APPENDIX A

FOR

OUTBOUND BAGGAGE CONVEYOR

AT

RAMSTEIN AIR BASE, GERMANY

BUILDING 3333

CSN: BRM1B5

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1. SCOPE

1.1. GENERAL SCOPE

This appendix establishes the minimum performance, design, fabrication, installation, orientation, and test requirements for an outbound baggage conveyor system for the 721st Aerial Port Squadron (APS) in the Air Passenger Terminal, Building 3333 at Ramstein Air Base (AB), Germany. The work shall be completed in accordance with this appendix, the Cover PD, and Air Force (AF) Drawing BRM1B5-01. This appendix covers all equipment, materials, and labor necessary to complete installation of the system.

2. APPLICABLE DOCUMENTS

Applicable documents shall be in accordance with Section 2 of the Cover PD.

3. REQUIREMENTS

3.1. SYSTEM DESCRIPTION **|R2**

The outbound baggage conveyor system shall be a slider bed belt conveyor capable of handling suitcases, duffel bags, footlockers, wooden boxes and other pieces of checked baggage. The conveyor system shall consist of the conveyor, controls, wiring, and sensors required to transport baggage from the Check-In Area to the Indoor Baggage Build-Up Area or alternatively to the Outdoor Baggage Build-Up Area. Outbound baggage will be offloaded from the conveyor with the use of an existing vacuum assist baggage unloader. A single Motor Control Center shall be used for the entire outbound baggage conveyor system. The conveyor system shall be capable of handling all items within the following limits:

Weight:	Maximum:	150 pounds (68 kg) per bag
	Minimum:	1 pound (0.5 kg) per bag
Size:	Maximum:	~~**30 inches (760 mm) wide**~~
		~~**60 inches (1520 mm) long**~~
		~~**36 inches (915 mm) high**~~
		24 inches (610 mm) wide
		40 inches (1000 mm) long
		26 inches (660 mm) high
	Minimum:	3 inches (75 mm) wide
		12 inches (305 mm) long
		3 inches (75 mm) high

The outbound baggage conveyor system shall consist of the following components:

A. Scale conveyor – equipped with a scale and interfaces with the check-in counter and the feeder conveyor.
B. Feeder conveyors – transfers baggage between the scale conveyor and the takeaway conveyor.
C. Takeaway conveyor – receives baggage from the feeder conveyors behind the check-in counters and includes all straight and curve sections to the end of the conveyor in the Baggage Build-Up Areas.

3.2. PERFORMANCE AND PHYSICAL CHARACTERISTICS

3.2.1. SCALE CONVEYOR

Eleven scale conveyors shall be provided as shown on the AF Drawing specified herein. The scale conveyors shall consist of a scale under a slider bed belt conveyor. The scale conveyor shall transfer baggage from the scale to the feeder conveyor. The conveying surface of each scale conveyor shall be at a height of 10 inches ± 2 inches (255 mm ± 50 mm). The belt for the scale conveyor shall be 24 inches (610 mm) wide and provide a minimum 54-inch (1370 mm) long conveying surface.

3.2.1.1. SCALE

Each scale shall have a 200-pound (90 kg) capacity with an accuracy of at least 0.5 percent at a 40-pound (18 kg) load. The Contractor shall provide independent verification and certification of the accuracy of each scale. Detailed calibration procedures shall be provided for the scales. Calibrating the scale shall not void the scale warranty. Each scale shall have overload stops to prevent scale damage from excessive loads or dropped objects. Two weight displays shall be provided for each scale conveyor; one to be integrated into the side of the check-in counter for the passenger to view and one integrated into the personnel side of the check-in counter. Exact location shall be verified with the contracting officer’s technical representative (COTR) at time of installation. Each display shall be clearly labeled. The units for weight measurement and display shall be switchable between pounds and kilograms. The displays shall have LCD or LED characters no less than 1/2 inch (12 mm) high. The weight indicated on the display shall stabilize in 3 seconds or less. The display conductors shall be shielded to prevent interference from the power supply.

3.2.2. FEEDER CONVEYOR

Eleven feeder conveyors shall be provided as shown on the AF Drawing specified herein. Feeder conveyors shall take the baggage from the scale conveyors and transfer it onto the takeaway conveyor. This slider bed conveyor shall be inclined a maximum of 3 inches (75 mm) above the takeaway conveyor, enough to allow baggage to turn onto the takeaway conveyor without tipping. The belt for the feeder conveyor shall be 24 inches (610 mm) wide. The feeder conveyors shall be the appropriate length to properly interface between the scale and takeaway conveyors.

3.2.3. TAKEAWAY CONVEYOR **|R1**

The takeaway conveyor shall consist of straight and curved powered belt sections, configured as shown on the AF Drawing specified herein. The conveying surface of the takeaway conveyor shall vary in height as indicated on the AF Drawing specified herein to allow for proper transfer between interfacing sections and to fit within the existing building. The takeaway conveyor shall decline into a pit to pass under existing grated walkways and then incline before a curve entering into the Indoor Baggage Build-Up Area as shown in Appendix B, Photo 12, 13, and 14. The takeaway conveyor belts shall be centered on each wall opening that it passes through. The belt for the takeaway conveyor shall be 38 inches (**~~465~~ 965** mm) wide. The conveyor sections for the takeaway conveyor shall be no longer than 25-foot (7620 mm) sections. The takeaway conveyor shall be able to go both forwards and reverse.

3.2.4. TURNING POSTS

Turning posts shall be installed on the downstream side of the feeder conveyor and takeaway conveyor as shown on the AF Drawing specified herein. Turning posts shall be constructed of stainless steel and shall be a minimum of 16 inches (405 mm) high above the conveyor with a diameter of 4 inches ± 1/2 inch (100 mm ± 12 mm). Turning posts shall be free spinning.

3.2.5. LOAD CAPACITY

The conveyor system shall have minimum live load capacity of 100 pounds per linear foot (150 kg/m). The conveyor shall be capable of starting or stopping in a normal fashion under fully loaded conditions as specified herein. The conveyor system

shall have a minimum structural capacity of 200 pounds per linear foot (300 kg/m). The conveyor structure shall be capable of supporting an individual weighing 300 pounds (135 kg).

3.2.6. SPEED

The scale and feeder conveyors shall operate at 60 ± 5 feet (18300 mm ± 1500 mm) per minute under all loading conditions. The takeaway conveyor shall operate at 90 ± 5 feet (27400 mm ± 1500 mm) per minute under all loading conditions.

