

NUREG-1021, Rev. 10

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Region III Operator Licensing

Operator Licensing Workshop
July 2015

Rev. 10

➤ Reason for Rev. 10

- *Integrate new reactor technologies*
 - *AP-1000*
 - *ABWR*
- *Incorporate outstanding changes from NRR, Regions and industry*

Major changes to 1021

- *Changes to operating exam forms and minor changes to competency ratings*
 - *Modified Tier 3 of examination outline for both 401s to allow 1 item in Radiation control if second one is substituted for another tier 3 item*

Major changes to 1021 (cont)

- *Modified times on Examination Preparation Checklist*
 - *Discussed with examiners and industry to try and reduce congestion points in exam preparation process.*

- *Unintentional RPS or ESF actuations due to operator error - scenario critical task*

- *Expanded use of time compression to 'jump' forward*
 - *passive plants have important operator tasks that may need to be performed many hours after an event*

Major changes to 1021 (cont)

Some Other Changes

- *SRO-Only guidance added to ES-401 and ES-401N as Attachment 2.*
- *Clarification added to ES-402 regarding reference material (CWG)*
- *Clarification added to ES-201 and 501 regarding submittal of sample test items (CWG)*

Major changes to 1021 (cont)

- *Clarification added to ES-402 and Appendix E regarding time extensions (CWG)*
- *Clarification added to ES-303 regarding grading of errors (CWG)*
- *Added additional GFE waiver which the Region can approve*
- *Added an additional reason to reject a K/A to ES-401*

Major changes to 1021 (cont)

- *Revised ES-301 “Administrative Topics” to remove EOPs from the examples of items in the Emergency Procedures/Plan*
- *Encourages the use of video for dynamic simulator exam*
- *Revised ES-301 to include ESF JPM for all applicants*
- *Added “verifiable actions” guidelines to ES-301 as Attachment 2*

Forms and competency ratings

- Relatively minor changes for example:
 - 301-4 – qualitative attributes, defined * and #, and added clarifying information such as tying to competency forms
 - 301-5 – foot note allows chief examiner to place SRO-I in BOP position if necessary to observe control manipulations
 - 303-3 – no longer get more credit for recognizing alarm than diagnosing or more credit for locating a control than manipulating

Examination Prep Checklist

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ES-201 Examination Preparation Checklist Form ES-201-1

Facility: _____ Date of Examination: _____

Developed by: Written: Facility NRC // Operating Facility NRC

Target Date*	Task Description (Reference)	Chief Examiner's Initials
-180	1. Examination administration date confirmed (C.1.a; C.2.a and b)	
-150	2. NRC examiners and facility contact assigned (C.1.d; C.2.e)	
-150	3. Facility contact briefed on security and other requirements (C.2.c)	
-150	4. Corporate notification letter sent (C.2.d)	
-120	5. Reference material due (C.1.e; C.3.c; Attachment 3)	
-90	6. Integrated examination outline(s) due, including Forms ES-201-2, ES-201-3, ES-301-1, ES-301-2, ES-301-5, ES-D-1, ES-401-1/2, ES-401N-1/2, ES-401-3, ES-401N-3, ES-401-4, and ES-401N-4, as applicable (C.1.e and f; C.3.d)	
-85	7. Examination outline(s) reviewed by NRC and feedback provided to facility licensee (C.2.h; C.3.e)	

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Examination Prep Checklist

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-60	8.	Proposed examinations (including written, walk-through JPMs, and scenarios, as applicable), supporting documentation (including Forms ES-301-3, ES-301-4, ES-301-5, ES-301-6, and ES-401-6, ES-401N-6, and any Form ES-201-3 updates), and reference materials due (C.1.e, f, g and h; C.3.d)	
-45	9.	Written exam and operating test reviews completed. (C.3.f)	
-30	10.	Preliminary license applications (NRC Form 398's) due (C.1.i; C.2.g; ES-202)	
-21	11.	Examination approved by NRC supervisor for facility licensee review (C.2.h; C.3.f)	
-21	12.	Examinations reviewed with facility licensee (C.1.j; C.2.f and h; C.3.g)	
-14	13.	Final license applications due and Form ES-201-4 prepared (C.1.i; C.2.i; ES-202)	
-14	14.	Written examinations and operating tests approved by NRC supervisor (C.2.i; C.3.h)	
-7	15.	Facility licensee management queried regarding the licensee's views on the examination. (C.2 j)	
-7	16.	Final applications reviewed; 1 or 2 (if >10) applications audited to confirm qualifications / eligibility; and examination approval and waiver letters sent (C.2.i; Attachment 5; ES-202, C.2.e; ES-204)	
-7	17.	Proctoring/written exam administration guidelines reviewed with facility licensee (C.3.k)	
-7	18.	Approved scenarios, job performance measures, and questions distributed to NRC	

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Exam Outline

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ES-401N **AP-1000[®] Examination Outline** **Form ES-401N-2**

Facility: _____ Date of Exam: _____

Tier	Group	RO K/A Category Points											SRO-Only Points					
		K 1	K 2	K 3	K 4	K 5	K 6	A 1	A 2	A 3	A 4	G*	Total	A2	G*	Total		
1. Emergency & Abnormal Plant Evolutions	1												18			6		
	2				N/A					N/A			9			4		
	Tier Totals												27			10		
2. Plant Systems	1												28			5		
	2												10			3		
	Tier Totals												38			8		
3. Generic Knowledge and Abilities								1	2	3	4			1	2	3	4	

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Exam Outline

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3. Generic Knowledge and Abilities Categories	1	2	3	4	10	1	2	3	4	7

Note:

1. Ensure that at least two topics from every applicable K/A category are sampled within each tier of the RO and SRO-only outlines (i.e., except for one category in Tier 3 of the SRO-only outline, the "Tier Totals" in each K/A category shall not be less than two). (One Tier 3 Radiation Control K/A is allowed if the K/A is replaced by a K/A from another Tier 3 Category)
2. The point total for each group and tier in the proposed outline must match that specified in the table. The final point total for each group and tier may deviate by ± 1 from that specified in the table based on NRC revisions. The final RO exam must total 75 points and the SRO-only exam must total 25 points.
3. Systems/evolutions within each group are identified on the associated outline; systems or evolutions that do not apply at the facility should be deleted with justification; operationally important, site-specific systems/evolutions that are not included on the outline should be added. Refer to Section D.1.b of ES-401N for guidance regarding the elimination of inappropriate K/A statements.
4. Select topics from as many systems and evolutions as possible; sample every system or evolution in the group before selecting a second topic for any system or evolution.
5. Absent a plant-specific priority, only those K/As having an importance rating (IR) of 2.5 or higher shall be selected. Use the RO and SRO ratings for the RO and SRO-only portions, respectively.
6. Select SRO topics for Tiers 1 and 2 from the shaded systems and K/A categories.
7. The generic (G) K/As in Tiers 1 and 2 shall be selected from Section 2 of the K/A Catalog, but the topics must be relevant to the applicable evolution or system. Refer to Section D.1.b of ES-401N for the applicable K/As.
8. On the following pages, enter the K/A numbers, a brief description of each topic, the topics' importance ratings

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Summary

- Rev. 10 of NUREG-1021 incorporates a new section, ES-401N, AP-1000 and ABWR.
- Operating exam process is still the same as current operating plants
- Incorporates other changes from NRR and industry to clarify and update NUREG