

## NATIONAL EXAMINATION SCHEDULE

### A. PURPOSE

The primary purpose of this Operator Licensing Manual Chapter (OLMC) is to establish an efficient and effective process for use of examiner resources to support initial license examinations and baseline IP 71111.11 inspections across all four regions. This process involves the creation and distribution of a National Examination Schedule (NES), which utilizes resources from all four regions, the Office of Nuclear Reactor Regulation (NRR), and the Technical Training Center (TTC). The NES is expected to serve as a resource for regional branch chiefs as they attempt to build their schedules and respond to schedule changes.

The NES is a process which utilizes RPS scheduling tools along with annual NES planning meetings to ensure future examination workload can be met and to promote a level schedule of examinations. Secondary purposes of this OLMC include supporting an effective exchange of best practices through cross-regional scheduling and informing management decisions regarding the regional manpower required for successfully executing the Operator Licensing (OL) program nationwide.

### B. BACKGROUND

Examiner scheduling presents a series of challenges for which the NES has been designed to address. Collective licensee response to the annual examination scheduling Regulator Information Summary (RIS) has historically created multiple peak examination periods in a given calendar year. These peak examination periods create inherent scheduling inefficiencies and place a strain on regional examiner resources. The NES is intended to help facilitate a more efficient examination scheduling process.

### C. INSTRUCTIONS

#### 1. Scheduling Guidelines

- a. Examination scheduling should be conducted in accordance with Appendix A: Common Examination Scheduling Practices.
- b. Each region shall retain control of the scheduling of examiners assigned to its specific region. The annual NES meeting, typically scheduled for the summer, shall serve as the opportunity for the OL branch chiefs to work together to ensure that the 3-year NES is sufficiently level (a goal of no more than one examination per region, per month), and resource utilization is balanced across all four regions. When necessary, examinations should be transferred from one region to another in order to establish a level schedule.
- c. In general, regional operations branches should be prepared to prioritize initial license examinations and biennial requalification inspections (including cross-regional examination support) over other regional inspections and activities, such as engineering inspections, problem identification and resolution inspections, special inspections etc. However, regional branch chiefs ultimately control the activities of their examiners and can make

exceptions to this guidance in order to support individual examiner developmental goals.

- d. Each regional office shall retain a sufficient staff of examiner-qualified individuals (across all divisions and branches) to support a minimum of one average-sized examination per month. Regional operations branches shall retain a sufficient staff to ensure continued technical and organizational familiarity with the facilities within their region. Regional offices should be prepared to share resources across regions as necessary to meet the national examination workload and encourage the exchange of best practices. However, an over-reliance on outside resources should be avoided to ensure that supervisory span-of-control remains effective, individual examiner performance is consistently monitored, and facility familiarity is maintained.
- e. After the annual Regulatory Issue Summary (RIS) for the Preparation and Scheduling of the Operator Licensing Examinations is published and responses are received, each region should update their schedule of OL activities for the following 3 calendar years in the Reactor Program System (RPS). Regional operations branches are responsible for developing an initial level schedule of regional examinations and other OL activities which utilizes available examiner resources efficiently and reduces historical peak examination periods. Regional branch chiefs should identify those examination requests which present a challenge to a level schedule and prepare to discuss options for cross-regional examination assignment during the annual NES planning meeting.
- f. An annual NES planning meeting will be conducted with all OL Branch Chiefs. The meeting should typically occur between July and September. The annual NES meeting shall accomplish the following objectives:
  - i. Validate the upcoming calendar year schedule to verify that the examination workload can be met with sufficient margin for retake examinations.
  - ii. Evaluate the following two calendar years, establish a level examination schedule, evaluate balanced resource utilization, and finalize firm commitments for cross-regional examination assignments and shared individual examiner resources.
  - iii. Evaluate the OL budget submittal for the upcoming budget cycle (regions should share the number of exams and applicants provided by the RIS responses for the upcoming cycle).
- g. Emergent examination activities which cannot be addressed by the regional examination scheduling effort shall be brought to the attention of the NRR OL program office. The NRR OL program office shall help coordinate the scheduling of emergent activities through bi-weekly teleconferences and by utilizing RPS tools to evaluate cross-regional examiner availability (see Appendix A, Section H). The OL program office shall actively seek opportunities to support regional examination efforts using IOLB examiners, especially when emergent workload is identified.