3.2.7. FRAMES

All frame rails shall be a minimum of 3-1/2 inches (90 mm) x 1-1/2 inches (38 mm), 11-gauge formed galvanized or powdered coated steel channel. The frame members shall be securely fastened by bolts with lock washers or self-locking nuts. The frames shall be rigidly cross-braced (top and bottom) with minimum 1-1/4 inches (32 mm) x 1-1/4 inches (32 mm) x 3/16 inch (5 mm) structural steel angle. Cross braces shall be positioned on minimum 24-inch (610 mm) centers.

3.2.8. SIDE GUARDS

Side guards shall be provided as shown on the AF Drawing specified herein to restrain baggage from falling off the conveyors and, in the case of the scale conveyors, from leaning against the check-in counter. Side guards shall be installed at all locations except for the personnel access side of the conveyor in the Baggage Build-Up Areas. Side guards in public view (in the Check-In Area and Outdoor Baggage Build-Up Area) or outdoors shall be a minimum 12-gauge stainless steel. Side guards not in public view (in the hallways and Indoor Baggage Build-Up Area) shall be a minimum 12-gauge galvanized, powder coated, or stainless steel. Side guards shall be minimum three inches thick in the Check-In Area and a minimum one inch thick in the hallways and Baggage Build-Up Areas. Side guards shall be installed to withstand repeated collisions from baggage being loaded/unloaded on the conveyor and shall not exhibit plastic deformation during normal operating conditions. The side guards shall be mounted flush end-to-end and sealed at the section ends to prevent snag points.

3.2.8.1. SCALE CONVEYOR SIDE GUARDS

The side guards on the scale conveyors shall extend a minimum of 12 inches (300 mm) above the conveying surface.

3.2.8.2. FEEDER CONVEYOR SIDE GUARDS

The side guards on the feeder conveyors shall extend a minimum of 12 inches (300 mm) above the conveying surface.

3.2.8.3. TAKEAWAY CONVEYOR SIDE GUARDS

The side guards on the takeaway conveyors shall extend a minimum of 16 inches (400 mm) above the conveying surface.

3.2.9. SHROUDING

Shrouding that extends to the floor shall be provided for all conveyor sections in the Check-In Area and Indoor Baggage Build-Up Area. The shrouding shall be a minimum 14-gauge stainless steel. All shrouding shall be designed so maintenance is easily accomplished without special tools. All shrouding connections shall be smooth and flush without openings or projections on which baggage, straps or tags may become entangled.

3.2.10. ROLLER/PULLEY MOTION

The rollers/pulleys shall exhibit only rotational motion and shall not rotate in an eccentric manner during operation.

3.2.11. BELT MOTION

Belting shall be centered to maintain an even clearance between side rails during operation. Belting shall remain straight and taut during operation. Belting shall not track to one side.

3.2.12. ROLLERS

3.2.12.1. SNUBBER ROLLERS

Snubber rollers shall be provided behind head and tail pulleys, complete with adjustable brackets to permit proper adjustment or tracking of belting. Snubber rollers shall be minimum 2-3/16 inch (55 mm) diameter, mounted such that a 220-degree minimum belt wrap around the end drive pulleys and 180 degrees on the end idler pulleys is obtained. Pinch points where the belt meets the roller shall be guarded.

3.2.12.2. RETURN ROLLERS

Return rollers shall be minimum 1.9-inch (48 mm) diameter steel, mounted on maximum 10-foot (3050 mm) centers using minimum 12-

gauge steel brackets with slotted bolt holes, or an equivalent method approved by the COTR. Return roller mounting brackets shall be bolted to the frame.

3.2.12.3. RELIEF ROLLERS

When necessary, sections of the system shall be equipped with relief rollers. The purpose of the relief rollers is to reduce the coefficient of friction between the belt and bed. Relief rollers shall be a minimum of 1.9-inch (48 mm) diameter steel with a minimum 14-gauge wall thickness. Rollers shall be mounted on a maximum of 24-inch (610 mm) centers and shall extend the full width of the belt. Each conveyor belt shall completely cover the relief rollers so no pinch points are exposed.

3.2.13. BEARINGS

All bearings shall have a minimum live load rating of 150 pounds (68 kg).

3.2.13.1. CONVEYOR ROLLER BEARINGS

The conveyor roller bearings shall be commercial grade, anti-friction ball type and have a rating life of 30,000 hours in accordance with ABMA 11. The bearings shall have a nonmetallic retainer. The bearings shall be of the oil-lubricated or dry-running type. Bearings that require relubrication shall have conveniently located zerk fittings, and seals which allow for old lubrication to escape during the process. The bearings shall be shielded or steel labyrinth sealed on the outer sides. The conveyor roller bearings shall have separate steel inner and outer rings. The bearings shall turn freely in-hand without sliding contact occurring between balls and races. The bearings shall be securely mounted in the rollers by swaging, or equivalent as approved by the COTR and shall not come loose during operation.

3.2.13.2. MOUNTED BEARINGS

If mounted bearing units are used for pulleys or rollers, they shall utilize precision-grade ball bearings rated in accordance with ABMA 9 for a rated life of 30,000 hours. Mounted bearings shall have cast mounts. There shall be no slippage between the bearing inner race and shaft. Mounted bearings shall be grease packed and either permanently sealed or regreaseable. Regreaseable bearings shall have conveniently located zerk

fittings and seals which allow for old grease to escape during regreasing.

3.2.14. BELTS

All belting for portions of the conveyor shall be smooth top polyvinyl chloride (PVC) plastic type with a single-ply 100 percent polyester solid-woven carcass that is impregnated and coated with PVC. The belts shall have a minimum working tension of 120 pounds per inch (2143 kg/m) and shall utilize pin lacing type fasteners. If the belts are split type, the edges shall be sealed with a flexible compound to prevent fraying of the carcass. There shall be a minimum 1-1/2 inch (38 mm) clearance between the side rail and the edge of the belt along both sides of the conveyor. Belts shall have a 12-inch (305 mm) take-out piece for every 30 feet (9145 mm) of conveyor. The belts shall be centered to maintain an even clearance between side rails during operation. Belting shall remain straight and taut during operation. All tools required for belt splicing and installing and removing lacing shall be provided by the Contractor. Belt tracking shall be adjusted by adjustment of pulleys or rollers.

3.2.15. AXLES

All roller axles shall be of minimum 7/16 inch (12 mm) hex cold-rolled steel. All roller axles shall be of the through type and shall be spring loaded for easy removal.

3.2.16. PULLEYS

All pulley axles shall be of minimum 7/16 inch (12 mm) hex cold-rolled steel. All pulleys shall be minimum 11-gauge steel unless otherwise indicated.

