

PV-2015-04 - DRAFT OUTLINE COMMENTS
(with PVNGS response - sent to NRC on 9-29-14))

Facility: PVNGS

First Exam Date: 4/13/2015

Written Exam Outline (Sep 2, 2014)		
	Comment	Resolution
1	(RO/SRO) Since NRC submitted Rev 0 to PV and Rev 0 was received from PV in the Integrated Outline submittal (title of file was Rev 1 but footer of document has Rev 0), is it correct that no changes have been made to either RO or SRO written exam outline and the ES-401-4 forms either require no changes or the change(s) have not yet been incorporated?	Revision 0 is correct. When rejected K/As are approved by the CE, Revision 1 will be issued.
2	(RO/SRO) Landscape format okay but each page must have a page number and Tiers and Groups need to be identified.	Understood.
	(RO) On ES-401-4: Discuss with Chief Examiner prior to changing the KA of either Q31 or Q32. (Several systems in Tier 2/Group 1 have two questions since 28 questions required in this group.)	Will discuss with CE prior to rejecting K/A.
3	(SRO) ES-401-4: Do not replace Q6 without an attempt to locate a substantive report made by PV to the grid operator. Contact the Chief Examiner prior to making this rejection.	Will discuss with CE prior to rejecting K/A.
4	(SRO) ES-401-4: Do not replace Q8 prior to discussing with Chief Examiner. Need to discuss PV indications available for power in the intermediate range.	Will discuss with CE prior to rejecting K/A.
5	(SRO) ES-401-4: Do not replace Q14 without an attempt to write an SRO level question – look at ESD event with RCS temp control following dryout or SGTR event with SG press control. Contact the Chief Examiner prior to making this rejection.	Will discuss with CE prior to rejecting K/A.

Administrative JPM Outline (Sep 2, 2014)		
	Comment	Resolution
1	(RO/SRO) Ensure original JPMs are submitted with DRAFT exam submittal so level of modification can be determined. Identify what NRC exam the original JPM was administered.	Original JPM will be included and source NRC Exam has been annotated.
2	(RO) If reasonable, develop a JPM for RO responsibility in the PV Emer Plan. This would replace Rad Con topic JPM.	ROs at PVNGS have no specific E-plan duties, other than being one of the board operators. A new Operations Department Practices (ODP-31) has been issued. We are still evaluating the scope and extent of its effect on the duties and responsibilities of ROs.....
3	(RO) For A3 – the tagout needs to be prepared on a different system than the one used for the 2012 NRC exam. Tagout should include both mechanical and electrical components.	Tagout for 2012 exam was for HPSI. The tagout for 2015 exam is for DW – different system. Electrical and mechanical components are included.
4	(RO) The summary for A4 states “the SRO” – typo? Looks very similar to 2013 SRO admin JPM.	Corrected typo. May be similar, but this is a modified JPM – not taken directly from 2013 exam.
5	(SRO) The document has 3 pages, with pages 2 and 3 nearly the same. Looks like page 2 should be deleted.	The PDF submitted was compiled from multiple documents. Rev 1 will not contain duplicate information.
6	(SRO) The summary for A7 (on page 2) is exactly the summary for A3, Tech Review of Clearance Tag Assignment, including the word “RO.” The summary on page 3 has “SRO” and has additional verbiage.	Page 2 was inadvertently included in the submittal. It appears as though page 2 was in an interim state of revision (cut-n-paste from RO summary). Rev 1 will not contain this information. The summary on page 3 is the correct version.
7	(SRO) The summaries for A4 and A8 (on page 2) are identical. The title on the SRO Form 301-1 includes “and Determine Who Makes Entry” but looks like the summary wasn’t changed to reflect the added SRO task.	The original intent was to use the Radcon JPM as a common JPM for ROs and SROs. Since the NUREG does not require all admin JPMs be different for ROs and SROs, the Chief Examiner provided his expectations. The summary for SRO A8 has been updated to reflect the additional SRO responsibility.