## APPENDIX A: COMMON EXAMINATION SCHEDULING PRACTICES

### A. PURPOSE

This appendix is intended to help establish a series of shared scheduling practices in an effort to enhance program-wide consistency in the implementation of the initial license examination process. As the National Examination Schedule (NES) process relies on cross-regional resource implementation, it is critical that examinations in all regions are being scheduled with a set of common practices in mind. As examiner availability becomes more limited due to budget constraints, it becomes even more important that resource sharing is done equitably and consistently.

### B. EXAMINATION SCHEDULING

GOAL: Eliminate peak examination periods and reduce non-fee billable activity.

While many variables impact the industry's requests for scheduling examinations (facility outage schedules, industry attrition), the OL program office has established an efficiency target of one examination conducted by each regional OB branch, per calendar month. For those years where a region is expecting more than 12 examinations in a calendar year, cross-regional assignment of examinations should be considered. If necessary, two examinations per month can be scheduled in one region if it is unavoidable. If a region has an unusually heavy examination load in a particular calendar year, consideration should be given for cross-regional assignment of examinations to other regions that have lighter than typical annual examination schedules.

This goal provides a program-wide target of 48 examinations, which addresses the historical average number of annual examination requests with additional capacity for retake examinations. Most importantly, this approach ensures a level schedule, free of any significant peak examination periods that would require an inflated number of examiner resources in order to complete the month's activities.

While one examination per month remains a target, the regional operations branches should inform their DRS Director for any month in which more than one examination is scheduled to be administered by the region. Some examples of where it may be acceptable to schedule two examinations in one month are:

- The regional schedule has greater than 12 examinations in a year.
- The second half of a multi-week examination lasts into the next month.
- The adjacent months provide sufficient separation allowing for two examinations to be scheduled during the first and last weeks of a given month.
- An adjacent month has a high number of scheduled BRQ onsite inspection weeks or other examiner-related activities.
- Examination sizes allow for equitable distribution of workload among available examiner resources, such as for two small exams.

Examinations with a large number of applicants (greater than 15 applicants per available simulator) should be scheduled as the only examination in a given month. At a minimum, there should be at least one week in between scheduled examinations. On average, examinations should be spaced out with 3-4 weeks of separation.

At no time should a region schedule more than two examinations in a calendar month without informing the OL program office and requesting national support, with the exception of a partial retake examination that requires no more than one chief examiner to approve and administer.

Regional schedulers should plan to avoid scheduling examinations during holiday weeks. An occasional small examination (typically 6 or less applicants) can be conducted during a short holiday week. Schedulers should not expect examiners to travel/work during working hours on Federal Holidays.

For NRC-authored examinations, sufficient examination development time should be built into the schedule. The assigned chief examiner should not be scheduled for a second chief assignment during the development period. Scheduling of another examination in the same month as an NRC-authored examination should be limited to rare, unavoidable situations.

For re-take examinations, regional schedulers should look to the next available month which does not have an examination scheduled, utilizing national assistance when necessary.

### C. PRIORITIZATION OF RIS RESPONSES

GOAL: Establish a standard process for deciding on examination weeks for each facility and addressing priority of facility requests.

Regional schedulers and branch chiefs should work with industry counterparts to establish expectations for a level schedule and allow regional industry representatives to determine the priority for the examination schedule. Regions should encourage their industry counterparts and consortiums (i.e. WesTrain in RIV) to establish priority for examinations across the region.