3.2.16.1. DRIVE PULLEYS

All drive pulleys shall have a molded rubber lagged-face or be crowned with a friction surface. Conveyors of 20 feet (6100 mm) in length or less shall have minimum 4 inch (100 mm) diameter pulleys with minimum 1 inch (25 mm) diameter, cold-rolled steel shafts; otherwise, minimum 8 inch (200 mm) diameter pulleys with minimum 1-3/16 inch (30 mm) diameter cold-rolled steel shafts shall be used. The belts shall be wrapped around the drive pulley a minimum of 220 degrees.

3.2.16.2. END IDLER PULLEYS

End idler pulleys shall be minimum 4 inch (100 mm) diameter pulleys with minimum 1-3/16 inch (30 mm) diameter, cold-rolled

steel shafts. End idler pulleys shall be of the crowned face type.

3.2.16.3. TAKE-UP PULLEYS

Take-up pulleys shall apply to belt-driven or belt-on-roller conveyors. Take-up pulleys shall be minimum 4 inch (100 mm) diameter with a minimum 1 inch (25 mm) diameter cold-rolled steel shaft. Take-up pulleys, if used as end pulleys shall be of the crowned face type. Take-up pulleys shall have a minimum 10 inches (250 mm) of continuous adjustment to provide 20 inches (510 mm) of belt take-up for tensioning and tracking purposes.

3.2.17. DRIVE

All drive chain shall have a minimum RC-60 rating. The chain tension shall be adjusted by means of threaded connectors with a maximum take-up of 6 inches (150 mm). The drive shall be rigidly braced and completely enclosed in easily removable guards. Drives shall be located so as not to hinder inspection or maintenance nor interfere with normal operation of the conveyor system. The drive shall be such that the conveyor can go both forwards and in reverse.

3.2.18. MOTORS

All motor horsepower shall be sized for the full rated live load of the system and shall be capable of withstanding shock caused by frequent starting and stopping under load where applicable. All motors shall be designed for continuous duty at ambient temperatures, 32 to 100 degrees Fahrenheit (0 to 38 degrees Celcius) and relative humidity of at least 98 percent. Motors shall be able to move the conveyor both forward and reverse. Motors shall be drip proof and shall have keyed shafts. Motors shall be equipped with a disconnect switch to disengage all power to the motor. The disconnect switch will stay disconnected until manually reset at the motor control panel. All motors shall be equipped with reduced voltage starting (i.e., soft start). All motors shall be equipped with thermal overload devices on each phase per NFPA 70, Article 430, part C. A minimum of a 30 percent friction co-efficient between the belt and slider bed shall be used in calculating horsepower.

3.2.19. BED/CONVEYOR SURFACE

The bed/conveyor surface shall not be painted on the belt side to reduce the coefficient of friction between belt and bed. All adjoining edges of the bed shall be rigidly attached to the cross members to preclude differences in elevation under load.

Bed edges at the head and tail of each conveyor unit shall be formed in such a manner as to prevent snagging of any lacing, baggage or persons. The bed shall be a minimum of 11-gauge galvanized steel or equivalent as approved by the COTR.

3.2.20. SUPPORTS

Each support shall include two columns and cross bracing. The columns shall be minimum 11-gauge formed galvanized or powdered coated steel channel with 1-1/4 inches (32 mm) x 1-1/4 inches (32 mm) x 1/8 inch (3 mm) structural angle cross braces. Supports shall be designed with a lockable, continuously adjustable height device. The minimum adjustment shall be 6 inches, 3 inches (75 mm) up and 3 inches (75 mm) down. The floor supports shall be placed on maximum 5-foot (1525 mm) centers. All conveyor supports shall be bolted to the frame with minimum 3/8 inch (10 mm) diameter bolts.

3.2.21. POWERED BELT CURVES

Two 90-degree powered belt curves shall be provided and installed as shown on the AF Drawing specified herein. The curves shall be chain-driven or equivalent as approved by COTR. The drive placement shall not hinder inspection or maintenance and shall be completely enclosed in easily removable guards. There shall be a positive, smooth, and even action to prevent bumps, jams, and damage to the baggage entering and exiting the curve. The curves shall keep baggage aligned in the center of the curve so that they enter and exit the curve in the same position. The speed shall be regulated so the baggage maintains the same spacing coming into the curve as going out of it.

3.2.22. WALL OPENING INTERFACES

The conveyors pass through 9 wall openings, 3 with existing powered overhead doors. When passing through a wall opening, the conveyor or conveyors shall be centered in the wall opening to the maximum extent possible. Existing wall opening trim shall remain. Any trim damaged during conveyor removal or installation shall be replaced by the Contractor.

3.2.22.1. OVERHEAD DOORS

Existing powered, overhead doors which the conveyor passes through shall be tied into the operation of the conveyor system. Overhead doors shall open when the “START” button on a control panel is pressed that starts the conveyor passing through the door. The door shall remain open when an emergency stop button

is activated but shall close when a conveyor "STOP" button is pressed and there is nothing blocking it. If necessary, the door shall be fitted with stops so that the bottom of the door does not impact the outbound conveyor when it is closed. The conveyor shall be installed to produce an even and gap-free fit between the door bottom and conveyor surface when the door is in the closed position. Existing overhead door control panels, located adjacent to each overhead door, shall remain in place and operational.

3.2.22.2. INSULATED FILL PLATE

Insulated fill plates shall be provided on each side of the conveyor in the wall opening. The insulated fill plates shall be the same thickness as the wall the conveyor passes through. The fill plates shall extend from the floor to the conveyor bed surface. The fill plates shall be aligned with the overhead door to produce an even and gap-free fit when the door is in the closed position. The fill plates shall match the wall in construction and shall be fire rated for a minimum of one hour. Fill plates shall be painted to match the walls.

3.2.22.3. DRAFT CURTAINS

Draft curtains shall be provided on the check-in side of each wall opening and at the overhead door leading to the Outdoor Baggage Build-Up Area. The draft curtains shall be black vinyl or plastic. The curtain strips shall be minimum 5 inches (125 mm) wide by 1/16-inch (1.5 mm) thick. Strips shall overlap each other by a minimum of one inch. Strips shall have rounded edges to prevent cutting. The curtains shall be mounted a minimum of 3 inches (75 mm) above the wall opening and shall overlap the door edges by a minimum of 1 inch (25 mm). The curtains shall extend to within 1/2-inch (12 mm) of the conveyor surface. The curtains and associated mounting brackets shall not reduce the size of the wall opening clearances.

3.2.23. GENERAL CONTROL CHARACTERISTICS

3.2.23.1. SINGLE OPERATOR

All controls and functions shall be operable by one person. All controls shall require less than 10 pounds (4.5 kg) of force to activate.

