VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

July 14, 2016

Ms. Catherine Haney
Regional Administrator
U. S. Nuclear Regulatory Commission, Region II
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

Serial No. 15-612G
NAPS/JHL
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Dear Ms. Haney:

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2
OPERATOR LICENSE EXAMINATION COMMENTS

On July 7, 2016, the written examination for initial reactor operator and senior reactor operator candidates was administered at North Anna Power Station. Attachment 1 provides the information requested in NUREG-1021, ES-501, Initial Post-Examination Activities, Section C.1.a. In addition, Attachment 2 provides comments on the operating examination for consideration. The attachments to this letter are being provided to Mr. Bruno Caballero, NRC Chief Examiner. Prompt consideration of these comments and recommendations will assist in completing the license examination process.

If there are any questions concerning this material, please contact Mr. Bill Standley at the North Anna Training Center, (540) 894-2446.

Very truly yours,

Gerald T. Bischof
Site Vice President

Attachments

Commitments made in this letter: None.

cc: Document Control Desk (without attachments)
U. S. Nuclear Regulatory Commission
Washington, D. C. 20005

Mr. Eugene F. Guthrie, Chief (without attachments)
U. S. Nuclear Regulatory Commission, Region II
Operator Licensing and Human Performance Branch
Division of Reactor Safety
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

Mr. Bruno Caballero
U. S. Nuclear Regulatory Commission, Region II
Operator Licensing and Human Performance Branch
Division of Reactor Safety
Marquis One Tower
245 Peachtree Center Ave., NE Suite 1200
Atlanta, Georgia 30303-1257

NRC Senior Resident Inspector (without attachments)
North Anna Power Station

ATTACHMENT 2

OPERATOR LICENSE EXAMINATION COMMENTS

VIRGINIA ELECTRIC AND POWER COMPANY (DOMINION)
NORTH ANNA POWER STATION UNITS 1 AND 2

Post Exam Comments

Simulator Scenario 4 Event number 5 (Letdown Leak)

Comment:

The requirement for entry into Tech Spec 3.6.1, Containment, due to a leak on the letdown line outside of containment, is incorrect.

Recommendation:

Facility recommends that the requirement for entry into T.S. 3.6.1 for inoperable containment be removed from the scenario.

Discussion:

The one hour action of T.S. 3.6.1 does not apply based on the leak was isolated by closing the inside containment isolation valve which prevents a release from occurring during an accident. T.S. 3.6.3 is the correct T.S. call for this failure based on inoperability of the outside containment isolation due to leak between the valve and containment. This is the position of the Supervisor of Nuclear Shift Operations (Senior License) and was concurred with through the licensing department.

Administrative JPM A.3 (Radiological Control)

Comment:

Either RWP Task may be selected for the work to be performed.

Recommendation:

Facility recommends that JPM step 1 not be critical and that the answer key should be changed to accept 2 answers for JPM step 2 depending on which RWP Task was chosen.

Discussion:

The JPM task is to determine the appropriate RWP Task and allowed stay time for locally operating the cold leg loop stop MOV. The initial conditions also stated that it will take 15 minutes to locally close the valve. Neither RWP Task would allow sufficient stay time to fully close the MOV but either RWP Task could have been used to perform the work. The dose rates at the MOV handwheel to be operated are 80 mR/hr. RWP Task 1 is for dose rates less than 100 mR/hr with a dose alarm of 10 mR and a dose rate alarm of 50 mR/hr. RWP Task 2 is for dose rates greater than 100mR/hr with a dose alarm of 20 mR and a dose rate alarm of 150 mR/hr. RWP Task 1 could be used with a change to the dose rate alarm that can be authorized by the HP supervisor in accordance with RP-AA-274 (Radiation Work Permits) step 5.16.5.d (attached). During administration of the JPM, multiple candidates asked questions concerning interaction with the HP supervisor.

JPM Step two would still be critical with two different answers based on which RWP task was selected. RWP Task 1 would have a stay time of 6 minutes. RWP Task 2 would have a stay time of 12 minutes.

Step two still has multiple critical elements needed to arrive at the correct answer:

1. Knowledge of equipment location. The cold leg stop was not labeled on the survey map
2. Ability to read a survey map
3. Ability to read and comply with an RWP. Candidate had to read RWP to determine they needed to leave the area at 80% of allotted dose.
4. Ability to calculate a stay time.

Revised JPM and answer key are attached.

Dominion
North Anna Power Station
ADMINISTRATIVE JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

Unit 2 is shutdown. The "A" Cold Leg Loop Stop Valve MOV has stopped in mid-position and must be locally closed by the hand wheel.

The dose rates are shown on the attached Unit 2 Containment, 262' Elevation "A" Motor Cube.

It will take 15 minutes to locally close the valve; assume no dose is accumulated in transit to or from the work location.

Your accumulated dose this quarter is 300 mrem.

INITIATING CUE

You are directed to determine the maximum stay time AND the correct RWP task number (16-2229-1 or 16-2229-2).

1. The correct RWP is _____

2. The maximum stay time is _____ minutes.

Dominion
North Anna Power Station
ADMINISTRATIVE JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

TASK

Determine the following:

- Correct RWP and subtask
- Dose Alarm
- Dose Rate Alarm
- Stay Time (Maximum and Allowed by RWP)

TASK STANDARDS

The operator determines the previously listed variables successfully.

K/A REFERENCE:

GEN 2.3.7 (3.5/3.6)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 20 minutes
Actual Time = _____ minutes

Start Time = _____
Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

_____

_____

Dominion
North Anna Power Station

ADMINISTRATIVE JOB PERFORMANCE MEASURE
(Evaluation)

OPERATOR PROGRAM

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

Instructions for In-Plant JPMs

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be simulated for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS

Unit 2 is shutdown. The "A" Cold Leg Loop Stop Valve MOV has stopped in mid-position and must be locally closed by the hand wheel.

The dose rates are shown on the attached Unit 2 Containment, 262' Elevation "A" Motor Cube.