If a regional industry organization is not capable or available to establish priority for available examinations weeks, then the regional office shall establish priority. Negotiations should be conducted between the regional branch chiefs and the facilities that are requesting examinations during the same timeframe. If negotiations are unsuccessful, the region should schedule examinations with the following priorities in mind:

- The length of time since the facilities' last examinations
- The facilities' needs for operators
- The facilities' past RIS response accuracy

#### D. EXAMINATION/INSPECTION TEAM COMPOSITION

GOAL: Completing onsite examination activities in an optimal time period (one working week is preferential for average sized exams).

Whenever possible, and only if it allows for completion of an examination within one week rather than extending into a full second week, the regional scheduler should construct an examination team consisting of greater than the minimum number of examiners needed to complete simulator scenarios. This arrangement allows for examination activities to be conducted in parallel and prevents from having to unnecessarily schedule a two-week examination. The minimum number of examiners is typically the minimum team size in which no examiner is required to be the examiner of record for more than four applicants.

It is preferential to take additional examiners to a facility and complete an examination in one week, rather than taking the minimum number of examiners and scheduling the examination for multiple weeks. This approach allows for more scheduling flexibility and better considers the need for an examination documentation week after the operating test is administered.

Cross regional examiners and examination teams should be utilized when available in order to address holes in the examination schedule. Cross-regional team members should develop sufficient familiarity with the facility during validation week. Any examination team which is comprised entirely of examiners from another region should arrange for a facility brief from a chief examiner in the home region that is qualified on the applicable technology. The facility brief should cover any unique aspects of the facility along with knowledge of any programmatic and/or organizational aspects/issues at the facility on which the cross-regional examination team should be cognizant.

All examination team members should be scheduled to attend validation week activities. Branch Chief approval is required for an examiner to administer an examination without participating in examination validation.

Regional Branch Chiefs should encourage all full-time regional examiners to qualify on all reactor technologies to increase scheduling flexibility.

BRQ inspections should typically be staffed using two examiners that are qualified on the facility technology. Use of a second inspector who is not examiner qualified should be limited. It is acceptable, from a programmatic perspective, to allow GG-13 examiners to lead BRQ inspections. Assigning three or more examiners to a BRQ inspection should be considered only for rare, unique situations (i.e., a facility with two dissimilar units, or a plant with significant operations/training issues).

#### E. CONDUCTING EXAMINATION ACTIVITIES IN PARALLEL

GOAL: Completing onsite examination activities in an optimal time period (one working week is preferential for average sized exams).

Parallel/staggered simulator job performance measures (JPMs) should be utilized, whenever feasible, to ensure that examination activities can be conducted in an efficient manner. For JPM sets in which one task results in significant alarming annunciators, alternate paths, or other examination security concerns, a staggered approach should be used. A staggered approach involves first administering the JPM of concern to a single applicant, after which commencing parallel examination activities. Examination security measures, such as room curtains and operations on panels with sufficient physical separation, should be considered. In extremely small control rooms, parallel JPMs may not be feasible.

Whenever possible, examination teams should attempt to run administrative or in-plant JPMs in parallel with simulator scenarios. This approach should be utilized in an effort to complete examination activities in one week in most cases.

## F. SIMULATOR SCENARIO CONSIDERATIONS

GOAL: Consistency in approach across regions and efficient administration of simulator operating tests.

Scenarios should typically remain contained within the scenario targeted attributes outlined by Form ES-301-4. Consistent deviation past the high end of the targeted attributes leads to excessive scenario length and questionable operational validity.

Targeted scenario validation length should be between 60 and 90 minutes. Scenarios should typically be an effective mix of shorter and longer events. Multiple time-consuming events in one scenario leads to excessive scenario run times.

Post scenario discussion and follow up questions should be thorough, but as expeditious as possible, in order to be fair to the license applicants. The chief examiner should give direction for simulator reset as soon as is practicable to ensure the schedule can be completed efficiently.