3.2.23.2. INTERLOCKS

Control interlocks shall be provided wherever required to ensure safe, efficient, integrated operations as specified. Interlocks shall prevent motors from attempting to drive a component in opposite directions at the same time. Interlocks shall be provided wherever required to preclude unsafe movements and conditions that could endanger operating personnel or personnel standing near the equipment, or which could damage baggage, facilities, or equipment. When controlled by the operator from a console, interlocks shall prevent malfunctions and system errors that cause a component to become inoperable, unsafe, or to fail to operate as specified herein.

3.2.23.3. CONSOLE LOCKOUT

Two or more consoles with buttons, switches, or other controls that operate the same equipment shall have a lockout such that when one console is being used (a button is being depressed), all other consoles controlling that equipment shall be inoperable. The only exception shall be emergency stops, which shall always operate regardless of which console is controlling the motion.

3.2.23.4. LABELING

All consoles, panels, and junction boxes shall be clearly labeled to indicate the equipment that is controlled by the enclosure. Each button, switch, indicator light, and all operator control devices shall be labeled with etched aluminum, painted black, and mechanically attached to the console. Adhesive labels shall not be acceptable.

3.2.23.5. DIAGRAMS, CODES, AND DOCUMENTATION

The Contractor shall provide flow charts that clearly illustrate control and operation logic. The flow charts shall be submitted with shop drawings. Ladder diagrams, flow charts, all variable control settings, and disks containing source code for all control programs shall be submitted with maintenance manuals. The software needed to operate and/or modify the source codes shall be provided.

3.2.23.6. JAM PREVENTION

The design of the conveyor and the controls shall prevent jams and other interruptions. Jams shall occur a maximum of 0.5 percent of the time (only 1 jam per 200 bags is acceptable).

3.2.24. SENSORS

Sensors shall be photoelectric, limit switch or other device that senses the presence of baggage, door positions and other conditions as required for proper and safe operation. Sensors shall be approved by the COTR. All sensors shall properly operate in all weather and lighting conditions at the point of operation. Sensor circuitry shall be totally solid state. All sensors shall be recessed for protection from the conveyed material. All sensors shall be shock and vibration resistant and shall be rigidly mounted on structural members attached to the structure. Sensors shall be rigidly mounted so that transmission of vibrations is minimized. No more than one penetration per sensor shall be allowed in conveyor guard rails and side guides. All sensors shall be capable of detecting minimum and maximum-dimensioned baggage. All sensors shall be the quick-disconnect type (not hard wired) to simplify maintenance. The Contractor shall provide any special tools needed to adjust the sensors, sighting or other controls. Sensors shall be located in a position that allows for ease of inspection and maintenance. Sensitivity of the sensors shall be adjustable from the outside of the conveyor frame and in the range translucent to highly reflective. The mounting brackets shall be capable of adjusting 3 inches (75 mm) up, 3 inches (75 mm) down and 360 degrees horizontally about a vertical axis.

3.2.24.1. FEEDER CONVEYOR SENSORS

A sensor shall be provided to allow for baggage to be indexed from the feeder conveyor to the takeaway conveyor. If the sensor detects an item on the feeder conveyor when the foot pedal is activated and the takeaway conveyor is not running, the start-up warning devices shall activate and the takeaway conveyor shall start upon stoppage of the horn as specified in 3.2.27.

3.2.24.2. TAKEAWAY CONVEYOR SENSORS

An item present sensor shall be provided before the start of each section of the takeaway conveyor. This will turn on the next section of conveyor. The startup warning devices shall activate only once in each new hallway or room due to the starting of the follow-on conveyor sections. These sensors shall be used to index baggage onto the takeaway conveyor sections. Indexing shall allow baggage to transfer to the first position on the farthest conveyor section possible before stopping to allow the conveyor line space to be maximized.

3.2.24.3. JAM DETECTION SENSORS

Jam detection sensors and timers shall be provided to detect baggage jams. The sensors and control logic shall differentiate between long baggage items and jams. Jam detection sensors shall be located at or near the discharge end of all conveyors prior to passing through a wall opening and at other areas where jams are likely to occur. The jam timer shall be manually adjustable over a minimum range of 0 to 15 seconds on maximum 1-second intervals. If a jam is detected (baggage blocks the jam sensor for the timed period), that conveyor and all upstream conveyors shall stop. An indicator light shall illuminate on all control panels and shall remain illuminated until the jam has been cleared and the fault has been reset as specified in 3.2.26.5. If jammed, the conveyor shall not restart until the jam has been cleared. Once the jam is cleared, the jam detection circuit shall be reset to extinguish the indicator light and start the upstream conveyors. A false jam indication shall not be generated by baggage blocking the sensor if the conveyor has stopped for reasons other than a jam being detected.

3.2.24.4. AUTOMATIC SYSTEM STOP SENSORS

Automatic stop sensors shall be provided to automatically stop a powered conveyor section when not in use. The time interval shall be manually adjustable over a minimum range of 1 to 15 minutes on maximum intervals of 1 minute. Sensors capable of detecting all baggage sizes shall be used. After a time interval suitable to ensure that the last piece of baggage reaches its destination, the timing device will time out and the conveyors not necessary to transport baggage shall stop. Once the conveyor times out, it shall be able to start again without resetting. The timing devices shall stop timing if any portion of the conveyors required to transport baggage to the next conveyor section is not operating due to a jam, motor overload or emergency stop.

3.2.24.5. OVERHEAD DOOR POSITION SENSORS

A door position sensor shall be provided at each overhead door. The sensor shall ensure that the overhead door is in the fully opened position (not blocking the wall opening) prior to conveyor movement to transfer baggage between the wall opening. If the sensor detects that the door is not fully opened, the conveyor shall not operate. A fault light shall illuminate as specified in 3.2.26.5. If the overhead door is lowered during operation, the conveyor shall immediately stop and the specified fault light shall illuminate.

3.2.25. CONTROL PANELS

Fifteen operator control panels (OCPs) and one motor control panel (MCP) shall be provided and located as shown on the AF Drawing specified herein. Each button, indicator light, switch, and all operator control devices specified herein shall be configured to the greatest extent possible in the same manner, way, or location for each control panel. The final configuration layout for each button, indicator light, and other operator devices for each control panel shall be approved by the COTR.

3.2.25.1. MOTOR CONTROL PANEL (MCP)

The MCP shall be provided and installed at the location shown on the AF Drawing specified herein and shall be the main control panel for the conveyor. The MCP shall be housed in a control cabinet containing motor starters and all electrical components required to control and run the conveyors. Schematics of the MCP shall be in a holder behind a translucent protective covering on the inside of the panel door. The MCP shall be in compliance with Article 384 of NFPA 70. As a minimum, the MCP shall be equipped with a Diagnostic Display Panel (DDP), hour meter, control buttons, and indicator lights as specified in 3.2.26. and configured as shown on Table 1.

