

**LABORATORY PRACTICAL EVALUATION**  
**For NID16 Basic Excore**

TASK NUMBER(S)

TASK STATEMENT(S)

01

Troubleshoot and Rework the Excore Startup/Control Channel or the Excore Safety Channel

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Employee's Name: \_\_\_\_\_ EMP# \_\_\_\_\_  
Last First MI

Exam # \_\_\_\_\_ Course # NID16

Course Title: Excore Basic

Technical Review By: \_\_\_\_\_ Date: \_\_\_\_\_

Approved By: \_\_\_\_\_ Date: \_\_\_\_\_

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Pass  Fail  Evaluator (print) \_\_\_\_\_

\_\_\_\_\_  
Evaluator Signature

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A. General Conditions: (under which the task will be performed)

1. Lab Practical exercises will be performed in the location given by the instructor.
2. Lab Practical exercises will simulate field conditions as closely as possible.
3. If the instructor stops the evaluation due to a safety concern this will constitute a failure of this LPE.
4. The instructor may act as a support discipline as required/requested by the student.
5. When two people are working together, only one person can be evaluated. The participant controlling the job (running the paper) will be evaluated. He will provide the instructions to the 2nd person with no help from that person.
6. The 2nd person may use repeat backs/three way communication during the evaluation but cannot assist the person in the lead.
7. The participant must conform to Electrical Safe Work Practices (01DP-0IS13) for EPE.

B. General Tools and Equipment: (required for task performance)

Lab Equipment, PPE, Faulted Excore Drawer

C. General Reference: (that prescribe or describe the task performance)

Course handouts, vendor tech manuals

D. Task Standards: (output or results of task performance)

Evaluation Checklist (attached), Palo Verde Standards & Expectations

- E. Initiating Cues: (how the employee knows when to start)  
Instructor Direction, instructor will give calibration specs and tolerances
- F. Performance Checklist: Items marked 'Product Evaluation' may be evaluated after the student has completed the step. All other items are Process Evaluations and must be observed in real time as they are performed.

### **Knowledge Requirements**

1. Question: Which adjustment in the Startup Range Excore channel is adjusted such that only high energy pulses are amplified and counted by the drawer electronics?  
Answer
  
2. Question: Which of the following accepts an output signal from the Startup Range Excore channel?
  - A. Boron Dilution Alarm System
  - B. Boronometer
  - C. Plant Protection System
  - D. Core Protection Calculators
  
3. Question: Referencing N001-13.04-117, if the voltage measured at TP4 of the Control Channel LASI-2 card is -4.0 Vdc, what is the average reactor power level?  
Answer
  
4. Question: Which of the following NSSS Control Systems, does NOT receive an output signal from a Control Range Excore Output Channel? (Directly or indirectly).
  - A. Reactor Regulating System
  - B. Control Element Drive Mechanisms Control System
  - C. Feedwater Control System
  - D. Steam Bypass Control System.

5. Question: What is the purpose of the Control Gain Potentiometer on the front panel of the Startup/Control Range Excore Drawer?

Answer

6. Question: What is the purpose of the Linear Amplifier and Summer card in the Safety Channel Drawer?

Answer

7. Question: What is the purpose of the Log Count Rate card in the Safety Channel Drawer?

Answer

8. Question: List all conditions which could cause the TROUBLE light on the front panel to be illuminated.

Answer

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1. A PC card removed or not properly seated in connector
2. A calibration switch not in the OPERATE position
3. A faulty power supply (PS1, PS2 or PS3)
4. A trip test switch in the ON position

9. Question: Prior to troubleshooting the Excore drawer, it's realized that the drawer will need to be turned off. Which parameter on the PPS cabinet would need to be bypassed?

Answer

Performance Checklist

<u>Required Action</u>	<u>Standard</u>	Pass/Fail	Remediate Pass/Fail
Perform a pre-job brief	<ul style="list-style-type: none"> <li>• Discussion of what task will be performed</li> <li>• Contingencies and worst case scenarios and consequences discussed</li> <li>• Safety: radiological conditions and necessary PPE discussed</li> <li>• Necessary training and qualifications considered</li> </ul>	P / F	P / F
2 Minute Drill	<ul style="list-style-type: none"> <li>• Workplace hazards identified</li> </ul>	P / F	P / F
Using applicable reference material, troubleshoot the faulted Excore drawer to determine faulted component or circuit card.	<ul style="list-style-type: none"> <li>• Faulted circuit identified.</li> </ul>	P / F	P / F

If the student has trouble performing an element of the task or required action, the instructor may remediate the student after notifying a leader, then have the student re-perform that step

Upon completion of this lab practical exam, the student signature and date are required below:

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Print Employee Name

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Employee Signature

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Date