Examination teams should conduct no more than four scenarios per shift, per simulator. With 1.5-hour scenarios, 20-min follow-up times, and 1-hr simulator reset times; a 4-scenario day is typically completed in approximately 11 hours. Completion of four scenarios in one day often allows for less scenarios to have to be written and a shorter examination week. Therefore, such an approach should be seriously considered as an option, especially for larger class sizes. In the rare occasion that a simulator error causes significant delays, the time necessary to run the spare is offset by the time gained by one less day of simulator scenarios.

Chief examiners should discuss with facility representatives, early in the examination development process, the risks of scheduling any significant non-examination related simulator activities on the backshift during examination administration week. Conducting requalification activities or significant maintenance after examination activities are complete for the day creates a significant schedule risk.

## G. JPM COMPOSITION/ADMINISTRATION

GOAL: Provide guidance for JPM implementation that supports efficient completion of the operating test.

When administering JPMs that test normal operating conditions, it is acceptable to allow the “on deck” applicant to preview the associated operating procedure prior to implementation of the JPM in a secured area. The facility can provide the cue sheet and procedure to the applicant, provided the examiner then administers the JPM in accordance with NUREG-1021.

It is reasonable to explain to the facility the benefit of developing at least five alternate path JPMs to eliminate the need to develop an additional JPM should it be determined during administration (or after) that an alternate path-designated JPM does not meet the definition of alternate path or an alternate path-designated JPM has to be removed from the examination due to examination security concerns.

## H. RPS SCHEDULING AND BUDGETING PRACTICES

GOAL: Identify common approaches to RPS scheduling to ensure reports used for sharing resources are accurate and budget submittals reflect correct workload.

Regional examination schedulers shall utilize the attached Table 1: *RPS - Initial Operator Licensing Examination Activity Codes*, when scheduling examination activities.

For onsite validation (OV) and examination administration (EXAD) weeks, regional schedulers shall schedule only those examiners who are expected to be part of the onsite examination team. These two activities shall be scheduled for ONLY the time required to conduct onsite activities and associated travel. These activities should be scheduled as accurately as possible to ensure future RPS budget estimates reflect the correct number of examiners required to conduct onsite activities. As an example, for examinations that last longer than one week, regional schedulers should schedule each examiner for only those dates where the examiner will be administering examinations rather than for the full examination period.

Scheduling additional EXAD time to ensure that a sufficient period of time is reserved in order to document results shall be avoided. Examination team members should be scheduled for an appropriate amount of documentation time using the DOC activity code.

For a one-week examination, onsite activities should be scheduled from Sunday to Saturday to ensure HRMS allows examiners to charge any potential travel time to the onsite activity.

All examiners should ensure that RPS reflects their availability for additional assignments by verifying that the regional scheduler has correctly scheduled their examination and inspection onsite weeks. Further, each examiner should schedule his or her availability in RPS. Examiner “training” and “other” unavailability (such as leave, rotational assignments,

special inspections, conferences, etc.) should be scheduled in RPS as soon as practicable.

Examiners should be limited to less than 40% travel, including all examination/inspection onsite activities, training, conferences, and special assignments. This number may vary for individuals who participate in extended rotations or other developmental opportunities. The following reports may be utilized by regional schedulers and Branch Chiefs to help identify available cross-regional support to their examination workload and to support a program-wide level schedule approach.

- IP 21 (A) – OLES – a high-level calendar view of examinations scheduled across all four regions
- IP 10 - Examiner Availability: a report capable of identifying, for a given time period, any examiners who are available (not onsite, on leave, in training, etc.) and qualified as Chief Examiner and/or qualified on a specific technology (Westinghouse, CE, B&W, GE, AP1000). This report includes all regions, the Technical Training Center, and headquarters.
- Individual Examiner Schedules – provides a quarterly view of individual examiner workload in each region.

OL Budget submittals, when requested, should utilize the following two analytical models. Program-wide full-time equivalent (FTE) requests should fall between the following two estimates.