3.2.25.1.1. DIAGNOSTIC DISPLAY PANEL

The MCP shall be equipped with a DDP to allow authorized personnel to troubleshoot and control the conveyor system. The DDP shall be a minimum 9-inch (230 mm) touch screen. The DDP shall be equipped with a keypad which shall control access to the diagnostic screens.

3.2.25.1.2. HOUR METER

The MCP shall be equipped with a non-resettable hour meter. The hour meter shall register a minimum of 9,999 hours. The hour meter shall be located on the front panel of the MCP or be available through the DDP.

3.2.25.1.3. KEY SWITCH

The MCP shall be provided with a key switch to turn the conveyor power on and off. Three keys shall be provided. Power shall be available to operate conveyors when the key switch is at the

"ON" position and the key shall not be able to be removed while in the "ON" position. Power shall not be available to operate the conveyors when the key switch is at the "OFF" position. All lights specified herein shall illuminate for 3-5 seconds after the power has been turned on for diagnostics purposes before going to their proper state.

3.2.25.2. OPERATOR CONTROL PANELS

Fifteen OCPs shall be provided and mounted on the wall, conveyor, or a pedestal at the locations shown on the AF Drawing specified herein. OCPs are used by operators to start conveyor, stop conveyor, complete conveyor resets, activate emergency stops, and other operations specified herein. OCPs will be located near operators work locations for convenient operation of the conveyors. The COTR shall approve the location of the OCPs before final installation. The OCPs shall be mounted at a convenient height for operator use, typically 48 inches (1220 mm) above the ground. As a minimum, the OCPs shall contain control buttons and indicator lights as specified in 3.2.26. and configured as shown on Table 1.

3.2.26. LIGHTS AND BUTTONS **|R2**

Control panels shall be provided with control buttons, indicator lights, and switches as specified herein and in accordance with Table 1.

MCP	OCP-1 through OCP-11 Behind Check-In Counters	OCP-12, OCP-14 Baggage Build-Up Areas, Beginning	OCP-13, OCP-15 Baggage Build-Up Areas, End	COLOR
Indicator Lights				
POWER	POWER	POWER	POWER	GREEN
		LINE FULL	LINE FULL	YELLOW
Control Buttons				
STOP	STOP	STOP	STOP	RED
	START	START	START	GREEN
EMERGENCY STOP	EMERGENCY STOP	EMERGENCY STOP	EMERGENCY STOP	RED
Combination Indicator Light and Control Button				
FAULT/RESET	FAULT/RESET	FAULT/RESET	FAULT/RESET	ORANGE

Table 1. MCP and OCP Configurations

Selector Switch				
FORWARD/ REVERSE (for takeaway behind check-in counters 7-11)	~~**FORWARD/ REVERSE (for scale and feeder conveyor only)**~~			BLACK
			INDEX/ CONTINUOUS OPERATION	BLACK
Other Features				
KEY SWITCH	**FORWARD/ REVERSE KEY SWITCH (for scale and feeder conveyor only)**			
DDP				
HOUR METER				

Table 1 (continued). MCP and OCP Configurations

3.2.26.1. POWER LIGHT

The control panels shall be provided with a green "POWER" indicator light to indicate if conveyor power is on or off. Whenever the key switch is moved to the "ON" position, the "POWER" indicator light shall illuminate. This light shall remain illuminated until the key switch is moved to the "OFF" position or electrical power to the system is disconnected. The "POWER" indicator shall flash when power is available, but a fault has been detected or a condition is present preventing operation of the conveyor.

3.2.26.2. START BUTTON

The "START" button shall be a green momentary-contact push button. When the "START" button is depressed and the conveyor is at rest, the start-up warning devices shall activate in accordance with 3.2.27. and the conveyor shall start. When the "START" button is depressed, only the needed sections of the takeaway conveyor shall start with follow on sections automatically activating as the baggage is transferred. If the conveyor is already moving, pressing the "START" button shall have no effect. In addition to the "START" button on the OCPs behind check-in counters, the contractor shall provide foot-pedal start controls at each check-in counter.

3.2.26.2.1. FOOT PEDALS

Eleven foot pedals shall be provided, one at each check-in counter. The foot pedals shall be used to index checked baggage from the scale conveyor to the feeder conveyor and then to the takeaway conveyor. When the foot pedal is depressed, the scale conveyor shall index baggage from the scale conveyor to the feeder conveyor. If baggage is already on the feeder conveyor, that baggage shall index to the takeaway conveyor.

3.2.26.3. STOP BUTTON

The "STOP" button shall be a red momentary-contact push button. When the "STOP" button is depressed, the associated conveyor shall stop. If the conveyor is already stopped, pressing the "STOP" button shall have no effect.

3.2.26.4. FORWARD/REVERSE SWITCH **|R2**

The "FORWARD/REVERSE" switch shall be provided to ~~**signal**~~ **change** which direction the conveyor is operating. The switch **on the MCP** shall be a black two position rotary switch. **The switches on OCP-1 through OCP-11 shall be key switches to prevent non-authorized personnel from changing the conveyor directions. The key shall only be able to be removed when it is set to the "FORWARD" direction.** Changing the position of the switch while the conveyor is in operation shall have no effect on the conveyor. The "FORWARD/REVERSE" switch on the MCP shall only change the direction of the takeaway conveyor behind check-in counters 7 through 11. The "FORWARD/REVERSE" **key** switches at OCPs behind check-in counters shall only change the direction of the scale and feeder conveyor associated with the control panel. **Key switches shall be keyed alike with one key provided for each switch.**

3.2.26.5. FAULT LIGHT/RESET BUTTON

The control panels shall be provided with a "FAULT/RESET" button that is illuminated to indicate when a jam has been detected as specified in 3.2.24.3. or if any condition preventing normal conveyor operation exists. The indicator shall illuminate and remain illuminated until the condition preventing normal operation has been cleared and the "FAULT/RESET" button depressed or the power is turned off. Reset shall also be able to be accomplished through the DDP on the MCP.

3.2.26.6. LINE FULL LIGHT

The operator control panels in the Baggage Build-Up Areas shall be provided with a "LINE FULL" light to indicate when the final

outbound takeaway conveyor sections are completely full of baggage. The light shall illuminate and remain illuminated until the full condition specified herein has been cleared.

