

JAN 24 1991

MEMORANDUM FOR: Robert M. Gallo, Chief
 Operator Licensing Branch
 Division of Licensee Performance
 and Quality Evaluation, NRR

FROM: William M. Dean, Chief
 Regional Support and Oversight Section
 Operator Licensing Branch, DLPQ, NRR

SUBJECT: SIMULATOR SCENARIO ASSESSMENT METHODOLOGY

In a memorandum to William Russell, dated January 1, 1991, Jack Roe committed that the Operator Licensing Branch (OLB) would evaluate selected simulator scenarios administered by the five Regional Offices in an effort to determine the degree of inter-regional consistency.

The Regions have already submitted simulator scenarios for most of the examinations identified for review by LOLB, and the Regional Oversight Section has developed a methodology for evaluating the scope, depth, and complexity of the selected scenarios. In an effort to minimize the potential for individual examiner biases affecting the outcome of the study, I have decided that each scenario would be evaluated by a three-person panel, chaired by a senior license examiner. The assessment methodology, which is provided as an attachment to this memorandum, uses the existing Examiner Standard checklists as its foundation.

I have assigned John Munro, who is certified on both pressurized and boiling water reactors, to take the lead on the scenario reviews. He will be assisted by other certified examiners on the LOLB staff and by up to two contract examiners, whose support has been requested for the first two weeks of February.

William M. Dean, Chief
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 Operator Licensing Branch, DLPQ, NRR

Enclosure:
 As stated

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SIMULATOR SCENARIO ASSESSMENT METHODOLOGY

The simulator scenarios should be maintained in sets as they were administered to the operators. Each scenario set will be reviewed by a panel of three examiners of which at least two shall be certified on that vendor type. The following items should be evaluated for each scenario set. Rev. 5 and Rev. 6 scenarios should be evaluated separately, where possible.

REQUAL SCENARIOS

1. Complete a "Simulator Scenario Review Checklist" (Form ES-604-1) for each scenario. [Use the appropriate revision of the checklist, Rev. 5 or Rev. 6, depending on when the scenario was developed. The checklist should be modified as appropriate to record some of the data discussed below.]
2. Review the ISCTs for each scenario set:
 - Record the planned number of ISCTs for each operator on a scenario set basis.
 - Evaluate the ISCTs to determine if they meet the four elements in the Rev. 6 methodology. Do they justify examination failure and removal from shift? [Compare the Rev. 5 and Rev. 6 exams as a group to see if there is a discernable change in the ISCT threshold.]
 - Are all the ISCTs designated for individual crew positions or are some of them "crew" critical or multiple-operator oriented?
3. Evaluate each scenario for scope and complexity (see Form ES-604-1):
 - Determine the number of events / instrument or component malfunctions / pre-existing out of service conditions. Did the malfunctions have a bearing on the outcome of the scenario or were they put in as distractions? What was the mix of events / evolutions (normal, abnormal, component, instrument, major)? Were multiple events activated simultaneously? Were symptoms of malfunctions evident to the operators or were they masked by other failures?
 - Is sufficient time allowed for the events to unfold and the operators to respond and perform the ISCTs. How long did the scenario run?
 - How many different EOPs had to be entered during the scenario? How many EOP transitions were required? Was there variety in the level and depth of EOP usage in each scenario set?
 - Did the scenario challenge any critical safety function? Were functional recovery procedures required? Were there any EOP expected responses not obtained?
 - Did the scenario have a success path and a logical endpoint?

- How many E-plan classifications / reclassifications were required as the scenario unfolded?

INITIAL EXAM SIMULATOR SCENARIOS

1. Use simulator scenario review checklist Forms ES-301-7/8 for each scenario. Were all competencies and required evolutions covered for the scenario?
2. Use the paragraph 3 analysis from the requal scenario evaluation.
3. Did the scenarios evaluate the candidates over a variety of systems within each type of event ?
4. Were events involving EOP usage balanced to allow each applicant to demonstrate competency across a range of conditions (see page 13 in ES-601, last paragraph)?
5. How detailed were the Form 4's in providing expected operator actions? Were applicable procedural excerpts provided? Were actions / behaviors that would provide a useful basis for evaluation included?