Date

Signature Trainer

# Training Protocol

<b>performed on (Date)</b>	
<b>Customer</b>	
<b>Contact Person</b>	
<b>Address</b>	

## AGILOX ONE System Operator Training

The current AGILOX ONE Operating Manual serves as the basis for this training.

### Product Description

AGILOX ONE	<p>What is AGILOX ONE?          What can AGILOX ONE do? / What can AGILOX ONE not do?          Technical Key Facts          System Overview</p>
ONE Charging System	<p>Stationary charging station          Mobile charging device          Versions EU / US          Required connections</p>
Optional Components	<p>ONE floor spot          ONE forklift light indicator          ONE collision avoidance          ONE barcode identification          AGILOX IO          AGILOX gateway appliance          AGILOX BCO          AGILOX BOX CONVEYOR</p>

### Project Engineering

AGILOX ONE Intended Use	<p>Operating Areas (Indoor Operation)          Temperature range          Floor conditions          What is allowed?          Marking of areas / Marking of Stations          Load Requirements / Adjustment of Protective Fields</p>
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## Operation

General description of the vehicle	Orientation (front, back, left, right) Mechanical construction (lift system, ...) Description of control cabinet and components (incl. status LED) Charging Station (charging plate, main switch)
Control elements on the vehicle	On-/Off switch, Emergency stop switch, Key switch, START push button, ACK push button, Antenna
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Personnel safety system AGILOX ONE	Protective fields depending on driving dynamics Personnel safety for stations (Monitoring / Limits) Personnel safety for block storage (Monitoring / Limits) Personnel safety for conveyor stations (Monitoring / Limits) Personnel safety for VNA (Monitoring / Limits) Protective stop Stop of AGILOX ONE before operator intervention
Extended machine protection: AGILOX ONE Collision Avoidance	Operating principle: What is monitored by the system? Where are blind spots?
Behavior in case of fire	Requirements for technical integration, Default behavior Change of default behavior
Vehicle user interface (Manual Operation Mode)	Connect to vehicle, General structure of HMI, read vehicle status, manual operation (normal, parallel, station, lift), Note: Residual risk "station" mode
Vehicle user interface (automated operation mode)	Start Workflows, stop/cancel Workflows, cancel Workflows using START button or Workflow view
Start Workflow	Workflow view, Scheduler

## Operation (continued)

Vehicle user interface (Maintenance Operation Mode)	Connect to vehicle via internal hotspot, drive vehicle in maintenance mode (normal, parallel, station, lift), Note: Residual risk in maintenance mode
Self-Help	Retracting from protective field, remove blockages of drive units, Browser display problems (zoom), Obstacles in the drive path, Pallet cleanliness (cobwebs), Charging via mobile charging device
Customer maintenance procedures	see Protocol

## AGILOX Analytics

Operation of AGILOX Analytics	General Operation Remote Support
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With their signature, the participants confirm that they have received training on the above-mentioned topics and that they have understood the discussed instructions.

Name	Signature

Trainer (Name)  
in block capitals

.....

.....  
Date

Signature Trainer

## Training Protocol

<b>performed on (Date)</b>	
<b>Customer</b>	
<b>Contact Person</b>	
<b>Address</b>	

### AGILOX ONE Customer Administrator Training

The current AGILOX ONE operating manual serves as the basis for the training.  
Prerequisite: AGILOX ONE system operator training

### Project Engineering

AGILOX ONE	
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### Init Setup

Perform Init Setup	Connect to local access point, Union name, Connect to WLAN
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### Driving Paths

Driving paths	How to define driving paths? Where is AGILOX ONE allowed to move.
Install Software tools for map editing	Installation of Inkscape, Setting up menus and color palette with presets General explanation of Software Tool (Menus) Tips for drawing (Add/Sub of areas, work with polygone)
Define driving paths	Walls, Blocked areas, Driving paths, tracks, Avoidance, two-way traffic areas, Signalling and speed reduction at critical points, Clearway

## Stations

Floor stations	What are floor stations?
Teach floor stations	Single stations [A,B], Station area [C] (two stations next to each other), Block storage [D] (2-3 stations in a row)
Teach charging station	manually driving onto the charging plate create charging station in HMI start charging

## Workflows

Workflows	What are Workflows?
Vehicle User Interface (Automated Operation Mode)	Start Workflows, stop/cancel Workflows, cancel Workflows via START button or Workflow view
Create Workflow	Explanation of editor Workflow object structure, refer to help.agilox.net Develop Workflow examples: - STATION A to AREA D (with error handling) - AREA D to AREA A (with error handling) - DISPOSE B (B to C, with error handling, automatically and manually).
Start Workflow	Workflow View, Scheduler
Special Workflows	Purge, Protective Stop, Fire

## Teaching

Teaching	What is Teaching?
Vehicle User Interface (Teaching)	Backup/Restore Upload/download map, logo, search in map Visualization Toggles
Teaching area of movement	single teach / auto teach - Initial map acquisition - Extend / optimize existing map Clean map



## AGILOX IO

Commissioning AGILOX IO	Connection, set IP Address, Connect to AGILOX System
High-speed door integration	see User Guide
Fire Alarm Signal Integration	see User Guide

## AGILOX JSON API

Use and application of the JSON API	Explanation JSON API, query CI, starting Workflows
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With their signature, the participants confirm that they have received training on the above-mentioned topics and that they have understood the discussed instructions.

Name	Signature

Trainer (Name)  
in block capitals

.....

Date

Signature Trainer