It will take 15 minutes to locally close the valve; assume no dose is accumulated in transit to or from the work location.

Your accumulated dose this quarter is 300 mrem.

INITIATING CUE

You are directed to determine the maximum stay time AND the correct RWP task number (16-2229-1 or 16-2229-2).

EVALUATION METHOD

Demonstration if conducted in the simulator or in a laboratory (use DEMONSTRATION cues)
Verbal-visual if conducted in the station or on a dead simulator (use VERBAL-VISUAL cues)

TOOLS AND EQUIPMENT

RWPs, Survey Map, Calculator

PERFORMANCE STEPS

START TIME _____

1	From the RWPs provided determine which RWP is applicable for the job.	Procedure Step RWP 16-2229-2
	~~**Critical Step**~~	~~SAT [ ] UNSAT [ ]~~
	Standards	RWP 16-2229-2 is selected from the two RWPs provided.
	Notes/Comments: RWP 16-2229-1 is not correct due to local dose rates would exceed the alarm setpoint. RWP 16-2229-2 **is the correct RWP and subtask.**	

2	Determine the maximum stay time	Procedure Step: RWP 16-2229-2

Critical Step	SAT [ ] UNSAT [ ]

Standards	If RWP Task 1 is selected then use the following calculation: Operator uses RWP to determine dose alarm is set at 10 mRem. Operator determines from the RWP (Worker Instruction #4) that the Operator must place the plant in a safe condition and leave the area once 80% of the dose alarm setpoint is reached. Operator determines that they must leave the area after 16mRem of dose has been achieved. (80% * 10 mRem = 8 mRem) Operator uses survey map to determine general area dose rate is 80 mR/hr. Operator then divides 8 by 80 to obtain a stay time of 6 minutes (.10 hrs). If RWP Task 2 is selected then use the following calculation: Operator uses RWP to determine dose alarm is set at 20 mRem. Operator determines from the RWP (Worker Instruction #4) that the Operator must place the plant in a safe condition and leave the area once 80% of the dose alarm setpoint is reached. Operator determines that they must leave the area after 16mRem of dose has been achieved. (80% * 20 mRem = 16 mRem) Operator uses survey map to determine general area dose rate is 80 mR/hr. Operator then divides 16 by 80 to obtain a stay time of 12 minutes (.20 hrs).

Notes/Comments:

END OF EVALUATION

STOP TIME _____

Answer Key

1. The correct RWP is 16-2229-2

2. The maximum stay time is RWP Task 1: 6 minutes (or the equivalent = .10 hour or 1/10 hour), RWP Task 2: 12 minutes (or the equivalent = .20 hour or 1/5 hour).

SIMULATOR, LABORATORY, IN--PLANT SETUP
(If Required)

ADMINISTRATIVE JOB PERFORMANCE MEASURE

TASK

Determine appropriate RWP and subtask, Limits, and Stay Times based on various RWP limits.

