

## SummerRAIsPEm Resource

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# DRAFT RAI

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Request for Additional Information pursuant to the VCS request for a Commission Approved Simulator

## Requirements

10 CFR 55.46(2) – *The commission will approve a simulation facility or use of the plant for administration of operating tests if it finds that the simulation facility and its proposed use, or the proposed use of the plant, are suitable for the conduct of operating tests for the facility licensee's reference plant under 10 CFR 55.45(a).*

10 CFR 55.45(a) – *The operating tests administered to applicants for operator and senior operator licenses in accordance with paragraph (b)(1) of this section are generally similar in scope. The content will be identified, in part, from learning objectives derived from a systematic analysis of licensed operator or senior operator duties performed by each facility licensee and contained in its training program and from information in the Final Safety Analysis Report, system description manuals and operating procedures, facility license and license amendments, Licensee Event Reports, and other materials requested from the facility licensee by the Commission. The operating test, to the extent applicable, requires the applicant to demonstrate an understanding of and the ability to perform the actions necessary to accomplish a representative sample from among the following 13 items.*

The Table below contains simulator deficiency reports that the staff has screened as significant. They are associated with each 10 CFR 55.45 criterion that the staff thought applicable. Consequently some deficiencies are repeated.

Please provide a detailed assessment of the significance of each deficiency as it applies to the 55.45 criterion. The Basis column of each table provides specific areas that the assessment should include.

In some cases question marks replace written information. These cases represent deficiencies that the staff did not understand or deficiencies that were not described sufficiently to draw conclusions on significance. Please explain these deficiencies in more detail in addition to assessing the deficiency significance.

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**10 CFR 55.45(a)(1): Perform pre-startup procedures for the facility, including operating of those controls associated with plant equipment that could affect reactivity.**

Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-55	Prompt jump does not occur immediately upon rod withdrawal/insertion	Yes	Creates a false indication associated with reactivity manipulations. Potential negative training on an important parameter.
VC-TO-56	Turbine Control valves are open [ ] <sub>a,c</sub> looking at the signal diagrams, but indicating [ ] <sub>a,c</sub> on graphic [ ] <sub>a,c</sub> . OPS should not be forced into a signal diagram to get a value needed for any procedure.	Yes	Knowledge of CV position is necessary early in E-0 (RNO step) to ensure the Main Turbine is tripped if all the MSVs are not closed and for shell and chest warming activities.
VC-1411-15	Source range counts rise in increments of [ ] <sub>a,c</sub>	Yes	Introduces potential unaccounted for failure mode that operator must respond to in addition to planned exam scenario
VC-1411-09	Inconsistent non-urgent failure alarms on loss of ES-1	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-24	Frequent invalid yellow path on sub-criticality safety function alarm	Yes	Defeats purpose of safety function alarm (high awareness and potential necessary response to safety function challenges)
VC-1503-30	[ ] <sub>a,c</sub> post reactor trip, a positive startup rate was observed, subsequently returning to normal	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1504-06 (Not on docketed list)	Alarm setpoint of the rod insertion limit for bank M2	??	??Description not sufficiently complete to assess significance??

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**10 CFR 55.45(a)(2): Manipulate the console controls as required to operate the facility between shutdown and designated power levels.**

Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-09	[ ] <sub>a,c</sub> returns "BAD Q" data points	Yes	Could force exam scenario into undesired sequence (manual calc). Also needed to support JPM
VC-TO-40	During plant C/D and H/U the subcriticality CSF title block is turning magenta (bad input) intermittently	Yes	Creates a false indication associated with reactivity manipulations.
VC-TO-45	Rods are rejecting to MANUAL ~25% of the time when there is a power loss to Incore instrumentation PROCESSING CABINET 1 or 2. From a [ ] <sub>a,c</sub> power condition, after power loss to either cabinet, corrected Rx Power points (PC-PRPP-COMP-A [ B,C,D ]) are driven down to [ ] <sub>a,c</sub> before returning to normal. Rods move rapidly OUT then IN in response to this event when they don't reject to manual.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario. The rapid rod movement specified is more significant than shifting to manual.
VC-TO-54 VC-TO-58 VC-TO-88 VC-1502-11	This SDR expands upon previously identified problems with [ ] <sub>a,c</sub> issues. Previous feedwater SDRs have FW control problems during RX Startup and also at low power conditions affecting MFW/SFW transfer during startup. Previous SDRs on [ ] <sub>a,c</sub> /Rod performance after Incore Instrumentation System (IIS) server power losses and corrected RX power at >100% steam flow conditions. This SDR expands these issues to include:	Yes	Multiple problems could trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario. They would also place unplanned and probably unreasonable workload on the operators.