Administrative JPM Outline (Sep 2, 2014)		
	Comment	Resolution
8	(SRO) A9 on the last 2 NRC exams appear to be the same task as this exam – classify an event and make PARs. While the Direct from bank JPM is allowed, the task is becoming predictable. Discuss with the Chief Examiner on developing a NEW task related to the EP. Does PV have a toxic gas or chemical Emer Plan?	Would like to discuss further during subsequent telecons with CE.
9	(SRO) Identify JPMs like the RO – A5, not A-5; either format is fine if the same.	RO and SRO JPMs now designated consistently (without dashes)

Control Room / In-Plant System JPM Outline

(Sep 2, 2014)

Comment		Resolution
1	S1 – change title on form to match title on summary page: CIAS Actuation/Verification	Titles changed on all 301-2s.
2	S2 – what is the reference for the time critical portion? Is it a time period specified in a regulation or a facility commitment to the NRC? It needs to be identified in the body of the JPM and specifically validated (per Appendix C).	Time Critical nature is described in the body of the JPM and incorporated into the Task Standard. This task has been time-validated.
3	S3 – why not designate this JPM as “L” like S4 since they will be performed simultaneously?	Although this JPM is run simultaneously with a low power JPM, this JPM is not dependent on low power conditions. The actions for this JPM are identical whether the task is performed at power or in Mode 5.
4	S5 – Does the RO need specific direction (cue) to perform the ARP or should they conclude that on their own?	For this JPM, since it begins with the alarm already in, we felt it was appropriate to cue the RO to respond IAW the ARP.
5	S5 - Ensure original JPM is submitted with DRAFT exam submittal so level of modification can be determined. Identify what NRC exam the original JPM was administered.	Original JPM was from 2010 NRC Exam and will be included in the exam material submittal. This is now identified in the JPM Summary.
6	S5 – on 301-2 form, Type Code column, the KA is 027AA.01, not A.01.	K/A corrected.
7	S6 – repeat from 2012 NRC exam. However, it was identified as L,D,A and for this exam it's neither L or A. How possible?	This JPM is not dependent on low power conditions. The actions for this JPM are identical whether the task is performed at power or in Mode 5. In 2012, the Chief Examiner accepted this as an Alternate Path JPM, but he considered it a “weak” one. We have elected to remove the Alternate Path designation.
8	P1 - what is the reference for the time critical portion? Is it a time period specified in a regulation or a facility commitment to the NRC? It needs to be identified in the body of the JPM and specifically validated (per Appendix C).	Reference (40OP-DG02 [OP]) is now included in body of JPM.

Control Room / In-Plant System JPM Outline

(Sep 2, 2014)

Comment		Resolution
9	P2 – Under Type Code – Why is A16, Excess RCS Leakage identified for KA? Why is SF 1, Reactivity Control, identified?	K/A changed to 3.1 004 A2.14, Emergency Boration (3.8/3.9). This is more consistent with SF 1.
10	P2/P3 – on RO ES-301-2, P2 and P3 are swapped (P2 is P3,P3 is P2).	Corrected on Rev 1.
11	P3 – does PV have a mock up of the AFW pump overspeed trip mechanism that would allow a hands-on JPM?	PVNGS has a mockup. We would like to discuss this further with the CE.

Simulator Scenario Outline Comments (Sep 2, 2014)		
	Comment	Resolution
1	All – add a third column to the Critical Tasks table: References. Populate with all Licensing Basis documents or procedures or CEOG CT list (see example below).	3 rd column added. Where applicable, populated with reference to CE CT list, PVNGS CT list, and bases documents.
2	All – simply D-1's by moving all detail to the summary. (See markup of Scenario #1) All info in brackets can be removed from the D-1. Open to discussion with Chief Examiner.	All details moved to Narrative Summary.
3	All - CREW HANDOUT / TURNOVER – why both copies when they are identical? Also, several editorial comments to be discussed during phone discussion. (see attached)	Redundancy removed – now only a Turnover. Editorial comments incorporated.
4	All – identify the CEOG CT number for all Critical Tasks and record in third column.	CE CTs identified where applicable.
5	All – provide a list of all events that are repeats from the 2012 and 2013 NRC exams.	List provided at the end of this response.

