Question #2

Unit 2 is in MODE 1 at 35% power

- The OPRM system is in service and operable.
- APRM 3 is inoperable and bypassed.
- APRM 2 develops a critical self test fault
- OPRM 4 spuriously trips.

What is the response of the RPS system, and the reason for this response?

	response of the RPS system	reason for this response
A.	No RPS activation	one vote exists for OPRM HI-HI AND one vote exists for APRM HI-HI / INOP
B.	No RPS activation	one vote exists for APRM self test fault AND one vote exists for APRM HI-HI / INOP
C.	1/2 Scram	one vote exists for OPRM HI-HI AND one vote exists for APRM HI-HI / INOP
D.	1/2 Scram	one vote exists for APRM self test fault AND one vote exists for APRM HI-HI / INOP

Answer: A

Facility Comment:

Delete question - there is no correct answer. The APRM and OPRM systems do not provide half-scrams, eliminating choices C and D as correct answers. The conditions in the stem result in 2 votes from the OPRM system, which would cause a full scram. This eliminates choices A and B as correct answers. The votes are from OPRM 4 with a spurious trip and OPRM 2. OPRM 2 vote is caused by the APRM 2 developing a critical self-test fault.

NRC Response:

Comment accepted. For the conditions in the stem, the RPS response is a full scram, due to 2 votes from the OPRM system. However, no answer choice has full scram as a choice; the only choices are either no RPS activation or 1/2 scram. As there is no correct answer choice for the first part of the question, the second part of the answer choices is immaterial to answering the question.

There is no correct answer, therefore the question has been deleted, and the key has been revised accordingly.

Question #19

Unit 2 is operating at 100% power with the following:

- A momentary loss of output from the Static Inverter to Panel 20Y050 causes the static switch to bypass the inverter.
- Annunciator 220 F-5, INVERTER TROUBLE, alarms.

Then, normal power output from the Static Inverter is restored.

Which one of the following describes the effect of this transient on Panel 20Y050
AND
the "C" Feedwater heater string?

Panel 20Y050...

A. must be manually transferred back to the Static Inverter.
The "C" Feedwater heater string will automatically return to service.

B. must be manually transferred back to the Static Inverter.
The "C" Feedwater heater string must be manually returned to service.

C. automatically transfers back to the Static Inverter.
The "C" Feedwater heater string will automatically return to service.

D. automatically transfers back to the Static Inverter.
The "C" Feedwater heater string must be manually returned to service.

Answer: C

Facility Comment:

Delete question – there is no correct answer. The question has an unclear stem that did not provide all the necessary information; this confused the applicants. The question was intended to test knowledge of loss of power of 20Y050 for a short period of time. The stem does not convey this information, as it simply states that the static switch bypasses the inverter. The static switch ensures that 20Y050 does not lose power due to loss of the normal power supply by automatically transferring from the normal power supply (static inverter) to an alternate power supply (E-124-R-C). Since the stem does not state that the static switch failed and instead states that it worked and bypassed the static inverter, 20Y050 does not lose power.

For the first part of the question, the static switch would automatically swap back to the static inverter if power was available as it is normal power seeking. This would make choices A and B incorrect.

The second part of the question was intended to distinguish knowledge of a time delay associated with the "C" Feedwater heater string, which has some valves powered by 20Y050, that would prevent it from isolating. The transient as described in the stem is transparent to 20Y050 as it does not lose power. Since 20Y050 does not lose power the "C" Feedwater heater string does not isolate and instead remains in service. Several alarms on the Digital Feedwater system would be received if a Feedwater heater string isolated and none were given in the stem. Actions would only be required if power was lost to 20Y050. Since the Feedwater heater string did not isolate, the second part of choices A, B, C, and D all become incorrect, as it would neither manually nor automatically be returned to service.

NRC Response:

Comment accepted. Panel 20Y050 does not lose power when its normal power supply (the static inverter) is momentarily lost because the static switch automatically transfers to the Panel's alternate power supply. When normal power is restored, the static switch would then automatically transfer back to its normal power supply (the static inverter) because the switch is normal power seeking. The automatic transfer back to the static inverter makes choices A and B incorrect.

Since Panel 20Y050 never loses power the "C" Feedwater heater string does not isolate (or even begin to isolate), and so remains in service. Because the string remains in service, no action – either manual or automatic – is needed for the string to return to service, thus making the second part of all answer choices incorrect.

There is no correct answer, therefore the question has been deleted, and the key has been revised accordingly.

Question #68

A Unit 2 startup is in progress in accordance with GP-2-2, Normal Plant Start-up. Control rods are being withdrawn to achieve criticality.

Which one of the following describes:

(1) the WRNM count rate at which continuous control rod withdrawal ***first*** becomes restricted,

AND

(2) the associated restriction, in accordance with GP-2-2?

Note: Assume NO other specific direction has been given by Reactor Engineering.

A. (1) Two doublings
(2) Notch withdrawal required at all positions from 00 to 48.

B. (1) Two doublings
(2) Notch withdrawal required only at positions from 04 to 36.

C. (1) Three doublings
(2) Notch withdrawal required from position 00 to position 48.

D. (1) Three doublings
(2) Notch withdrawal required only at positions from 04 to 36.

Answer: D

Facility Comment:

Delete question – there is no correct answer. The question has an unclear stem and confused the applicants. It was brought up during post-exam review that the first restriction is for rods next to a WRNM and it can happen at any count rate, but more specifically before Three Doublings. The question stem specifically states at what count rate does continuous control rod withdrawal ***first*** become restricted. In accordance with GP-2-2 attachment 10, from Mode Switch in Startup to Three Doublings, control rods adjacent to a WRNM are notched from position 16 to 22. Notching a control rod precludes continuous withdrawal.

The question stem does not exclude control rods adjacent to WRNMs, therefore this must be considered as being the ***first*** condition where continuous control rod withdrawal becomes restricted. In addition, GP-2-2 attachment 10 lists this as the ***first*** notching limitation and it is also the ***first*** one to be encountered during a reactor startup. Although Two Doublings would be in the range between Mode Switch in Startup to Three Doublings, there is no choice that includes the restriction from position 16 to 22, therefore there is no correct answer.

NRC Response:

Comment accepted. Per GP-2-2, Attachment 10, three doublings is the count rate at which continuous rod withdrawal first becomes restricted. Thus, answer choices A and B (which describe two doublings) are wrong. While answer choices C and D have the correct count rate (three doublings), neither choice has the correct associated restriction (from position 16 to 22), and so both C and D are wrong.

There is no correct answer, therefore the question has been deleted, and the key has been revised accordingly.