CHECKLIST

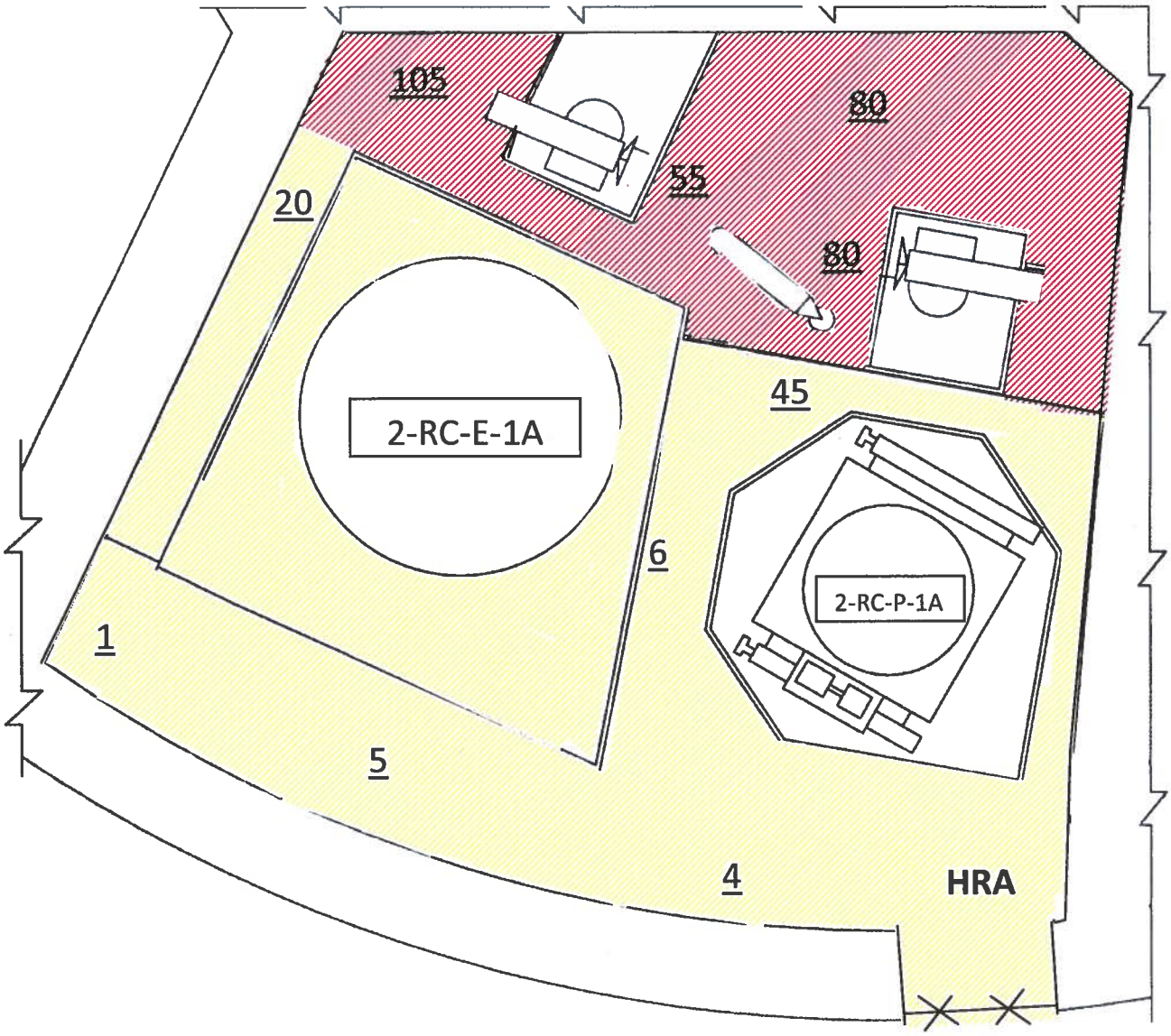
_____ Survey Map

_____ Selection of RWPs for the candidate to chose from

_____ Calculator

Unit 2 Containment, 262' Elevation
"A" Motor Cube

Verified Current By	Date
Newtron Count	Today



Called North

LDWA – Low Dose Waiting Area
LHRA – Locked High Radiation Area
HRA – High Radiation Area
RA – Radiation Area
HPA – Hot Particle Area
CA – Contaminated Area
ARA – Airborne Radioactivity Area
RM – Radioactive Material(s)
CAM – Continuous Air Monitor
(F) Frisking Station
RCAB – Radiological Control Area Boundary
NDCR – Neutron Dose Calculation Required

Gen Area; Contact; **LCK** Locked Gate; Barrier

All gamma and/or neutron readings in mRem/hr unless noted.

RADIATION WORK PERMIT SUMMARY 16-2229

RP-AA-274 ATT. 2

PLANT CODE	YEAR	RWP NUMBER	REV.	RWP START	TYPE	CATEGORY	RWP EXPIRATION
2	16	16-2229	0	01-MAR-2016 00:00	S	RM	31-MAY-2016 23:59

RWP DESCRIPTION

Routine duties, walkdowns and valve line-ups by Operations personnel.

TASK SUMMARY

		DOSE ALARM	DOSE RATE ALARM	TIME INTERVAL
1	Dose rates <100 mrem/hr: Routine duties, walkdowns and valve line-ups by Operations personnel.	10	50	
2	Dose rates >100 mrem/hr: Routine duties, walkdowns, and valve line-ups by Operations personnel	20	150	

ALARA INFORMATION

ALARA Review No.	Hours-Estimated	Person-mrem
16-013	1999998	2845

SPECIAL INSTRUCTIONS:

Requirements for High Radiation Area Entry or Locked High Radiation Area:
-Notify HP Prior to entry
-Sign in on an RWP that ALLOWS entry into a High Radiation Area or Locked High Radiation Area.
-Understand the ED Alarm set points and your response to a dose or dose rate alarm.
-Understand the radiological conditions (eg. dose rates) in the area
-Monitor Electronic Dosimetry frequently. (Approximately every 15 minutes.)
-Notify RP upon exit.

Prepared By	Robert McNutt	DATE:	09-DEC-2015 00:00	Approved By	M. E Dunn	DATE:	1-5-16
Revised By		DATE:		Approved By		DATE:	
Terminated By		DATE:		Approved By		DATE:	

VALID FROM	01-MAR-2016 00:00	TO	31-MAY-2016 23:59	RWP	16-2229-1	REV. NO	0

DOSE RATE ALARM:	50	mrem/Hr	BUDGETED DOSE:	245	mrem
DOSE LIMIT ALARM:	10	mrem	ALARA EVALUATION NO:	16-013	

JOB LOCATIONS:
Station Property excluding Unit 1 Reactor Containment.

JOB DESCRIPTION: Dose rates <100 mrem/hr: Routine duties, walkdowns and valve line-ups by Operations personnel.

THE MAXIMUM POSTED AREA THAT CAN BE ENTERED:
Locked High Radiation Area

RADIOLOGICAL CONDITIONS: *Indicates estimated value for RWP Preparation. See survey forms for details

GENERAL AREA RADIATION LEVELS (mrem/hr):
See Radiological Status Boards or specific survey form.

CONTACT/HOT SPOT RADIATION LEVELS (mrem/hr):
See Radiological Status Boards or specific survey form.

CONTAMINATION LEVELS (dpm/100cm2):
See Radiological Status Boards or specific survey form.

AIRBORNE RADIOACTIVITY (DAC):
<.30 *

REQUIRED JOB COVERAGE:
ROUTINE

COVERAGE COMMENTS:
1.0) Continuous coverage required for:
1.1) When loose surface levels are greater than 1,000,000dpm/100cm2 or area has known DRPs greater than or equal to 100 mrem/hr on contact (open window).
1.2) When extremity dose rates are greater than 5,000 mrem/hr.

DOSIMETRY REQUIREMENTS:
ED/SRD TLD

DOSIMETRY COMMENTS:
1.0) Caution: If PAM(ED) is utilized, ensure PAM(ED) is secured so that individual can feel the vibration if PAM(ED) alarms.
2.0) Notify HP prior to entry into a "Neutron Exposure Area" for additional dosimetry requirements.

PROTECTIVE CLOTHING REQUIREMENTS:

LAB COAT, SHOE COVERS & GLOVES MAY BE WORN FOR ANY NON-PHYSICAL ACTIVITIES (I.E. OBSERVATIONS OR EQUIPMENT CHECKS) AND CONTAMINATION LEVELS ARE LESS THAN 10,000 DPM/100CM2.

1.0) Required Protective clothing:
- 1.1) Surgeons Hood
  - 1.1.1) Full hoods required in cavity, accessing over head in loop rooms, and when wearing communication devices/headsets.
- 1.2) One Pair Coveralls
- 1.3) Rubber Boots
- 1.4) High Top Shoe Covers
- 1.5) Cotton Inserts
- 1.6) One Pair Rubber Gloves

2.0) Protective Clothing requirements as stated are for entry into "Contaminated Areas" only.