Scenario 1

Comment		Resolution
1	Event 3 – transfer actions are performed by the RO? Limit the prompts given by the Booth Operator to only those identified in the procedure. Does the CRS have the procedure with Operator Action 4 in the Control Room?	RO will perform the actions. Prompts for AO are limited to those specified in the ARP. Control Room has a copy of the local alarm response procedure.
2	Event 5 – what if applicants screw up Event 1? Can Event 1 set something else besides MFP trip? SBCS has steam pressure setpoint at power? If we expect Boron equalization, add the RO to Event Type column.	If an applicant fails to properly return RPCB to service in Event 1, the crew would have to manually initiate the RPCB in Event 5. Event 1 “sets” both MFP Trip and Large Load Rejection. “RO” added to Event Type column.
3	Event 7 – summary should describe expected operator actions so either indicate that FRP will be selected or delete the discussion from this event. Also, if it is expected that any SF will require contingency action, it would be identified (notsay “if required”).	In Narrative Summary, removed discussion about implementation/actions of Loss of Vacuum AOP. Level of details in D-2 can be determined during NRC Validation Week or after submittal of exam materials. Currently, ARP and AOP steps are included (up to the point of Rx Trip). In the D-2, if any step in the SPTAs requires a Contingency Action, the CA is addressed as a separate line item.
4	Event 8 – termination criteria not correct. Event 9 is not Attachment 6 OBDI 202 – IOLE Process Rev 0 contingent on Chief Examiner initiation.	“OR at the discretion of the Lead Examiner” termination criteria used instead. Don’t understand “Attachment 6 OBDI 202 – IOLE Process Rev 0”
5	Event 9 – if loss of AFN-P01 occurs at Step 9, how does CRS “redialnose” the event since he hasn’t diagnosed it yet? Is the CRS expected to start SPTAs over at Step 1 or Step 7, RCS Heat Removal?	CRS initially diagnosed the event when he/she transitioned to 40EP-9EO02, Reactor Trip. After the initial diagnosis and transition to 40EP-9EO02, the LOAF occurs, which requires rediagnosis. The CRS is not required, or expected, to re-enter SPTAs.
6	Event 9 – Is the Operations Director/Unit Manager okay with a CRS that goes to EO06 first? Has someone asked Operations Department management about their expectation of a “competent operator?”	An Operations Manager was involved with the initial “validation” of this scenario. He concurred that transition to either 9EO06 or 9EO09 was acceptable.
7	Add an “END POINT” to the summary like Scenario 2 has.	“END POINT” added.

Scenario 2

	Comment	Resolution
1	For Critical Task "Start CS Pump "A" prior to exiting the SPTAs" – the use of procedure transitions for CT's was identified during 2013 NRC exam. PVAR 4476152 was written to address this issue – what was the resolution to the PVAR? Is this practice allowed?	PVNGS considers it an acceptable practice to link CTs to procedural steps. The station maintains an Ops-approved CT list. Although used primarily for LOCT, these CTs sometimes form the bases for specific CTs developed for the initial licensing exams. Several of the LOCT CTs contain bounding criteria such as "prior to exiting the SPTAs" or "before exiting Step XYZ."
2	For Critical Task "Control primary and secondary systems..."the justification contains other limitations than just lifting primary safeties – why not include these in the CTstatement? (solid PZR, PTS, Post-Accident P/T Limits)	CT has been reworded. Included solid PZR and Post-Accident P/T Limits (Standard Appendix 2, Figures).
3	Event 6 – why not split event into two separate events since there are two separate component failures?	Event 6 split as suggested.
4	How are there 3 malfunctions after EOP entry? 1) Train A sequencer fails, 2) AFB-P01 fails to start. The tripping of CS Pump "B" has no corrective actions other than responding to Train A sequencer failure.	Actual Attribute reduced to "2."
5	Should isolating SG #1 be considered a Critical Task? Should it be isolated prior to dryout?	We did not consider isolating the SG critical since initiation of MSIS will isolate feedwater, the SG will blow down, and will have no further effect on safety or mitigation strategy.
6	Event 6 – the discussion beginning "When the SPTAs are complete..." – shouldn't this go under Event 5? As a minimum, it should be separated from Event 6/7.	"When the SPTAs are complete" wasn't the most appropriate wording. Removed. Doesn't belong in Event 5 because SPTAs are not entered until the crew initiates a manual trip.