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Deficiency No.	Deficiency description	Significant?	Basis
	<p>1. Variations in the timing for the transfer from MFW to SFW control valves during re-runs of tests where a Rapid Power Reduction actuation occurs without operator action.</p> <p>2. While software modifications have significantly reduced the frequency of Rods Rejecting to Manual, inconsistencies in rod response (documented on other SDRs) persist, including cases where AO Rod movement and Urgent Failures occur.</p> <p>3. SGWLCS control degrades significantly as reactor power is lowered. This results in control system induced oscillations in many transients where reduction in reactor power or a reactor trip occurs. The timing and characteristics of these oscillations may be very sensitive to minute differences in initial conditions. These effects can propagate back to the primary side and may cause differences in test results directly or indirectly by influencing Control Rod response.</p>		
VC-TO-55	Prompt jump does not occur immediately upon rod withdrawal/insertion	Yes	Creates a false indication associated with reactivity manipulations. Potential negative training on an important parameter.
VC-TO-89	A rx trip recovery startup to 100%, a hotwell level low alarm came in during the ramp up without apparent cause.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.

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Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-93	Time to Boil values in Mode 5 at 190F were BAD Q but seemed reasonable values. During a Loss of RNS, as temperatures increased the TTB values went Good Quality, but the value went to 1.00 E7. This happened as Tcold exceeded 202F	Yes	Common job performance measure
VC-TO-96	Malfunction TOS02, Turbine Trip Failure, has "future" information in the Cause and Effect info. "In More Current Baselines"...the PLS will [ ] <sub>a,c</sub> That feature is not functional in BL7 and should be removed from the TOS02 C&E document for this baseline.	Yes	Potentially disrupts operational analysis, decision making and action
VC-TO-101 VC-TO-104	It has been noted that sometimes the control rods reject to manual for no known reason. This past weekend the simulator was left in run at 100% power (rods in auto) and ran for the entire weekend. On Monday morning the rods were noted to be in manual. This has been noted before but it does not appear to be connected to any specific operation."	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-TO-120	Identified and unidentified leak rate always indicates bad quality	Yes	Potentially disrupts operational analysis, decision making and action
VC-TO-128	MSR valve response during shutdown is incorrect and causes an undesired RCS temperature transient.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1411-03	Unexpected Main Turbine System alarm at [ ] <sub>a,c</sub> power	Yes	Could force exam scenario into undesired sequence

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Deficiency No.	Deficiency description	Significant?	Basis
VC-1501-08	Rod control urgent failure on loss of EK-12. Appears inconsistently without loss of power	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1502-10	AO rods move inconsistently between tests.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-03 VC-1503-04	RCS wide range pressure dropped from 1400 to 700 psig then stabilized. No action taken for 13 min prior to pressure drop	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-22	The MCR fire control panel is not modeled on the simulator	?	?? Are control manipulations and/or verifications done from this panel or is it indication only??
VC-1503-24	Frequent invalid yellow path on subcriticality function.	Yes	Defeats purpose of safety function alarm (high awareness and possible response to safety function challenges)

**10 CFR 55.45(a)(3): Identify annunciators and condition-indicating signals and perform appropriate remedial actions where appropriate.**

Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-97	User Defined Alarm Limits do not clear on RESET of an IC. They stay at whatever value an operator has placed them in a previous training session. The event is not captured in any "action" log so it will be very	Yes	Possible challenge to exam security as well as potentially disrupting operational analysis, decision making and action