3.0) Protective Clothing requirements for a "Hot Particle Area" (HPA) [in addition to those stated above] are:
- 3.1) Hood, gloves, coveralls, high top shoe covers and rubber boots.
- 3.2) Workers interfacing with individuals/equipment in a HPA - Gloves and face shield.

A RWP PRE-JOB BRIEFING IS REQUIRED:

HRA BRIEF BY AN HP TECHNICIAN AND SIGN ATTENDANCE SHEET.

WORKER INSTRUCTIONS:

NOTE: ED dose rate alarm set-points are set conservatively at a low, yet feasible value for ALARA purposes. It is expected that some ED dose rate alarms may be received when dose rate alarm set-points are set below 100 mR/hr.

1.0) ED Alarms:
- 1.1) If ED dose rate alarm occurs, reposition yourself such that the alarm clears.
  - 1.1.1) If ED dose rate alarm continues or three consecutive dose rate alarms occur, then leave area immediately and report to the HP Office.
- 1.2) If ED dose alarm occurs, then leave area immediately and report to the HP Office.

2.0) Do not enter High Radiation Areas without HP coverage or a ED with knowledge of work area dose rates.

3.0) Workers shall read their ED approximately every 15 minutes.

4.0) When 80% of the dose alarm set point is reached, leave work area in a safe condition and exit the RCA.

5.0) Workers are responsible for notifying the HP Supervisor prior to venting\draining systems, that may affect Radiological Conditions in an area, to ensure proper Health Physics Monitoring.

6.0) HPA exit instructions:
- 6.1) Use extreme care in removing PCs and frisking.
- 6.2) Workers are to be monitored by HP upon exiting the HPA.
- 6.3) Individuals exiting the HPA are to proceed directly to the RCA exit to perform whole body monitoring.
- 6.4) Workers are to be monitored by HP after interfacing with workers/equipment in a HPA.

7.0) Do not remove any items from a posted "Hot Particle Area" until authorized by HP-Ops.

8.0) Remote telemetrics dosimetry shall be used for workers entering containment when available.

9.0) If telemetric ED is used then check in with HP after the telemetric ED has been issued to verify that it is transmitting properly.

10.0) Notify Health Physics prior to setting up any ladder.

11.0) Notify HP prior to entry in overhead areas greater than 8 feet.

12.0) Prior to returning Electronic Dosimetry(ED), all individuals shall process through the PDA for whole body monitoring. This is not required if returning ED solely for the purpose of changing RWPs.

HEALTH PHYSICS INSTRUCTIONS:

This RWP authorizes work in an ALPHA Level II area.

1.0) Stop work and leave area if whole body dose rates exceed 100 mRem/hr.
   1.1) If ED dose rate alarm equals the stop work dose rate, then DO NOT authorize worker to work through an alarm.
2.0) "Hot Particle Area" (HPA) monitoring requirements:
   2.1) Workers exposed skin shall be monitored by HP-Ops every four hours (unless specified by the HP Supervisor) while the workers are in the HPA.
   2.2) Personnel monitoring for workers exiting the HPA will consist of a whole body scan witnin 1/2 inch using a RO-2 or equivalent (open window) with background less than 1.0 mrem/hr.
   2.3) Worker release criteria: a net reading of less than 2.0 mrem/hr.
   2.4) Instruct all individuals exiting the HPA to proceed directly to the RCA exit to perform whole body monitoring.

VALID FROM	01-MAR-2016 00:00	TO	31-MAY-2016 23:59	RWP	16-2229-2	REV. NO	0

DOSE RATE ALARM:	150	mrem/Hr	BUDGETED DOSE:	2600	mrem
DOSE LIMIT ALARM:	20	mrem	ALARA EVALUATION NO:	16-013	

JOB LOCATIONS:
STATION PROPERTY EXCLUDING U-1 CONTAINMENT

JOB DESCRIPTION: Dose rates >100 mrem/hr: Routine duties, walkdowns, and valve line-ups by Operations personnel

THE MAXIMUM POSTED AREA THAT CAN BE ENTERED:
Locked High Radiation Area

RADIOLOGICAL CONDITIONS: *Indicates estimated value for RWP Preparation. See survey forms for details

GENERAL AREA RADIATION LEVELS (mrem/hr):
See Radiological Status Boards or specific survey form

CONTACT/HOT SPOT RADIATION LEVELS (mrem/hr):
See Radiological Status Boards or specific survey form

CONTAMINATION LEVELS (dpm/100cm2):
See Radiological Status Boards or specific survey form

AIRBORNE RADIOACTIVITY (DAC):
<.30

REQUIRED JOB COVERAGE:
ROUTINE

COVERAGE COMMENTS:
1.0) Continuous HP coverage required for:
1.1) When loose surface levels are greater than 1,000,000 dpm/100cm2 or area has known DRPs greater than or equal to 100 mrem/hr on contact (open window).
1.2) When extremity dose rates are greater than 5,000 mrem/hr.

DOSIMETRY REQUIREMENTS:
ED/SRD TLD

DOSIMETRY COMMENTS:
1.0) Caution: If PAM(ED) is utilized, ensure PAM(ED) is secured so that individual can feel the vibration if PAM(ED) alarms.
2.0) Notify HP prior to entry into a "Neutron Exposure Area" for additional dosimetry requirements.

PROTECTIVE CLOTHING REQUIREMENTS:

LAB COAT, SHOE COVERS & GLOVES MAY BE WORN FOR ANY NON-PHYSICAL ACTIVITIES (I.E. OBSERVATIONS OR EQUIPMENT CHECKS) AND CONTAMINATION LEVELS ARE LESS THAN 10,000 DPM/100CM2.

1.0) Required Protective clothing:
- 1.1) Surgeons Hood
  - 1.1.1) Full hoods required in cavity, accessing over head in loop rooms, and when wearing communication devices/headsets.
- 1.2) One Pair Coveralls
- 1.3) Rubber Boots
- 1.4) High Top Shoe Covers
- 1.5) Cotton Inserts
- 1.6) One Pair Rubber Gloves

2.0) Protective Clothing requirements as stated are for entry into "Contaminated Areas" only.