3.2.26.7. EMERGENCY STOP BUTTONS

Each control panel shall be provided with a red, illuminated, mushroom-type "EMERGENCY STOP" button. Additional emergency stop buttons attached to the conveyor structure or pedestal mounted, separate from the control panel emergency stop buttons, shall be provided at locations shown on the AF Drawing specified herein. Emergency stop buttons shall be the maintained-contact type that are pushed to activate and pulled to deactivate. Activation of an emergency stop button shall override all other control inputs and control logic. The conveyor shall immediately cease motion and shall not activate following an emergency stop until all emergency stops have been cleared, sensors indicate the equipment is ready to operate, and the start button is depressed. Pulling the emergency stop shall clear an emergency stop. The conveyor shall not automatically activate once the emergency stop has been cleared. All emergency stop buttons for the conveyor shall illuminate when one is activated. The emergency stop that was activated shall be the only emergency stop button to flash. All personnel interfacing with the conveyor system shall have easy access to an emergency stop button. Emergency stop buttons shall be hard-wired. Emergency stop buttons shall be recessed or guarded to prevent accidental activation and safety hazards.

3.2.26.8. INDEX/CONTINUOUS OPERATION SWITCH

An "INDEX/CONTINUOUS OPERATION" switch shall be provided on control panels as specified in Table 1. The switch shall allow the operator to change the operation of the conveyor so that it indexes baggage or continuously operates as described in 3.2.28.2. The switch shall be a 2-way selector switch so that the conveyor can only be in one mode at a time.

3.2.27. START-UP WARNING DEVICES

Four start-up warning devices shall be provided and located as shown on the AF drawing specified herein and shall meet all requirements specified in ANSI B20.1. Each start-up warning device shall consist of a horn and a rotating amber beacon light. Each horn shall have a frequency between 200 and 5000 hertz and the volume shall be easily adjustable over a minimum range of 0 to 105 dB(A). Each light shall illuminate at least 5 seconds prior to conveyor movement and shall remain illuminated

until the conveyor comes to a complete stop. The length of time each horn and each light operate prior to the start of the conveyors shall be easily adjustable over a minimum range of 0 to 10 seconds on maximum one-second intervals. Each start-up warning device shall not be placed where it is subject to damage from conveyor operation or loading and unloading operations. Each start-up warning device shall be visible and audible in all areas where personnel are in close proximity to the conveyors. The exact location of each start-up warning device shall be approved by the COTR before final installation is completed. All warning devices shall be clearly labeled as to their intent, function, and purpose. Each warning device shall activate when the conveyor is at rest, all sensors indicate the conveyor is operational (i.e., no emergency stops are activated, no jams detected, overhead doors open as required, etc.) and a control button is depressed as specified in 3.2.26.

3.2.28. OPERATIONAL CHARACTERISTICS

3.2.28.1. SCALE AND FEEDER CONVEYOR OPERATION

Each scale and feeder conveyor shall be operated by a foot pedal. Depressing the foot pedal shall cause both conveyors to index one baggage position. Each scale and each feeder conveyor is considered a single baggage position.

3.2.28.2. TAKEAWAY CONVEYOR OPERATION

The takeaway conveyors shall be operated from the OCPs and shall also activate when a bag exits a feeder conveyor. An item present sensor shall be provided at the outbound end of each section of takeaway conveyor. When activated, this sensor shall activate the next section of conveyor. Activating a curve section shall simultaneously activate the next section of conveyor beyond the curve. The takeaway conveyor shall continue operation until a conveyor stop button is activated, an emergency stop button is activated, or it is detected that the line is full.

3.2.28.2.1. INDEX OPERATION

If the INDEX/CONTINOUS OPERATION switch for the associated Baggage Build-Up Area is on INDEX, the baggage shall begin indexing after the curve entering the Baggage Build-Up Area until a piece of baggage reaches the outbound end of the conveyor. At this point the line full indicator on the associated OCP shall activate and all sections of the takeaway conveyor in the Baggage Build-Up Area shall stop. Once the bag

is removed from the outbound end of the conveyor, it shall activate and continue indexing baggage. Indexing shall maximize the number of baggage transferred into the Baggage Build-Up Area.

3.2.28.2.2. CONTINUOUS OPERATION

If the INDEX/CONTINUOUS OPERATION switch for the associated Baggage Build-Up Area is on CONTINUOUS OPERATION, baggage on the takeaway conveyor shall be transferred until it reaches the outbound end of the conveyor.

3.2.28.2.3. OUTDOOR BAGGAGE BUILD-UP AREA OPERATION

If the Outdoor Baggage Build-Up Area is to be used, qualified personnel shall reverse the direction of the takeaway conveyor behind check-in counters 7 through 11 through the DDP. For normal operations, the Outdoor Baggage Build-Up Area shall not be used and takeaway conveyors shall transfer baggage from all check-in counters towards the Indoor Baggage Build-Up Area.

3.3. SPARE PARTS

The spare parts listed below shall be provided with the outbound baggage conveyor. These items shall be listed separately on the spare parts list (listing the number of the item in the system and the number provided) so ordering information is available for future use. All spare parts shall be new items with a full manufacturer's warranty. The Contractor shall replace any parts used during the warranty period at no cost to the Government.

A. Variable Frequency Drive Units: Provide 1 spare drive unit for every 5 drive units or fraction thereof for each type of drive used in the system, up to a maximum of 3 drive units of each type. The drive unit shall consist of the frequency inverter, adjustable frequency drive, and all other components required to develop the signal sent to the drive motor.
B. Conveyor Drive Motors: Provide 1 spare drive motor for every 10 drive motors or fraction thereof for each type of drive motor used in the system, up to a maximum of 3 drive motors of each type.
C. Sensors: Provide 1 spare sensor for every 10 sensors or fraction thereof for each type of sensor used in the system, up to a maximum of 5 sensors of each type.
D. Programmable Logic Controllers (PLCs): Provide 1 spare PLC for every 5 PLCs or fraction thereof for each type of PLC used in the system, up to a maximum of 3 PLCs of each type.

E. PLC Input/Output (I/O) Cards: Provide 1 spare PLC I/O card for every 5 I/O card or fraction thereof for each type of I/O card used in the system, up to a maximum of 3 I/O cards of each type.
F. Power Supply: Provide 1 spare power supply for each type used.
G. Scale Load Cell: Provide 4 spare load cells for each type used.
H. Scale Display: Provide 1 spare scale display for each type used.
I. Diagnostic Display Panel: Provide 1 spare DDP.

4. QUALITY ASSURANCE PROVISIONS

4.1. INSPECTIONS

The system shall be inspected to verify that it meets all the requirements of sections 1, 2, and 3 of the cover purchase description. These inspections shall be completed as part of the system checkout test and again as a part of the quality conformance test.

4.2. TESTS

The following tests shall be performed on the system as part of the system checkout test and again as a part of the quality conformance test.