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Deficiency No.	Deficiency description	Significant?	Basis
	difficult for an instructor to keep track of which limits are changed and restore them to default. (and limiting on students if it is not allowed).		
VC-TO-117	The current high setpoint/deadband combinations for containment radiation alarms do not allow for the high-1 and high-2 alarms to clear. The alarm reset values are above the alarm setpoint values and will not work correctly	Yes	Alarm function supports event diagnostics
VC-TO-134 Orig. list duplicates this deficiency #	When the Map and Migration Tools are set up so that each individual datalink has a unique entry in the configuration, the digital alarm points respond incorrectly when datalink failures are inserted. If a failure is inserted on the last datalink listed in the AsvDataLinks.xml file from the datalink package, all of digital alarm points will go into alarm. If a failure is inserted on any other datalink in that AsvDataLinks.xml file, none of the digital alarm points will go into alarm. The expected response is that only the digital alarm point associated with that datalink will go into alarm when a datalink failure is inserted.	??	??
VC-1411-03	Unexpected Main Turbine System alarm at [     ]a,c power	Yes	Could force exam scenario into undesired sequence
VC-1411-08	Can't open Signal Diagrams from an alarm history in APS. The cbViewer opens but nothing is there	?	?? Is this needed for diagnostics??

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Deficiency No.	Deficiency description	Significant?	Basis
VC-1411-09	Inconsistent non-urgent failure alarms on loss of ES-1	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1411-11	Several tests have resulted in PMS division fault alarms. No way to tell if alarms are valid or if the correct input caused it.	Yes	The simulator exhibits inexplicable panel indications during the evolution execution. Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1411-13	WPIS-4 (APS Secondary Display) - is "shaking", not totally cutting out but it does have a distracting connection.	??	??How bad is the shaking? Does it interfere with the ability to reliably read indications??
VC-1501-08	Rod control urgent failure on loss of EK-12. Appears inconsistently without loss of power	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-16 VC-TO-129	Alarm response after certain events is difficult due to the number of alarms that are received, over 2 thousand in some scenarios.	Yes	Alarms place unplanned and probably unreasonable workload on the operators. Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.

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Deficiency No.	Deficiency description	Significant?	Basis
VC-1503-31	No alarm is received for [ ] ]a,c	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1504-03 (Not on docketed list)	"[ ]a,c" light on Mode 5/6 Critical Safety Function Status Tree" for Mode 5/6 does not update to green when RCS Temperature is stable for [ ]a,c	Yes	Potentially disrupts operational analysis, decision making and action

**10 CFR 55.45(a)(4): Identify the instrumentation systems and the significance of facility instrument readings.**

Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-16	Setpoint for the WLS Degassifier air pumps (WLS-V028A and V028B) are set to [ ]a,c in turnover IC. This value was not enough to maintain constant letdown flow of [ ]a,c gpm. Degassifier level was cycling at High-1 Setpoint of [ ]a,c causing LTDN valves to close until level alarm cleared.	Yes	Potentially disrupts operational analysis, decision making and action
VC-TO-28	[ ]a,c do not reflect what is shown on PMS Node Boxes.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-TO-51	RCS-101 calls for checking Variable Frequency Drive transformer temperatures prior to closing CCS-V500. Points don't appear to be available.	Yes	Cannot complete procedural direction due to missing indication.

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Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-56	Turbine Control valves are open [ ] <sub>a,c</sub> looking at the signal diagrams, but indicating [ ] <sub>a,c</sub> on graphic 50211. OPS should not be forced into a signal diagram to get a value needed for any procedure.	Yes	Knowledge of CV position is necessary early in E-0 (RNO step) to ensure the Main Turbine is tripped if all the MSVs are not closed.
VC-TO-75 VC-TO-76	VRS monitor and VHS monitor go up by [ ] <sub>a,c</sub> decades in [ ] <sub>a,c</sub> minutes on a loss of process flow. This gives a pri 1 alarm and leads to an unnecessary entry into AOP.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-TO-102	The purpose of this RITS is to evaluate the calculation of the BEACON operability Ovation points within the reactor core model. There is concern that the fidelity of the current calculation is sufficient for training purposes. During failure testing of the BDP application a potential situation was noted relative to the operability status points and how it is calculated. Failure of the BDP application causes the manual override signal originated by BDP to have BAD quality. The BAD indication is passed through the BEACON operability calculations in the PST application and appears on the OPDMS displays as ""operable"" but with BAD quality. Failure of the BDP application should cause BEACON to be inoperable via the logic in BEACON input processing. As part of the investigation of this issue a concern was raised as to how the reactor core model calculates the BEACON	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.