3.0) Protective Clothing requirements for a "Hot Particle Area" (HPA) [in addition to those stated above] are:
- 3.1) Hood, gloves, coveralls, high top shoe covers and rubber boots.
- 3.2) Workers interfacing with individuals/equipment in a HPA - Gloves and face shield.

A RWP PRE-JOB BRIEFING IS REQUIRED:

HRA BRIEF BY AN HP TECHNICIAN AND SIGN ATTENDANCE SHEET.

WORKER INSTRUCTIONS:

1.0) ED Alarms:
- 1.1) If ED dose rate alarm occurs, THEN leave area immediately and notify HP (unless authorized by HP Supervisor and have been briefed on proper responses).
- 1.2) If ED dose alarm occurs, THEN leave area immediately and report to the Health Physics office.

2.0) Do not enter High Radiation Areas without HP coverage or a ED with knowledge of work area dose rates.

3.0) Workers shall read their ED approximately every 15 minutes.

4.0) When 80% of the dose alarm set point is reached, leave work area in a safe condition and exit the RCA.

5.0) Workers are responsible for notifying the HP Supervisor prior to venting\draining systems, that may affect Radiological Conditions in an area, to ensure proper Health Physics Monitoring.

6.0) HPA exit instructions:
- 6.1) Use extreme care in removing PCs and frisking.
- 6.2) Workers are to be monitored by HP upon exiting the HPA.
- 6.3) Individuals exiting the HPA are to proceed directly to the RCA exit to perform whole body monitoring.
- 6.4) Workers are to be monitored by HP after interfacing with workers/equipment in a HPA.

7.0) Do not remove any items from a posted "Hot Particle Area" until authorized by HP-Ops.

8.0) Notify Health Physics prior to setting up any ladder.

9.0) Notify HP prior to entry in overhead areas greater than 8 feet.

10.0) Remote telemetrics dosimetry shall be used for workers entering containment when available.

11.0) If telemetric ED is used then check in with HP after the telemetric ED has been issued to verify that it is transmitting properly.

12.0) Prior to returning Electronic Dosimetry(ED), all individuals shall process through the PDA for whole body monitoring. This is not required if returning ED solely for the purpose of changing RWPs.

HEALTH PHYSICS INSTRUCTIONS:

This RWP authorizes work in an ALPHA Level II area.

1.0) Stop work and leave area if whole body dose rates exceed 3000 mRem/hr.

2.0) When the ED dose rate alarm is set >1000 mRem/hr then:
- 2.1) Stay times and continuous HP coverage is required.

3.0) "Hot Particle Area" (HPA) monitoring requirements:

3.1) Workers exposed skin shall be monitored by HP-Ops every four hours (unless specified by the HP Supervisor) while the workers are in the HPA.

3.2) Personnel monitoring for workers exiting the HPA will consist of a whole body scan witnin 1/2 inch using a RO-2 or equivalent (open window) with background less than 1.0 mrem/hr.

3.3) Worker release criteria: a net reading of less than 2.0 mrem/hr.

3.4) Instruct all individuals exiting the HPA to proceed directly to the RCA exit to perform whole body monitoring.

5.16.5 **WHEN** RWP task and/or HRA briefing is complete, **THEN PERFORM** the following:

a. **ENSURE** each worker records the required entries on Attachment 5, Briefing Attendance Roster.

b. **ENTER** initials on Attachment 5 under 'Briefed By.'

c. **IF** HRA Briefing was checked in HIS-20, **THEN ENSURE** worker's Plant ID is entered in HIS-20 under the appropriate task.

NOTE: Modifying ED dose and/or dose rate alarm setpoints require RP supervisor approval.

When worker Plant IDs are entered in the HIS-20, individual dose and dose rate alarm setpoints may be revised. If settings are not revised, HIS-20 will automatically set dose and dose rate alarms based on RWP task values.

ED dose rate alarms are never set above stop work dose rates.

d. **IF** an individual's ED dose and/or dose rate alarm setpoints are to be modified from the RWP default values, **THEN PERFORM** the following:

1. **ENSURE** desired alarm settings are recorded on Attachment 5.
2. **ENSURE** worker acknowledges set points by signing Attachment 5.
3. **ENSURE** RP supervisor signs on Attachment 5 under 'Briefed By.'
4. **ENSURE** alarm settings are entered in the HIS-20.

Administrative JPM A.4 (PAR Update)

Comment:

Reporting of previously reported sectors on a PAR update is not critical.

Recommendation:

Facility recommends that the answer key be modified to make reporting of the previous affected sectors not critical.

Discussion:

The PAR JPM was administered as a time critical JPM. A post –exam review has identified flaws in the manner in which the JPM was administered that adversely impacted candidate performance.

An Initial Condition of the JPM was that the TSC was not yet manned (implying that no turnover of SEM duties had occurred).

Another Initial Conditions of the JPM was EPIP 1.06, "Protective Action Recommendations", was entered and a PAR was issued. The previously completed EPIP-1.06 and PAR paperwork **are provided for your review;** however the start time of the JPM began prior to the candidates performing a thorough review of the procedure and paperwork.

The JPM task initiating cue was "perform EPIP-1.06, beginning at Step 11" (a marked up copy of an already in progress procedure).

Given the manner in which the JPM was administered the candidates **were placed in the role of assuming SEM duties** (the updated PAR to be given was message number three, one hour and 15 minutes following the first General Emergency declaration). We say "placed in the role", because as previously stated, if they were the SEM from the onset of the event (i.e. Shift Manager who has not yet been relieved since the TSC is not manned) they would have full knowledge of all activities, communications, and conditions up to that point.

To assume the duties and responsibilities of the SEM a turnover is required.