Scenario 3

	Comment	Resolution
1	Both Critical Tasks are linked to exiting a procedure or procedure step. See Comment #1 from Scenario 2 - is this practice allowed?	PVNGS considers it an acceptable practice to link CTs to procedural steps. The station maintains an Ops-approved CT list. Although used primarily for LOCT, these CTs sometimes form the bases for specific CTs developed for the initial licensing exams. Several of the LOCT CTs contain bounding criteria such as “prior to exiting the SPTAs” or “before exiting Step XYZ.” For some CTs, such as the manual Reactor Trip CT of this scenario, it is nearly impossible to develop a meaningful bounding condition based on a parameter. It would have to be linked to something like fuel temperature, which is impractical to measure on the simulator and is lacking in CT attributes, such as feedback and cues. Linking the CT to Step 2 provides a link to the bases behind why the Reactor must be tripped (to remove heat input). Proceeding beyond Step 2 of the SPTAs, without first tripping the Reactor, would “violate” the bases of the Technical Guideline for the SPTAs.
2	Event 1 – action to enter Blowdown Constants - is this a repeat of Scenario 1, Event 6? If yes, replace this Normal Evolution (preferably with an RO evolution since first 3 events are BOP).	Common steps in events in different scenarios should not preclude the use of either event. Common steps, or sequence of steps, occur frequently in a scenario set, especially when implementing EOPs. If Form ES-301-5 holds true, only one of the RO applicants (R10) will be evaluated as BOP in both Scenario 1 and Scenario 3. If we removed one of the events, all Applicants will still complete the minimum number of events for the simulator evaluation.
3	Event 6 – what are the BOP verifiable actions in order to receive credit for this event?	40AO-9ZZ14, Section 8.0, Instruction 2 – Operate ADVs as necessary to maintain steam generator pressure. (mostly manifested after Reactor Trip) 40AO-9ZZ14, Section 8.0, Instruction 4 - Ensure CEDMCS is NOT selected to Auto Sequential “AS”.
4	Event 7 – consider failing the Manual Rx Trip pushbuttons causing applicants to open supply breakers.	Requiring RO to open breakers for L03 and L10 was used on 2013 NRC Exam, Scenario 4.
5	End Point – terminate once RCS cooldown <i>has been initiated</i> or at the discretion of the Lead Examiner. (all end points are Lead Examiner, not Chief Examiner – also fix Scenario’s 2 and 4)	Termination criteria (End Point) for all scenarios are now consistent – Lead Examiner vs Chief Examiner.

Scenario 4

	Comment	Resolution
1	Event 1 – Turnover says EDG B is out of service for surveillance. If so, has a TS been entered? Needs to be identified on the Turnover / Crew Handout. Is this TS the same that the CRS would identify during the event?	Based on feedback from validation, Turnover has been revised.
2	Event 1 – the RO will unload the EDG?	Yes.
3	Event 6 – Stuck Rods is missing from D-1 (so Events 6 and 7 will need to be Events 7 and 8). Also, consider normal path for Emergency Boration fails and use of alternate path is required.	Based on validation and feedback from the Ops Rep, stuck rods were removed from the scenario.
4	Critical Task to start >26 gpm boration is missing from D-1 Attachment 6 OBDI 202 – IOLE Process Rev 0 and from CT table on page 2. Also, multiple CEAs sticking out on 2013 NRC exam had CT of >44 gpm boration... which is the correct number?	This CT was removed when we removed the stuck rods.
5	Event 7 – similar question as before – is it expected that CRS will start SPTAs from Step 1 after LOOP? Also, D-1 shows both C and M for this event. Delete C from D-1.	40DP-9AP16, EOP Users Guide, does not require CRS to restart SPTAs. Also, it is not an “Ops expectation” that SPTAs are started over when conditions change. May be a “good practice,” but not required. “C” has been deleted from D-1.
6	Event 8 – since this will occur after transition to EO-7, LOOP/LOFC, entry into EO-8, Blackout, counts for second EOPs entered/requiring substantive actions – so for #5 in Target Quantitative Attributes table, page 2, change from 1 to 2.	Changed Target Quantitative Attributes table, item 5, from 1 to 2.

General:

1. Several difficulties were found when attempting to copy reference material from the CDs provided. A list of files that could not be copied will be supplied in a separate document.

[We will resend the referenced documents.](#)

2. What type of document are the Adobe ES-301-1's? Are they form field type documents? Are these the only two in the outline submittal? The files submitted to the NRC should not be modifiable – we need to discuss this for all files submitted during exam process.

The forms used for the 301-1s have been changed. They are now in a Word format and will be converted to a un-modifiable PDF for the next submittal.

3. With the addition of summary descriptions of JPMs, JPM titles can be shortened to bullet style formats. Example:

- A1 – Determine Ability to Stand Shift
- A4 – Perform RO Radiological Tasks
- A5 – Ensure Compliance with Fatigue Rule Program
- A6 – Review Shutdown Margin Calculation
- A7 – Review Surveillance Test
- A8 – Perform SRO Radiological Tasks
- A9 – Classify Event and Make PARs

JPM titles have been changed as suggested, on both the 301-1 and the JPM Summary.

4. How did PV complete ES-201-2, Exam Outline Quality Checklist, 4.a “Assess whether plant-specific priorities (including PRA and IPE insights) are covered in the appropriate exam sections?” Consider adding a section in your outline submittal that identifies what parts of the exam include PRA and IPE.