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Deficiency No.	Deficiency description	Significant?	Basis
	operability points. The reactor core model currently simulates all BEACON / BEACON datalink outputs. The real BEACON executables have logic that is used to determine operability that is based on tech spec requirements.		
VC-1409-1	Wall Panel Indication System trends went blank	Yes	Potentially disrupts operational analysis, decision making and action
VC-1410-11	Random DAS indications showed FAULT and then returned to normal within a few seconds. OPS crews have reported a few instances of the same thing	Yes	Potentially disrupts operational analysis, decision making and action
VC-1411-06	Calorimetric power data points do not have required precision.	Yes	Common job performance measure
VC-1411-10	WPIS 9 developed an orange tint on the entire screen.	??	?? Does the orange tint affect readability?
VC-1501-10	Steady state testing indicated SG press, TB 1 <sup>st</sup> stg press, and RCS loop flows were out of tolerance. Cause is believed to be RCS Flow in the simulator below what is assumed in the design.	Yes	The simulator exhibits a mass/energy imbalance in violation of ES-302
VC-1501-05	MB and MC rods are reversed on Graphic 1805	Yes	Potential to confuse rod drop diagnosis particularly if this is primary indication
VC-1502-16	The MWt point provided by WEC to be used in all Steady State tests is DDS-PPP11-AVO. Ovation Point Information is able to display this point with a value, and the point is able to be queried and added using both JRTT and MP tools on JStation but no value is displayed, rather a "-".	Yes	Parameter designated for use in tests. It is unclear how tests were completed sat without the indication.
VC-1503-17	Manually tripped the reactor following indication that shutdown bank 3 indicated 265 steps.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the

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Deficiency No.	Deficiency description	Significant?	Basis
			exam scenario.

**10 CFR 55.45(a)(5): Observe and safely control the operating behavior characteristics of the facility.**

Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-15	Jstation Monitored Parameter display does not update at times. During a RCS Boration we were monitoring RCS boron and it showed no change after a 500 gallon boration.	??	??Is this simulator feature used to support exams?? There are a number of deficiencies that follow that we think are support functions for the simulator operator. It is not clear which are needed to ensure scenarios run as designed and which are informational. We have personnel with simulator expertise evaluating these deficiencies but will not have their results within the time we committed to issue this RAI.
VC-TO-27	Jstation JRTT function is very sluggish at times, both when accessing a previously built TREND or adding points to an open TREND file. This condition seems to get worse each day the simulator is running.	??	??Is this visible to the operators?
VC-TO-31	When SLIDING from 100 to 0% on Jstation LOA for valve operation popups, the Slide Left Value is not "0" in several instances. On several LOAs the value goes to an exponential value (2.75855e-12 for example) and shows that value on feedback	??	??Is this simulator feature used to support exams??
VC-TO-41	1- hour heatup rate not on graphic	Yes	This indication is operationally significant in that operators could potentially violate Tech Spec Heat Up Rate limits.
VC-TO-63	SGWLC at 90% Power not Stable. Heat balance at 90% could not be performed. SG total FW flow was BAD Q due to FRV oscillations	Yes	Affects job performance measure. Simulator exhibits a mass/energy imbalance.

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Deficiency No.	Deficiency description	Significant?	Basis
	subsequent failure on any instrumentation or components used in the non-affected PMS divisions would force associated PLS control systems into MANUAL. (noted as a plant design issue)		
VC-TO-100	Jstation sometimes remains OPEN when Stop Trainer is performed from the ISS. Trainer does stop (based on Ovation and PMS indications). Jstation windows do not close. The ISS was rebooted and a Start Trainer command was issued. It flashed up a command window which immediately closed and trainer did not start. The P drive had a red X on it when viewed...once you clicked on it the red X went away. Start trainer was then done successfully	??	??Is this simulator feature used to support exams??
VC-TO-102	The purpose of this RITS is to evaluate the calculation of the BEACON operability Ovation points within the reactor core model. There is concern that the fidelity of the current calculation is sufficient for training purposes. During failure testing of the BDP application a potential situation was noted relative to the operability status points and how it is calculated. Failure of the BDP application causes the manual override signal originated by BDP to have BAD quality. The BAD indication is passed through the BEACON operability calculations in the PST application and appears on the OPDMS displays as ""operable"" but with BAD quality. Failure of the BDP application should cause BEACON to be inoperable via	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.