NUREG-0654 requires that facilities have turnover processes in place. EPIP 1.01 Attachment 2 is the facility guidance that implements the NUREG requirement and is required to be completed prior to assuming the duties of the SEM. The candidates were placed in the awkward position of assuming a duty in a manner contrary to both their training and the procedures of the facility. The candidates spent a significant amount of time reviewing, "getting up to speed" with what had transpired because they realize the importance of accuracy in classifying, communicating, & reporting and wanted to make sure they thoroughly understood the situation at hand.

The candidates were told to start at step 11 of EPIP-1.06. This step loops you back to step 7. By strict procedural compliance they check the box for "Average Wind Direction Shifts To Any New Area(s)" and go to Step 17. If the candidates were given time to review the previous steps performed (as would be the case during turnover in a real emergency) they would have reviewed the entire procedure and worked through the procedural difficulties to arrive at the step that requires previous sectors to be included.

A note before step 17 of EPIP-1.06 states: "**NOTE:** A new PAR is only issued for wind shifts, based on the conditions below, in new affected sectors that have NOT been included in a previous PAR." CR1041252 was submitted to enhance the procedure.

RIS 2003-12 Clarification of NRC Guidance for Modifying PARS was reviewed. This RIS was issued based on a utility modified PAR that decreased the effectiveness of a PAR. This utility changed a previous PAR from evacuate to shelter. The updated PAR conflicted with the previous PAR. NAPS EPIP 1.06 has a caution that does not allow downgrading of previous PARS without consultation with the State. The critical step is to identify new sectors affected and make the correct recommendation for those sectors. The updated PAR did not modify the initial PAR provided for the omitted sectors.

The proposed answer key that includes these comments is attached.

Dominion

North Anna Power Station

JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

INITIAL CONDITIONS

At 1330, the SEM declared a General Emergency SG-1.1 for a Station Blackout

At 1400, the SEM declared a General Emergency FG-1.1 Classification was declared on Unit 1

EPIP 1.06, "Protective Action Recommendations", was entered and a PAR was issued. The previously completed EPIP-1.06 and PAR paperwork are provided for your review.

The time is now 1445 minutes and current conditions are:

- Unit 1 : Conditions unchanged
- Unit 2 : Conditions unchanged
- TSC is still not operational
- Meteorological Data
    - Wind Speed – 25 mph
    - Wind Direction – 280°

INITIATING CUE

You are requested to perform EPIP-1.06, beginning at Step 11

Portions of this JPM are time critical.

Dominion

North Anna Power Station

JOB PERFORMANCE MEASURE EVALUATION

OPERATOR PROGRAM

TASK

Determine updated protective action recommendations (EPIP-1.06).

TASK STANDARDS

Task was performed as directed by the procedure referenced in the task statement within parentheses (one of the underlined procedures if several are cited)

K/A REFERENCE:

GEN-2.4.44 (2.1/4.0)

ALTERNATE PATH:

N/A

TASK COMPLETION TIMES

Validation Time = 15 minutes Start Time = _____

Actual Time = _____ minutes Stop Time = _____

PERFORMANCE EVALUATION

Rating [ ] SATISFACTORY [ ] UNSATISFACTORY

Candidate (Print) _____

Evaluator (Print) _____

Evaluator's Signature / Date _____

EVALUATOR'S COMMENTS

Dominion

North Anna Power Station

JOB PERFORMANCE MEASURE

(Evaluation)

OPERATOR PROGRAM

READ THE APPLICABLE INSTRUCTIONS TO THE CANDIDATE

Instructions for Simulator JPMs

I will explain the initial conditions, and state the task to be performed. All control room steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

Instructions for In-Plant JPMs

I will explain the initial conditions, and state the task to be performed. All steps, including any required communications, shall be simulated for this JPM. Under no circumstances are you to operate any plant equipment. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

PREREQUISITES

The trainee has completed the applicable course knowledge training at the senior reactor operator level.

INITIAL CONDITIONS

At 1330, the SEM declared a General Emergency SG-1.1 for a Station Blackout

At 1400, the SEM declared a General Emergency FG-1.1 Classification was declared on Unit 1

EPIP 1.06, "Protective Action Recommendations", was entered and a PAR was issued. The previously completed EPIP-1.06 and PAR paperwork are provided for your review.

The time is now 1445 minutes and current conditions are:

- Unit 1 : Conditions unchanged

- Unit 2 : Conditions unchanged
- TSC is still not operational
- Meteorological Data
    - Wind Speed – 25 mph
    - Wind Direction – 280°

INITIATING CUE

You are requested to perform EPIP-1.06, beginning at Step 11

Portions of this JPM are time critical.

EVALUATION METHOD

Perform if conducted in the simulator or in a laboratory (use Performance Cue(s))

Simulate if conducted in the station or on a dead simulator (use Simulation Cue(s))

TOOLS AND EQUIPMENT

None

PERFORMANCE STEPS

START TIME _____

1	CHECK THE FOLLOWING: Average wind direction shifts to any new area(s) (refer to ATTACHMENT 2, AFFECTED SECTOR(S) MAP)	Procedure Step 7

Critical Step	SAT [ ] UNSAT [ ]

Standards	SRO notes that wind direction has shifted and proceeds to step 17

Notes/Comments

2	UPDATE ATTACHMENT 2, AFFECTED SECTOR(S) MAP: •Record time wind data acquired •Record average wind direction from, in degrees •Record average wind speed in mph •Record affected sectors •Mark new area(s) affected on map (use distinguishable markings from previous markings): • Include all downwind sectors from previous PARs for this event AND • All new downwind sectors for the PAR AND • Any downwind sectors through which the wind shift occurred	Procedure Step 17

Standards	Attachment 2 is updated (See KEY)

Notes/Comments

3	COMPLETE PROTECTIVE ACTION RECOMMENDATION: a) Complete ATTACHMENT 3, REPORT OF PROTECTIVE ACTION RECOMMENDATION 1) Mark appropriate PAR box(s) 2) Record Mile radius and Miles downwind 3) Record Downwind Sectors 4) Record Potassium Iodide (optional) 5) Record Remarks (optional) 6) Approve PAR (sign report) 7) Record date and time report approved	Procedure Step 18.a

SAT [ ] UNSAT [ ]

Critical Step	SAT [ ] UNSAT [ ]

Standard	Attachment 3 is completed with updated data (See KEY)

Notes/Comments The new PAR has evacuated Sectors D and E to the 10 mile downwind (Sectors F, G, and H are still included from the original PAR.