No.	Paragraph	Description
1.	3.1.	Test to ensure the system can handle items between the minimum and maximum weights and sizes as specified. The conveyors shall be loaded with 10 baggage items. At least one item shall have the minimum weight and size and one item shall have the maximum weight and size. If any baggage fails to complete a run of the system, without human intervention, the system fails the test.

2.	3.2.1.1.	Verify all scales are certified. Load the scale conveyors with known test loads. Place the test loads at different locations on the scale conveyors. If the scales are not certified or if the scales do not provide the correct weight of the test loads within 0.5 percent, the scales and scale conveyors fail this test.
3.	3.2.5.	Test to ensure the conveyors are capable of carrying a live load capacity of 100 pounds per linear foot (150 kg/m) with a maximum load of 150 pounds (68 kg) per bag. With the conveyor fully loaded, (total linear feet or meters of conveyor x 100 pounds per linear foot or 150 kg/m), place five pieces of baggage adjacent to each other that have the density of approximately 100 pounds per linear foot (150 kg/m). Operate the conveyor for 30 minutes in both directions. If the conveyor was not able to operate carrying a live load, the conveyors fail the test.
4.	3.2.5.	Test to ensure the conveyors are capable of starting and stopping under a fully loaded condition. Repeat the application in test number 3. During the 30 minutes, the conveyor shall be stopped for 30-second intervals every 5 minutes then restarted. If the conveyors cannot start, stop and operate carrying the live load capacity, the conveyor fail the test.
5.	3.2.6.	Test to ensure that the scale and feeder conveyors operate at 60 $\pm$ 5 feet (18300 $\pm$ 1500 mm) per minute under maximum load. Load both the scale and feeder conveyor with 100 percent capacity (total linear feet or meters x 100 pounds/linear foot or 150 kg/m). Start the conveyors. Depress the start button and let the baggage move 6 feet (1830 mm). If the time to move 6 feet (1830 mm) is greater than 6.0 $\pm$ 0.5 seconds, the conveyors fail the test.

6.	3.2.6.	Test to ensure that the takeaway conveyors operate at 90 ± 5 feet (27400 mm ± 1500 mm) per minute under maximum load. Load each piece of conveyor with 100 percent capacity (total linear feet or meters x 100 pounds/linear foot or 150 kg/m). Start the conveyor. On the takeaway conveyor, move a piece of baggage a distance of 90 feet (27400 mm). If the time to move 90 feet (27400 mm) is greater than one minute ± 3.5 seconds, the conveyor fails the test.
7.	3.2.11.	Check the belt location on each section of the conveyor. Run the conveyor for four hours, starting and stopping the conveyor several times. Re-inspect the belt locations. If any of the belts show damage, do not maintain even clearance between side rails, become less taught, or track to one side, the conveyors fail this test.
8.	3.2.24.	Test to ensure the sensors operate in the manner described in 3.2.24. and its subparagraphs. While the conveyor is in operation, place a piece of baggage on each of the conveyors. Verify that the conveyors automatically transfer the baggage as specified. If any sensors fail to detect baggage or prevent the system from operating as specified, the conveyor fails the test.
9.	3.2.24.1.	Transfer a bag from the scale conveyor to the feeder conveyor by activating the foot pedal. With the bag now located on the feeder conveyor and the takeaway conveyor not running, activate the feeder conveyor using the foot pedal. If the start-up warning devices activate during the transfer from the scale conveyor to the feeder conveyor, if the start-up warning devices fail to activate, or the takeaway conveyor fails to activate after the horn stops, the conveyor fails this test.

10.	3.2.24.2.	Test the takeaway sensors. Transfer a piece of baggage on the takeaway conveyor starting from a feeder conveyor. If follow-on takeaway conveyor sections do not activate prior to the baggage arriving on the section or if the startup warning device sounds for the activation of follow-on conveyor sections, the conveyor fails this test.
11.	3.2.24.2.	Test the takeaway sensors. Place the maximum number of pieces of baggage that can fit on the takeaway conveyor section in each Baggage Build-Up Area on the takeaway conveyor before each curve. Transfer the baggage towards the Baggage Build-Up Area. If the first piece of baggage does not stop after transferring through the overhead door or the maximum number of baggage pieces do not index onto the final takeaway conveyor section in the Baggage Build-Up Area while the conveyor is in INDEX OPERATION mode, the conveyor fails this test.
12.	3.2.24.3.	Test the jam detection sensors. While the conveyor is in operation, block the sensor leading through an overhead door. Continue blocking the sensor until the conveyor stops. Clear the sensor. If the takeaway conveyor does not stop in the allotted time or the conveyor starts when the sensor is cleared, the conveyor fails this test.
13.	3.2.24.4.	Test the conveyors automatic stop sensors. Remove all baggage from the conveyor and time how long it takes for the conveyor to stop. If the conveyor does not stop after the specified time, the conveyor fails this test.
14.	3.2.25.1.1.	Test the DDP. When a fault occurs while testing the conveyors, check the DDP to troubleshoot the fault. If the fault cannot be determined and cleared from the DDP, the conveyor fails this test.

15.	3.2.25.1.2.	Test the hour meter. Before starting the testing of the conveyors, note the hour meter reading. After the testing of the conveyors, check the hour meter reading. If the reading is not accurate, the conveyor fails this test.
16.	3.2.26.3.	Test the "STOP" buttons. While the conveyors are running, press the stop buttons on each of the control panels. If the associated conveyors do not stop, the conveyor fails this test.
17.	3.2.26.4.	Test the "FORWARD/REVERSE" switches. One at a time, move each switch into the reverse direction and activate the associated conveyor. If the associated conveyors do not activate in the reverse direction, if non-associated conveyors operate in the reverse direction, or if startup warning devices do not activate as specified, the conveyor fails this test.
18.	3.2.26.5.	Test the fault light/reset button. Block one of the sensors to simulate a jam. Verify that the fault light illuminates. Unblock the sensor. Verify that the fault light remains illuminated until the "RESET" button is depressed. If the fault light does not illuminate when a jam is simulated, deactivates when it is cleared, does not deactivate upon depressing "RESET", or the conveyor starts when the fault deactivates, the conveyor fails this test.