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Deficiency No.	Deficiency description	Significant?	Basis
	the logic in BEACON input processing. As part of the investigation of this issue a concern was raised as to how the reactor core model calculates the BEACON operability points. The reactor core model currently simulates all BEACON / BEACON datalink outputs. The real BEACON executables have logic that is used to determine operability that is based on tech spec requirements.		
VC-TO-108	DDS01A/B currently do not function	??	??
VC-TO-109	WPNS and ROPCS Configuration files incorrect	??	??
VC-TO-110	The Monitor Parameters (MP) display on the JADE Instructor Station stops updating on unselected tabs after about 2 minutes.	??	??Is this simulator feature used to support exams??
VC-TO-114	Ovation CLF names on the ISS do not match the cause and effect names	??	??Is this simulator feature used to support exams??
VC-TO-115	The following component level failures as defined by APP-STS-J4-025 could not be found on the simulator to verify the C&E had been correctly loaded and available at the instructor station. [	??	??

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Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-121	It seems that it is possible for the tcpip command memory mapper program to stop working, but the executable still shows up in task manager. There appears to be no log files generated from it and there is no way to tell that it stopped functioning other than points assigned to controllers do not time out when the controllers are failed. It was also noted that there was not a TCP Command Memory Mapper option in the TRAC system to create a TRAC issue for this.	??	??
VC-TO-122	On PMS displays, divisions C and D the circled box does not ever get an X in it. [  ] <sub>a,c</sub> ). As noted by the customer on the simulator, having this box on these divisions when it is not driven does not make sense and could lead to an error likely situation.	Yes	The deficiency states it can lead to an error likely situation
VC-TO-123	When attempting to view an SBT "history" report on the PMC station, it is observed that all open JADE windows close (Jade crashes) and JStation needs to be restarted on the PMC. This does not occur when viewing SBT history reports on the ISS.	??	??Is this simulator feature used to support exams??
VC-TO-124	"HART modem" CLFs can be found on the simulator when they should not be there. [	??	??

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Deficiency No.	Deficiency description	Significant?	Basis
	]a,c		
VC-TO-125	“Profibus port failure” CLFs can be found on the simulator that should not be there. [	??	??
	]a,c		
VC-TO-130	The power-on-connections file for VX80B has the wrong destination port for the WPIS Repeater, it should be 50, not 59.	??	?? Is this simulator feature used to support exams??
VC-TO-132	On SDS-4 on 6/25/2014 after having placed the simulator in FREEZE at 23:54 real time (as indicated on the ISS) a backtrack was performed. The backtrack IC reset into had a real time of 22:07 as indicated on the ISS. Once the simulator was reset into the backtrack IC and placed in RUN, it was observed that the time displayed on Ovation indicated 04:03 6/26/2014. This was unexpected. It is noted that the simulator was continuously running the duration of the shift and that the only simulator reset performed prior to backtracking was at the start of the shift (at 15:00).	??	??

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Deficiency No.	Deficiency description	Significant?	Basis
VC-TO-133	Upon rebooting drop160 to clear out and restart the historian, a number of pointnames of the type DROP* show up as Invalid. These drop points should not exist on the simulator since they are for drops that we do not have on the simulator due to the simulation of their logic. However, it does not seem appropriate for them to show up as "Invalid Pointname DROP*" in the Ovation Error Log on drop160, since they shouldn't be there in the first place.	??	??
VC-TO-138	he instructions in APP-STSGEY-013 Rev 1 need to be modified to reflect the following change: Section 4.7.3, Step 7 (E0 and E1 Attribute Update Script) should be performed after Section 4.7.4, Step 7 (Load all drops – First Time). In addition, another step should be added to Section 4.7.3 after Step 7.e (Searching for Errors in the log file). The new step should be “Confirm all of the intended point fields were updated by searching the file for the line “0 rows updated”. Step 7.f should be updated to say “If there are errors or rows that were not updated...”	??	??