4	DIRECT EMERGENCY COMMUNICATORS TO NOTIFY OFF-SITE AUTHORITIES OF PAR: • Virginia Emergency Operations Center (VEOC) notified IAW: · EPIP-1.06, PROTECTIVE ACTION RECOMMENDATIONS	Procedure Step 19

Critical Step	SAT [ ] UNSAT [ ]

Standards	Completed within 15 minutes.

Notes/Comments

>>>>> END OF EVALUATION <<<<<

STOP TIME _____

KEY

NUMBER EPIP-1.06	ATTACHMENT TITLE	ATTACHMENT 3
REVISION 11	REPORT OF PROTECTIVE ACTION RECOMMENDATION	PAGE 1 of 1

PAR MESSAGE # 3

NOTE:
- Transmit to Virginia EOC only using the VEOC ARD.
- IF VEOC ARD nonfunctional, THEN use VEOC autodial or direct dial (804) 674-2400 or (804) 310-8868.
- IF all means of communications with VEOC nonfunctional, THEN use Insta-Phone.

This is North Anna Power Station with a(n) ☐ Drill Message ☑ Emergency Message for Protective Action Recommendation. **Use the Report of Protective Action Recommendation form to copy this message.**

(READ SLOWLY)

PROTECTIVE ACTION RECOMMENDATION:

☐ SHELTER-IN-PLACE: ____ Mile radius 360° and ____ Miles downwind in the following sectors:

_____.

☑ EVACUATE: 2 Mile radius 360° and 10 Miles downwind in the following sectors:

D,E,F,G,H.

CRITICAL STEP DATA
Additional Sectors D & E are the only critical step data

☐ BEYOND 10 MILE EPZ:

☐ Evacuate Area: _____ Centerline in degrees; _____Distance in Miles; _____ Width in feet

☐ Shelter-in-place: _____ Centerline in degrees; _____Distance in Miles; _____ Width in feet

☐ POTASSIUM IODIDE:

Recommend implementation of Potassium Iodide (KI) strategies for the general public.
The projected dose at the site boundary is ≥ 5 Rem Thyroid CDE.

The time is _____ (24-hr time).

This is _____ / Emergency Communicator.

Message received by: Virginia EOC Watch Officer (name) _____.

This is North Anna Power Station out at _____ (24-hr time) on _____ (date).

REMARKS (OPTIONAL) / APPROVAL INFORMATION [DO NOT READ]

NOTE: Shelter-in-Place may be recommended as a result of evacuation impediments (e.g., Hostile Action events) or other known conditions which make evacuation dangerous.

REMARKS: _____

_____

APPROVED BY: Signature
Station Emergency Manager or Recovery Manager

Today's Date / Current
Date **Time**

Signature, Date and Time are CRITICAL STEP DATA. Time must be within 15 minutes of start time.

KEY

Condition Report Details

Site: North Anna

CR1041252 **NANN**

Discovery Date: 06/28/2016 01:13 PM **Type:** NCAQ

Date Reported: 06/28/2016 01:13 PM **Status:** ASSIGNPEND

Revision: 0

Description:

enhancements to EPIP-1.06 and 4.07

Long Description:

1. EPIP-1.06 step 12 states "Go to step 12". This is a typo. It should state go to step 21 for EPIP termination. 2. EPIP-1.06 and EPIP-4.07 state; IF PAR change required due to wind shift, THEN new PAR must include the following downwind sectors: • All downwind sectors from previous PARs for this event AND • All downwind sectors for the new PAR AND • All downwind sectors through which the wind shift occurred Attachment 3 of both EPIP procedures for documenting and notifying the State EOC of a PAR change for the change in wind direction does not make it clear that previous downwind sectors should be noted.

Initial Actions:

Notified EPIP group

Locations and Programmatic Indicators

Location:	**Safety Qual Class:**	**Seismic:**	**EP Cat A:**
	EQ Related:	**Component Class:**	**BDB:**
	Reg 1.97:	**PRA:**	**B.5.b.:**
Plant System:	**App R:**	**HELB:**	
Local System(Mill Only):			

Locations and Assets

Screening

Significance	Potential Repeat?	Previous Issue Notes

CRT Comments:

Assignments

Type	CR Asgmt #	Site	Assign'd Dept	Due Date	Pri	DCAC	Eval	Status
DTI	CA3034756	NANN	EP	12/14/2016		TYLER52	JOHN249	INPROG

Evaluate CR1041252's recommended changes to NAPS EPIPs 1.06 & 4.07

5.2 WO

WO #:		**Status Date:**	
Work Performed:		**Actual Finish Date:**	
Previous CAP #:			

Related CR / LC / PI

Site	Related Record #	CR Type	Class	Discovery Date	Status

Related Assignments / Work Orders

Site	Related Record #	Work Type	Class	Status

Screening Questions

N	SAFETY - (Nuclear, Industrial, or Radiological) ?
N	PLANT EQUIPMENT - Systems, Structures, Components (SSC) related to
N	ENVIRONMENTAL (Deficient equipment or conditions that challenge compliance with envionmental regulations)
N	REGULATORY COMPLIANCE
N	Does this report identify a human performance, document, or process issue or documented trend that

BACC Questions

Is this CR associated with Boric Acid Corrosion Control Program Y/N
Is the boric acid wet, glistening, moist or dripping? (ER-AP-BAC-101)
Is the boric acid deposit excessive? (ER-AB-BAC-101)
Is the boric acid discolored (e.g., non-white) or is there any visible degradation? (ER-AP-BAC-101)
Does the boric acid appear to originate from a crack, a pinhole leak or through a welded connection? (ER-AP-BAC-101)

challenges: SAFETY, PLANT EQUIPMENT, ENVIRONMENTAL OR REGULATORY COMPLIANCE ?

