U.S. Election Assistance Commission

Unified Testing Initiative and Cost of Testing Meeting

January 29 and 30, 2009

Breakout Session #3: Engineering Change Orders: How can we improve the process for evaluation and approval by EAC, VSTL's and State Certification authorities?

Discussion Host: Steve Pearson, ES&S

ECO's - *How to Improve the Process*

What is the purpose of this discussion?

1. Discuss VSTL and EAC process for evaluation and approval under the Certification and Testing Program

2. What is an ECO, what are the general causes for ECO's, and how often will they occur?

3. Discuss the evaluation and approval process for States

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When certification is required under the Program – Sect.3.4 EAC Testing & Certification Program Manual

- Any modification to a <u>previously</u> EAC-certified voting system's hardware, software, or firmware that is <u>not</u> a *de minimis* change

- Any <u>modification</u> to a voting system will require testing and review by the EAC according to the requirements of Chapter 4 of the EAC Testing and Certification Program Manual

ECO's - How to Improve the Process

3.5 De Minimis Changes

- A change to a <u>certified</u> voting system's hardware that is minor in nature and effect that requires no additional testing and certification

- Such changes require VSTL review and endorsement as well as EAC approval

- Any proposed change <u>not</u> accepted as *de minimis*, is a <u>modification</u> and shall be submitted for VSTL testing and EAC review and approval

- An approved *de minimis* change is <u>not</u> a modification

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3.5 De Minimis and Non-De Minimis (Modifications) Changes

- Manufacturer proposed changes are submitted to the VSTL in the form of an ECO

- <u>Only</u> the VSTL and the EAC determine whether a proposed change is *de minimis* or represents a modification requiring further testing

- EAC approval of *de minimis* changes permits the Manufacturer to implement the proposed change without additional testing and certification

- EAC approval of a *modification* permits the Manufacturer to implement the proposed only <u>after</u> testing and certification

ECO's - *How to Improve the Process*

Typical causes for hardware changes

- Changes due to end of life ("EOL") of hardware components

- Second source suppliers of components

- To correct deficient designs or components

- Improvements to aid in more reliable and efficient manufacturing and repair

How often will they occur?

- Potentially up to 15-20 ECO's per hardware device year

- As often as weekly and monthly

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Typical examples of hardware changes

- Tolerances adjusted as requested by Ricoh Electronics to assist manufacturing. Mount hole removed to eliminate the possibility of screw contacting SBC Board. Slots on mount tabs changed to provide better assembly fit.
- Create additional clearance for switch wire routing. This change will match the bracket to the Left Sidewall.
- Adjust the width of opening in the bottom cover by 1.00mm to accommodate the width variation of the LED Power Indicator.
- Approve a second source Battery Pack.
- **Intel** is discontinuing stepping B0 of their IXP42X processor and replacing it with B1.
- Roller Bearing **-** new material required due to limited vendor supply.
- LCD-SCREEN **- LG Philips** - running change from LM150x08-**TLA1** to LM150X08-**TLB1.**
- Increase **Unity Digital** Compact Flash card storage capacity to 1g or 2g due to limited availability of 512 MB card.

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What is the impact to the States and Counties/Jurisdictions?

- State authorities need to have procedures in place for timely review and approval of ECO's for both *de minimis* <u>and</u> *non-de minimis modifications*

- Manufactures may not be able to fulfill new product orders or perform required depot and field maintenance repair without state authorization.

- Counties/jurisdictions run risk of not having sufficient equipment to conduct elections without adequate state approval procedures

ECO's - How to Improve the Process

Open Discussion with States

- Do you have procedures in place today to meet the demands of persistent ongoing hardware changes?
- Do you desire/require to be notified of approved ECO's?
- How often do you want to be notified?
    - As they occur?
    - Monthly?
    - Semi-annually?
    - Annually?
- Do you wish notification of *de minimis* changes? *(Remember de minimis changes are not considered modifications to a voting system under the EAC Program)*
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