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Deficiency No.	Deficiency description	Significant?	Basis
VC-1409-2	JRTT points did not collect if they were not model variables. Any point using OVA or DAI/DDI, etc inputs did not have good data. (Instead they read 3.4028235E+38) The same tests were run the previous day and worked ok. Any test that had NO model variable in the .tvl file had NO data collected. If the file had ONE model variable it was collected correctly and the others were 3.4028235E+38	??	??
VC-1409-6	During overnight testing an EXEC FAILURE occurred. MALF-3-7, Loss of ES-2, was in progress, FAIL occurred at 6:04 point.	Yes	A freeze state occurs during a scenario, or a "Beyond simulated limits" alarm is received on the instructor's station
VC-1412-02	Simulator out of bounds: trigger 13 caused event	Yes	A freeze state occurs during a scenario, or a "Beyond simulated limits" alarm is received on the instructor's station
VC-1501-03	During performance of AP-MALF-03-6, Loss of ES-1, VCS Fan C does not start. [	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1501-09	Middle of life and end of life Initial Conditions have decay heat reflective of BOL. Core testing limited to BOL until complete rx physics data provided	Yes	Creates a false indication associated with heat removal. Potential negative training on critical task.

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Deficiency No.	Deficiency description	Significant?	Basis
VC-1502-02	Simulator out of bounds: S-115 in progress, activated trigger 2 when Out of Bounds occurred.	Yes	A freeze state occurs during a scenario, or a "Beyond simulated limits" alarm is received on the instructor's station
VC-1502-04	During run of AP-MALF-10-1 (71 min version) retest, an EXEC Failure occurred. SIM was reset and same test ran without a problem. The same test has been run on both simulators without issue, this test was only being run to look at additional datapoints.	??	??Is this simulator feature used to support exams??
VC-1502-05	During run of AP-OPS-T-010, a MAXPP sim STOP occurred. SIM was reset and same test ran without a problem. The same test has been run on both simulators without issue, this test was only being run to look at additional datapoints.	??	??
VC-1502-08	While training using IS-109, PZR Level went down in 2 of 3 training scenarios with the leak through the PZR safety. Actions prior to Failure - They had just started ramping down at [ ] <sub>a,c</sub> mw/min.	Yes	This indication would be contrary to expected physical principles. Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1502-09	While doing a demo, a steam leak was placed in by lifting several SG Safety valves and no operator action taken. Over power control permissives did not respond as designed. WEC was able to reproduce this event and according to the CR has no response at this time.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.

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Redacted Version

Deficiency No.	Deficiency description	Significant?	Basis
VC-1502-10	AO rods move inconsistently between tests.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1502-12	Pressurizer Water Level response during Safety valve malfunctions has variations in tests where a PZR Safety valve is opened, PZR Water level response is correct in direction and magnitude, but show inconsistencies in timing of maxima and minima.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1502-13	During Load Rejection events, Load Unbalance response is inconsistent causing noticeable deltas in several key parameters. These test deltas were previously attributed to the Rods to Manual issue (VC-TO-101). After multiple test runs where initial rod response was correct, some deltas were still occurring and further testing revealed that Intercept Valve response is inconsistent.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-03 VC-1503-04	RCS wide range pressure dropped from 1400 to 700 psig then stabilized. No action taken for 13 min prior to pressure drop	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.

## DRAFT RAI

Redacted Version

Deficiency No.	Deficiency description	Significant?	Basis
VC-1503-16	Alarm response after certain events is difficult due to the number of alarms that are received, over 2 thousand in some scenarios.	Yes	Alarms place unplanned and probably unreasonable workload on the operators. Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-18	An Axial Flux Difference spike periodically will cause rod control for the M and AO rods to shift to manual. The issue has repeated itself during simulated surveillance activities	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1503-19	E-1 Fold Out Page logical ties are not made in Computerized Procedure System. So when in E-1 and criteria are met per the FOP they never actuate.	Yes	Potentially disrupts operational analysis, decision making and action
VC-1503-33	TCS heat transfer characteristics through the H2 coolers are unrealistic. At 50% turbine power the H2 cooler TCV was fully closed, in automatic. Also, the EHC coolers had zero flow demanded, causing TCS high discharge pressure and low flow alarms.	Yes	Could force exam scenario into undesired sequence and trigger component failure assessment(s) and/or operator responses which would add undesired complexity/distractions to the exam scenario.
VC-1504-01 (Not on docketed list)	APS "Instrument Air" tile has no points assigned to it	Yes	Potentially disrupts operational analysis, decision making and action