Does the boric acid appear to come from under insulation or has it run under insulation or is the source of leak unknown? (EP-AP-BAC-101)

User Information

Reported By: JAME272 Jim Crossman (Generation - 3)
Submitter's Dept: Training
Changed By: JOHN249 John Costello (Generation - 6)
Email: jim.crossman@dom.com
Supervisor: PATRI69 Patty Ignaszewski (Generation - 3)
Changed Date: 06/29/2016 10:21 AM
Phone:
Reported Date: 06/28/2016 01:13 PM

Trends - Affected Department

Site	Affected Dept	Description

Trends - Multiple CR Flags

CR FLag	Description

Trends - Multiple Station PO&C

POC #	Description

Trends - Classifications

Trend Classification	Class Description	Comments

Work Logs

Date	Class	Log Type	Created By	Description

Condition Report Status History

Date	Status	Modified By	Memo
06/29/2016 10:21 AM	ASSIGNPEND	JOHN249	
06/29/2016 09:55 AM	DEPTREV	PATRI69	
06/28/2016 01:18 PM	SUPRREV	JAME272	
06/28/2016 01:13 PM	DRAFT	JAME272	

CR Assignment Details

North Anna

CA3034756		**Assignment Type:**	DTI	**Status:**	INPROG
Created Date:	06/29/2016	**Due Date:**	12/14/2016	**Assigned Dept:**	EP

Short Description: Evaluate CR1041252's recommended changes to NAPS EPIPs 1.06 & 4.07

Detailed Assignment: Evaluate CR1041252's recommended changes to NAPS EPIPs 1.06 & 4.07: 1. Change EPIP-1.06 step 12 from "GO TO STEP 12" to "GO TO STEP 21" - apparent transposition error. 2. Change EPIP-1.06 and EPIP-4.07 Attachments 3, Report of Protective Action Recommendation, to make it clear that previous downwind sectors should be noted for a PAR changed due to a change in wind direction (reference EPIP-1.06 Step 17.f & EPIP-4.07 Attachment 1 Step 3 (RNO)).

Response: The first recommended change was to correct an apparent transposition error where NAPS EPIP-1.06 Step 12 directed the user to "GO TO STEP 12." This error existed since Revision 11 became effective on 12/22/2014. Comparison with Surry's EPIP-1.06 Revision 11 validated the statement in the parent condition report suggesting that the appropriate transition should have been to Step 21. This error was corrected by issuance of EPIP-1.06 Revision 12, which became effective on _____. The second recommended change was to enhance EPIP-1.06 and EPIP-4.07 by modifying Attachments 3, Report of Protective Action Recommendation, to make it clear that previous downwind sectors should be noted for a PAR changed due to a change in wind direction. EPIP-1.06 Revision 12 refers to EPIP-4.07 for evaluation of wind shifts where previous revisions allowed this evaluation by either procedure. No change was made to EPIP-1.06 or EPIP-4.07

Attachments 3, but PAR development instructions in EPIP-4.07 Revision 24 (effective date _____) address carrying forward or superseding the PAR in-effect.

DCAC:	**TYLER52**	**Tyler A Swearingen (Generation - 6)**	**Priority:**	
Evaluator:	**JOHN249**	**John Costello (Generation - 6)**	**LTCA:**	
Supervisor:	**ED00001**	**James E Collins (Generation - 6)**	**Pre-Staged?:**	**Y**
Manager:	**ED00001**	**James E Collins (Generation - 6)**	**Manager Review Required?:**	**N**

No Assignment information in this section

CR Information

CR# : CR1041252 enhancements to EPIP-1.06 and 4.07

Long Description:

1. EPIP-1.06 step 12 states "Go to step 12". This is a typo. It should state go to step 21 for EPIP termination. 2. EPIP-1.06 and EPIP-4.07 state; IF PAR change required due to wind shift, THEN new PAR must include the following downwind sectors: • All downwind sectors from previous PARs for this event AND • All downwind sectors for the new PAR AND • All downwind sectors through which the wind shift occurred Attachment 3 of both EPIP procedures for documenting and notifying the State EOC of a PAR change for the change in wind direction does not make it clear that previous downwind sectors should be noted.

CRT Comments:

Site: NANN

Discovery Date/Time: 06/28/2016 01:13 PM

Significance:

Parent CRA # :

Locations and Programmatic Indicators

Location:	**Safety Qual Class:**	**Seismic:**	**EP Cat A:**
	EQ Related:	**Component Class:**	**BDB:**
Plant System:	**Reg 1.97:**	**PRA:**	**B.5.b.:**
	App R:	**HELB:**	
Local System (Mill only):			

Additional Reviews

Additional Review Group 1:	**Additional Review Person 1:**
Additional Review Group 2:	**Additional Review Person 2:**
Additional Review Group 3:	**Additional Review Person 3:**

Assignment Extensions

EXT #	Requester	Reason	Requested Ext Date	Request Date	Extension Status

# of APPR EXT

Follow-On Assignments

Asgnmnt Type	CR Asgn #	Site	Asgn Dept	Due Date	Priority	DCAC	Eval	Status

Related CR / LC / PI

Site	Related Record #	CR Type	Description	Class	Discovery Date	Status	Relationship

Related Assignments / Work Orders

Site	Related Record #	Work Type	Description	Class	Status	Relationship

Work Log

Date	Record	Class	Created By	Summary

User Information

Created By: JOHN249
John Costello (Generation - 6)

Created Date: 06/29/2016 10:03 AM

Changed By: TYLER52
Tyler A Swearingen (Generation - 6)

Changed Date: 06/29/2016 10:24 AM

CR Assignment Status History

Date	Status	Modified By	Memo
06/29/2016 10:24 AM	INPROG	TYLER52	
06/29/2016 10:22 AM	WASSIGN	MAXADMIN	
06/29/2016 10:01 AM	DRAFT	JOHN249	

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