PRO V&V	**ENGINEER CHANGE ORDER (ECO) ANALYSIS FORM**

Manufacturer:	Election Systems & Software (ES&S)
System:	ExpressVote XL
ECO Number:	1047
ECO Description:	ExpressVote XL Esthetic Enhancements

Overview:
This ECO documents the following modifications to the ExpressVote XL:

Description of Change	Reason for Change
1. Remove the snap lock Velcro and add a plastic cradle for vote session light.	1. Eliminates the issue of Velcro peeling off the curtain post and provides the ability to mount the vote session light to either curtain post.
2. Incorporate a reinforcement brace onto the wheel struts.	2. Wheel struts can still be damaged going up steep ramps despite changes made in ECO 1028.
3. Add 25mm white hem along both vertical edges of the curtain.	3. The white hem allows voters to find the seam in the curtains.
4. Change from the sheet metal curtain tube bracket to a plastic bracket.	4. Helps to eliminate scratches from the curtain tube.
5. Changing the curtain tube strap to a cinch strap.	5. Allows for the curtain tube to be securely held down in the bracket.
6. Changing the battery cover clinch nuts to weld nuts.	6. The weld nuts are more robust.
7. Allow rivet nuts for wheel struts and mast stabilization brackets as needed for repairs.	7. The rivet nuts and brackets allow for retrofit/repairs.
8. Remove nesting tab on power box.	8. The Tab gets bent during shipments and serves no major purpose
9. Remove cord wrap brackets and screw holes from the cart door.	9. Cord wrap brackets on the cart door were not being used.
10. Apply Loctite 242 to all cart handles, wheel struts, and bracket bolts/screws during assembly.	10. Improves assembly process by avoiding the step of removing screws/bolts to apply Loctite in the U.S.
11. Square off media door hook and add protrusion to engage the switch on Media Door bottom surface.	11. Hook modification for better retention and the protrusion assures complete switch closure.
12. Remove the lanyard from the curtain tube.	12. Lanyard gets caught and tears the tube cap.

Affected Systems:

Federal: EVS 6000, EVS 6020, EVS 6021, EVS 6040, EVS 6100

State: EVS 6010, EVS 6041, EVS 6042, EVS 6050, EVS 6051, FL EVS 6101

Supporting Documentation:

ECO 1047 ORIGINAL.pdf *(ES&S ECO)*

1. 059-10070-00_A .pdf *(drawing)*, VtSessLt_1219-Clamp On.jpg *(picture)*, VtSessLt_1219-In Place.jpg *(picture)*, VtSessLt_1219-Line Up.jpg *(picture)*
2. 072-10138-00_1.pdf, 072-10138-01_1.pdf *(drawing)*, 97-00019-00 Rev F_Pg9.pdf *(drawing)*, Email_Strut Reinforce Picture.pdf *(drawing)*, Test Case - XL Strut Enhancements - Ramp Testing.pdf, Test Case - XL Strut Enhancements.pdf
3. Email_Curtain Hem Picture.pdf *(picture)*.
4. 97-00019-00 Rev F_Pg9.pdf *(drawing)*.
5. XL_TubeMt_0419-Current Foam and Velcro.jpg *(picture)*, XL_TubeMt_0419-New Velcro Cinched.jpg *(picture)*, XL_TubeMt_0419-New Velcro Loose.jpg *(picture)*.
6. 24 41006-1067T8-00-RS.pdf *(drawing)*.
7. 50-10011-00 XL Wheel Strut Weldnuts Retrofit Installation.docx *(instructions)*.
8. 26 41008-0797T8-01-RS.pdf *(drawing)*, 97-00019-00 Rev D_Pg11.pdf *(drawing)*.
9. 97-00019-00 Rev F_Pg7.pdf *(drawing)*.
11. 43 43108-0227K6-00-RS.pdf *(drawing)*, Email_Media Door Mod Picture.pdf *(drawing)*.
12. 46026-000500-RS Tube Assembly.pdf *(drawing)*.

Engineering Recommendation:

Technical documentation review and onsite component inspection performed at ES&S facility by Pro V&V to approve change. ES&S reported successful baseline testing results with prototypes. Technical documentation review included modified drawings of component. No additional testing required.

Engineering Analysis: De Minimis

Reviewer:	**Approver:**
Wendy Owens Printed Name	Jack Cobb Printed Name
Wendy Owens Signature	Jack Cobb Signature
2/20/2020 Date	2/20/2020 Date