How to Teach HP to End Users

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Dominion Virginia Power
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This case study is intended only to foster thoughtful discussion and may not show correct technical procedure and may not be based on actual events. Consult your official resources and your Supervisor for correct policies and procedures. Names and details in this case may have been changed.
The Job
The HP Qs
The Incident
The HP Analysis
You are completing a switching order that includes closing this substation Motor Operated Air Break (MOAB) switch. You’re qualified to switch MOABs, but have not operated one for more than a year, and are rusty. You have no MOAB manual. Your System Operator is very familiar with MOABS and will stay on the phone with you throughout the procedure.
Coupled or decoupled?
Common alignment problem... and solution?
The Job  The HP Qs  The Incident  The HP Analysis
With the person next to you, spend 4-7 minutes answering the Four Human Performance Pre-Job Questions for this case.

Write down key words for each answer.

Prepare to share with the group.
1) What Error Precursors exist here?

2) What errors are you most likely to make in this job?

3) What realistic worst case scenarios could occur?

4) What Human Performance tool(s) will you use to minimize each threat you just found, and when?
1) Precursors (aka Error Multipliers)
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- Working solo
- Inexperience
- Verbal only communication
1) Precursors (aka Error Multipliers)
   • Working solo
   • Inexperience
   • Verbal only communication

2) Likely Errors
1) Precursors (aka Error Multipliers)
   • Working solo
   • Inexperience
   • Verbal only communication

2) Likely Errors
   • Operate wrong device
   • Miss a step in switching (or prepping MOAB)
   • Coupling the device improperly
1) Precursors (aka Error Multipliers)
   - Working solo
   - Inexperience
   - Verbal only communication

2) Likely Errors
   - Operate wrong device
   - Miss a step in switching (or prepping MOAB)
   - Coupling the device improperly

3) Worst case scenario
1) Precursors (aka Error Multipliers)
   • Working solo
   • Inexperience
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2) Likely Errors
   • Operate wrong device
   • Miss a step in switching (or prepping MOAB)
   • Coupling the device improperly

3) Worst case scenario
   • Unintended operation
1) Precursors (aka Error Multipliers)
   - Working solo
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2) Likely Errors
   - Operate wrong device
   - Miss a step in switching (or prepping MOAB)
   - Coupling the device improperly

3) Worst case scenario
   - Unintended operation

4) What defenses will you use to minimize the hazards above?
1) Precursors (aka Error Multipliers)
   • Working solo
   • Inexperience
   • Verbal only communication

2) Likely Errors
   • Operate wrong device
   • Miss a step in switching (or prepping MOAB)
   • Coupling the device improperly

3) Worst case scenario
   • Unintended operation

4) What defenses will you use to minimize the hazards above?
   • Get an experienced switchman on site
   • Share operating experience
1) Precursors (aka Error Multipliers)
   - Working solo
   - Inexperience
   - Verbal only communication

2) Likely Errors
   - Operate wrong device
   - Miss a step in switching (or prepping MOAB)
   - Coupling the device improperly

3) Worst case scenario
   - Unintended operation

4) What defenses will you use to minimize the hazards above?
   - Get an experienced switchman on site
   - Share operating experience
   - Confirm Terminology
   - Three-way communication
1) Precursors (aka Error Multipliers)
   - Working solo
   - Inexperience
   - Verbal only communication

2) Likely Errors
   - Operate wrong device
   - Miss a step in switching (or prepping MOAB)
   - Coupling the device improperly

3) Worst case scenario
   - Unintended operation

4) What defenses will you use to minimize the hazards above?
   - Get an experienced switchman on site
   - Share operating experience
   - Confirm Terminology
   - Three-way communication
   - Peer Check/Self-check
   - Stop when unsure & question what doesn’t make sense
What Actually Happened

Insert audio of recording between switchman and System Operator after sterilizing names, identifiable info, and after digitally disguising voices.
In the next 12 minutes, with the person next to you, identify the 5-7 specific causal factors that cascaded together to cause this incident.
1) Both proceed despite Operator’s lack of experience
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2) Sw.

3) dist.

4) Operator mover movement.

5) Operator and Sw. Supervisor misunderstand each other’s use of terms “engage” and/or “couple” (No confirmation of terminology)
1) Both proceed despite Operator’s lack of experience

3) Some disagreement

5) Operator and Sw. Supervisor misunderstand each other’s use of terms “engage” and/or “couple” (No confirmation of terminology)

4) Operator’s misunderstanding

6) Sw. Supervisor’s misunderstanding
1) Both proceed despite Operator’s lack of experience

5) Operator and Sw. Supervisor misunderstand each other’s use of terms “engage” and/or “couple” (No confirmation of terminology)
How to Build & Lead an Interactive Case

1. Chunk case into four ‘chapters’

2. Event = ________ years old

3. Use your______________________________

4. Show, don’t tell – use________________________

5. 90% of good writing is ______________________

6. Get critique from _______________________

7. Design slides for _______________________

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The Job

The HP Qs

The Incident

The HP Analysis
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6. Get critique from harsh critics
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3. Use your **own HP questions and terms**
4. Show, don’t tell – use **photos & audio**
5. 90% of good writing is **rewriting**
6. Get critique from **harsh critics**
7. Design slides for **interaction, not lecture**