Why VPCs Need

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Navy photo by PHAA Adam York

It's payday Friday morning, and you hear a familiar story: "CS3, we need to get these stores moved to the galley ASAP. When you are done, you can go on liberty. Now, let's get hot!"

The CS3 contacts an MM3 to unlock doors at the upper and lower levels of the conveyor trunk. The CS3 and food-service attendants then start moving stores to the galley. Meanwhile, the MM3 returns to his workcenter and reviews the PMS schedule. He notices he has several checks to complete before he can enjoy payday Friday.

At 1500, our machinist's mate has one check remaining, but he sees it is 28 pages long. What happens? He looks at the time, puts an "X" beside all the checks as being completed, and secures for the day—he isn't about to miss liberty call.

Shortly afterward, an injury report is generated, stating, "During the operation of the package conveyor, a Sailor was injured because the emergency-stop and run-stop switch didn't work." The Monday morning after payday Friday, the chain of command interviews the workcenter supervisor and LPO as a mishap investigation begins.

The first questions are, "Were any pre-operational checks done?" and "When was the last SOT *[system operability test]* completed?" The two petty officers look at each other with confusion as if to ask, "What is a SOT?"

Vertical package conveyors (VPCs) require a SOT (MIP 5721) for safe equipment operation and to prevent injury. A SOT is an intense, time-consuming PMS check that covers everything from the motor and chain to making sure all lights and switches work. The SOT covers the conveyor from top to bottom and must be completed as scheduled, or use of the VPC is prohibited.

These checks must be taken seriously and must be performed with caution and attention to detail. The two-man rule applies (one safety observer and one operator), and communications through installed shipboard communications devices always must be in effect during any VPC operation.

The SOT's mechanical portion requires inspecting the motor for corrosion and loose or missing parts. The PMS also requires cleaning (while wearing the proper PPE) around the plug and sight-glass with an

a Little TLC

A Navy culinary specialist moves boxes of fresh fruits and vegetables onto a ship's package conveyor.

approved solvent and rags. Inspect the oil level, the seal for leaks, and follow the MRC line-by-line.

A qualified electrician must perform all electrical work indicated on the MRC, so make sure you coordinate your PMS with all personnel involved. If the VPC was installed with ShipAlts CV-8872D, CVN-8873D, or Smart Carrier conveyor, clean and inspect the photoelectric lens, reflector, light-stick lenses, and Q45 lenses.

When the bulk of the check is completed, inspect potentially overlooked items. According to the MRC, you should inspect the conveyor station for these items:

- Installed lockable cover and lock
- Broken or missing pushbuttons or switches
- Cracked, cut or damaged electrical cables
- Loose, missing or incorrect hardware or fasteners
- Posted operating instructions, including the two-man rule
- Warning sign posted in close proximity to the door, reading, "Keep clear of trunk opening during conveyor operation."
- Warning sign mounted to the exterior of the conveyor door, reading, "Do not ride conveyor. This is extremely dangerous. Do not put arms, head or other parts of the body into unit unless power is off."

Another issue is making sure the conveyor door opens smoothly and at least 90 degrees relative to the doorframe. When the door is opened, lights at the station being tested should illuminate. All fixtures should be in place, with no loose or missing parts. There are two limit switches (interlocks) at the top of the hatch or door. One controls lighting; the other is a safety switch to stop the VPC if another door inadvertently is opened during operation. Testing these switches is part of the PMS and comes later in the MRC. Never alter or bypass these interlocks to speed up completing the job. Repair any discrepancy with the VPC before further operation.

A safety shield is installed on ships that don't have the ShipAlts (currently installed on CVs and CVNs). This shield is a clear, half-inch-thick polycarbonate plastic. It's located in the space above and in line with the stowed load/unload tray to prevent personnel from placing their heads inside the VPC trunk when the door is open. All fasteners must be tightly installed and of the correct size and type. The shield is hinged for outward swing and has a mechanism to prevent inward swing. It also must have a one-inch gap from the shield's bottom edge to the loader/unloader tray when the tray is in the stowed position.

The MRC describes in detail how to check each VPC component, and no maintenance person has authority to overlook any procedural steps. Always have the tech manual handy when performing VPC maintenance. If some PMS steps are unclear, tell your workcenter supervisor. Don't just complete the PMS—do it correctly.

The SOT record is kept for six months to verify everything works and was checked according to MRC requirements. The system should be danger-tagged, inspected and manually tested for proper safety-device operation at each VPC access.

For a detailed description of stores-handling equipment, refer to Naval Ships' Technical Manual, Chatper 572(Rev. 2), Shipboard Stores and Provisions Handling.