1. Project workload using the following formula based on historical examination hours:

- Establish the average number of applicants per exam program-wide (for example, 600 applicants divided by 42 examinations)
- Average Exam Hours =  $33 * (\text{average \# applicants per exam}) + 324$
- Total Hours = Average Exam hours \* (# of examinations)
- Divide total hours by FTE equivalent (1 FTE=1160 hours)

2. Project workload using estimated work hours per RPS examination activity:

- Exam hours =  $714 * (\text{\# examinations})$
- Total hours =  $[\text{Exam hours} + 300 * (\text{\# NRC authored exams})] * 1.10$ 
  - Note: Multiplying by 1.10 allows for a 10% rate on retake exams
- Divide total hours by the FTE equivalent (1 FTE=1160 hours)

Examiners should only charge hours to the non-fee billable generic operator licensing activity codes when they are performing generic operator licensing activities in accordance with the definitions (CAC definitions can be found in CACS by searching for the CAC. For the generic OL CAC, the definition states: "Indirect efforts related to Operator Licensing program activities (HQ and Regions) not pertaining to a docket or licensing action (not otherwise captured using other billable activity codes or inspection report numbers).

Examples of activities associated with operator licensing may include the following: OLA activities, NRC/INPO training related activities, Manual Chapter maintenance, OL



workshops, meetings and conferences including the bi-weekly conference call, NUREG 1021 maintenance, contract management, OL exam audits and reviews, OL information/assistance requests, regional office audits, generic ROI reviews, K/A catalog maintenance and working group, simulator oversight, operator licensing issue resolutions, ANSI standards working group, regulatory guides, web page/SharePoint development and maintenance, hearing preparations and participation, RPS-OL update and maintenance, OMB clearance extensions processing, annual RIS processing, information and records management – maintaining e-mail, “P” drive and “G” drives and digitization efforts, knowledge transfer/mentoring, entering time and attendance, staff meetings, responding to public and congressional inquiries, responding to controlled correspondence requests and other office/regional operator licensing support.”

Activities related to attendance at the plant status meeting and answering generic inspection related questions should be charged to A11018, NB-OR-OVERSIGHT-INSPECTIONS. Activities related to training, including review of NUREG-1021 for familiarization, not part of NUREG maintenance, should be charged to training. Finally, answering questions related to a specific facility issue should be charged to the appropriate fee-billable inspection procedure.

**Table 1: RPS - Initial Operator Licensing Examination Activity Codes**

<b>Code</b>	<b>CAC</b>	<b>Code description</b>	<b>Code Uses</b>
<b>EXD / NEXD</b>	000487/ 001477	Exam Development	All activities associated with the development of the content for an NRC-authored examination, or the hours spent helping facility fix/revise a draft exam submittal. This includes the corporate notification letter, generating and reviewing outlines, and reviewing proposed and final exam submittals, including free reviews and peer reviews, and providing comments. Also includes exam development activities following validation week, such as application reviews/approval, exam schedule development, final quality form reviews, ROIs, waiver/excusal letters, exam approval letter, exam team administration preps.
<b>OV / NOV</b>	000956/ 001475	Onsite Validation of Initial license examination	Onsite validation week activities and associated travel.
<b>EXAD / NEXAD</b>	000500/ 001474	Initial license exam administration	Exam administration week onsite activities and associated travel.
<b>DOC / NDOC</b>	000474/ 001476	Documentation	Post-exam activities, including documentation (e.g., individual exam results, post-exam comment resolution, exam report, ADAMS package, regional appeal reviews, etc.)
<b>EXRT / NEXRT</b>	000491/ 001480	Exam retake	Used to insert a schedule item that covers all activities associated with an emergent retake exam.
PREP		Preparation	Legacy codes – do not use
ADMIN		Administration	
S210 / NS210	000946/ 001473	Letter to site 210-days in advance of exam	
EXOR / NEXOR	000490/ 001479	Exam outline submittal review	
EXR / NEXR	000492/ 001471	Exam review	
EXF / NEXF	000488/ 001478	Exam Finalization	
EXO / NEXO	000489/ 001472	Exam Observation	