19.	3.2.26.6.	Test the line full light. Block the sensor at the outbound end of the takeaway conveyor in each Baggage Build-Up Area. Verify that the conveyor will not continue operating while the line is full. Stop blocking the sensor and verify that the conveyor can resume operation. If the line full light on the associated OCP does not illuminate, the conveyor continues operating while the sensor is blocked, the light remains illuminated when the block is cleared, or the conveyor does not resume operation once the block is cleared, the conveyor fails this test.
20.	3.2.26.8.	Test the operation of the INDEX/CONTINUOUS OPERATION switch. Toggle the INDEX/CONTINOUS OPERATION switch between the two settings. Operate the conveyor while in each setting with at least 3 pieces of baggage. If the baggage does not index as described in 3.2.28.2.1. while set to INDEX or if the baggage does not operate continuously as described in 3.2.28.2.2., the conveyor fails this test.
21.	3.2.26.7.	Test to ensure the system will not start without resetting the emergency stop buttons and depressing a “START” button. Start the conveyor, then activate an emergency stop button. Try to restart the system from all start buttons. Reset the emergency stop button and depress a “START” button. Repeat the test until all emergency stop buttons have been tested. If the system restarts while an emergency stop button is activated, the conveyor fails the test.
22.	3.2.27.	Test the start-up warning devices. From the control panels, press the “START” button. If the beacon light does not light up, the horn does not sound for five seconds before the conveyor starts, or the horn does not shut off when the conveyor starts conveyor fails this test.

4.3. CERTIFICATIONS

The Contractor shall provide certification that the following requirements have been met in accordance with the Contract Data Requirements List.

No.	Paragraph	Certifications
1.	3.2.13.1.	Certify conveyor roller bearings are commercial grade, anti-friction ball bearings with a rating life of 30,000 hours in accordance with ABMA 11.
2.	3.2.13.2.	Certify the bearings utilize precision-grade ball bearings rated in accordance with ABMA 9 for a rating life of 30,000 hours.
3.	3.2.17.	Certify drive chains are a minimum RC-60 rating.
4.	3.2.18.	Certify all motors conform to the applicable requirements of NFPA 70.

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TECHNICAL PROPOSAL QUESTIONNAIRE
FOR
OUTBOUND BAGGAGE CONVEYOR

Solicitation Number: _____
Project Title: Baggage Handling System
Base: Ramstein AB, Germany CSN: BRM1B5
Appendix A – Outbound Baggage Conveyor, **REV 2: 4 June 2026**

This questionnaire shall be completed by the Offeror. The questionnaire will be used to determine the Offeror's understanding of the requirements and acceptability of the proposed equipment. Please attach product literature/cut sheets for all equipment detailed in this questionnaire and attach any exceptions to the Purchase Description Appendix.

No.	Paragraph	Characteristics
1.	3.1.	Will the outbound baggage conveyor be capable of handling all items within the specified size and weight limits? ☐ YES ☐ NO
2.	3.2.1.	Will scale conveyors, consisting of a scale under a belt conveyor, be provided as specified? ☐ YES ☐ NO
3.	3.2.1.	Height of conveying surface of each scale conveyor: _____ inches / mm
4.	3.2.1.	Number of scale conveyors provided: _____
5.	3.2.1.1.	Capacity of each scale: _____ pounds / kg
6.	3.2.1.1.	Are overload stops provided for each scale? ☐ YES ☐ NO
7.	3.2.1.1.	Are two weight displays provided for each scale? ☐ YES ☐ NO
8.	3.2.2.	Are feeder conveyors provided as specified? ☐ YES ☐ NO

Solicitation Number: _____

9.	3.2.4.	Are turning posts provided as specified? ☐ YES ☐ NO
10.	3.2.4.	Turning post diameter: _____ inches / mm Turning post height: _____ inches / mm
11.	3.2.3.	Are takeaway conveyors provided as specified? ☐ YES ☐ NO
12.	3.2.1. 3.2.2. 3.2.3.	Scale conveyor belt width: _____ inches / mm Feeder conveyor belt width: _____ inches / mm Takeaway conveyor belt width: ____ inches / mm
13.	3.2.5.	Conveyors structural load capacity: _____ pounds per linear foot / kilograms per meter Conveyors live load capacity: _____ pounds per linear foot / kilograms per meter
14.	3.2.5.	Will the conveyor structure be capable of supporting an individual weighing 300 pounds (135 kg)? ☐ YES ☐ NO
15.	3.2.6.	Operating speeds (feet/millimeter per minute) under all loading conditions: Scale conveyors: _____ ft/min / mm/min With a maximum variance of: _____ ft/min / mm/min Feeder conveyors: _____ ft/min / mm/min With a maximum variance of: _____ ft/min / mm/min Takeaway conveyors: _____ ft/min / mm/min With a maximum variance of: _____ ft/min / mm/min
16.	3.2.7.	Are frames provided as specified? ☐ YES ☐ NO

Solicitation Number: _____

17.	3.2.7.	Gauge of steel frames: _____ gauge
18.	3.2.8.	Are side guards provided as specified? ☐ YES ☐ NO
19.	3.2.8.	Gauge of steel side guards: _____ gauge
20.	3.2.9.	Is shrouding provided as specified? ☐ YES ☐ NO
21.	3.2.14.	Are belts provided as specified? ☐ YES ☐ NO
22.	3.2.17.	Size of drive chain provided: _____
23.	3.2.17.	Are easily removable guards provided for drives? ☐ YES ☐ NO
24.	3.2.18.	Are motors provided as specified? ☐ YES ☐ NO
25.	3.2.19.	What is the material and finish of the bed surface? _____
26.	3.2.20.	What is the minimum vertical adjustment of the supports? _____ inches / mm
27.	3.2.20.	What is the maximum distance between supports? _____ inches / mm
28.	3.2.24.	Are all sensors provided as specified? ☐ YES ☐ NO
29.	3.2.24.2.	Will baggage index on the takeaway conveyor in the Baggage Build-Up Areas as specified? ☐ YES ☐ NO
30.	3.2.25.	Are control panels provided as specified? ☐ YES ☐ NO

Solicitation Number: _____

31.	3.2.25.	Number of control panels provided: Motor Control Panel (MCP): _____ Operator Control Panel (OCP): _____
32.	3.2.25.1.	Will the MCP be provided with a diagnostic display panel (DDP), hour meter, power on key switch, and buttons/lights as specified? ☐ YES ☐ NO
33.	3.2.25.2.	Are OCPs provided as specified? ☐ YES ☐ NO
34.	3.2.26.	Are all control panels provided with indicator lights and control buttons as specified and in accordance with Table 1? ☐ YES ☐ NO
35.	3.2.26.2.1.	Number of foot pedals provided: _____
36.	3.2.26.7.	Are emergency stop buttons provided as specified? ☐ YES ☐ NO
37.	3.2.27.	Are start-up warning devices provided as specified? ☐ YES ☐ NO
38.	3.3.	Will spare parts be provided as specified? ☐ YES ☐ NO

Solicitation Number: _____

EXCEPTIONS

Attach any exceptions taken to the Purchase Description Appendix. Please outline those concerns in detail. Your exceptions will be reviewed to determine acceptability.

Are exceptions taken? ☐ YES ☐ NO

Number of pages attached: _____