- **Our JPM Cover Sheet includes an item to identify (Yes/No) if a JPM is PRA-Related.**
- **Giving consideration to PRA important items is an integral part of the PVNGS safety culture. The Nuclear Safety section of our Standards and Expectations Manual is a constant reminder to value the importance of PRA. This section contains the following topics:**
 - Know the Challenges to Plant Operation (Contribution to Core Damage Frequency)
 - Know the Key Operator Actions (Risk Reduction with Perfect Performance)
 - Typical Risk Increase for Key Equipment Out of Service.
 - Know the Baseline Risk
- **Risk, as it relates to PRA, is part of each turnover for the dynamic simulator scenarios. For example, for 3 out of 4 scenarios, we start the session off with Auxiliary Feedwater Pump A OOS, which results in an ORANGE Risk Management Level.**
- **Some of the procedures used during the dynamic simulator evaluation contain the following NOTE: “KEY OPERATOR ACTION - Perfect performance of this Appendix will significantly reduce plant risk.” (Scenario 1, Event 9). For these events, the D-2 contains an Examiner Note, which references the Key Operator Action.**
- **We will consider enhancements to our submittal to better reflect incorporation of PRA.**

5. Provide a copy of the resolution to the following PVARs from the 2013 NRC exam:

- PVAR 4477615 – reactivity manipulations
- PVAR 4476184 – overlap issues
- PVAR 4476152 – critical tasks not tied to physical parameters
- PVAR 4480931 – procedure enhancements
- PVAR 4479704 – operating test weaknesses
- PVAR 4481035 – general content issues with examination
- PVARs and DRC listed in Simulation Facility Performance section of Exam Report (see attached table)

Response/status is outlined in the table below:

PVAR	NRC Description	Resolution
4477615	reactivity manipulations	<ul style="list-style-type: none"> • Benchmark conducted with other utilities (447615 – SA) • Revised the LOIT RO and Instant SRO JQCs Significant Control (Reactivity) Manipulations instructions and documentation chart actions to provide better directions, including updated examples and specifying required training progress prior reactivity manipulations. • Revised the Reactor Operator / Senior Reactor Operator Training Program Description to include Appendix L, Significant Control (Reactivity) Manipulations, to provide better directions; including updated examples, specifying required training progress prior reactivity manipulations, and documentation.
4476184	overlap issues	<ul style="list-style-type: none"> • Revised 15DP-00T01 to require IV of procedures used/reviewed • Revised 15DP-00T06 to encourage use of parameters to bound CTs • Better defined Audit Exam methodology
4476152	critical tasks not tied to physical parameters	<ul style="list-style-type: none"> • Revised 15DP-00T06 to encourage use of parameters to bound CTs • For 2015 exams, provided NRC with references commensurate with NUREG-1021, ES-201. • PV forms revised to include “Exam Value” and “Applicant’s Score”
4480931	procedure enhancements	<ul style="list-style-type: none"> • Rapid Power Change section of 40OP-9ZZ05 now contains prompts to perform Appendix E, Power Change Worksheet, and Appendix N, Site MW Loading with Three Palo Verde Units Online

PVAR	NRC Description	Resolution
4479704	operating test weaknesses	<ul style="list-style-type: none"> Problems with "Fill SIT" JPM were determined to be JPM construction/design/administration problems. JPM has been "removed from service." LOIT JPM Brief Lesson Plan (NKASMB00100) developed. This L.P. emphasizes being confident, and reminds applicants to preview new RP requirements (such as frisking). CHB-TT-221 failure added to scenario SES204W. TCW failure will be included - it is being tracked by CRAI 4488564. "RCS Leak" admin JPM was revised to prompt applicant that another operator will perform "RCS Volume Change" calculation. This should eliminate confusion and reduce JPM administration time.
4481035	general content issues with examination	<ul style="list-style-type: none"> After further discussion with CE and completing an internal evaluation, no problems with selection of JPMs were identified. No additional actions taken.

PVARs and DRC listed in Simulation Facility Performance section of Exam Report		
PVAR	Description	Disposition
4476190	Condensate Pump C Upper Thrust Bearing Temperature	Fixed under DRC 2013-3618 and closed on 5/21/2014
4476190	Containment Temp and NCW Outlet Temp	DRC-2013-2616 issued and open. This DR is part of the Containment Model Upgrade Project.
N/A	SG Blowdown Constants	DRC-2013-3612 fixed this. Closed on 5/13/14.
4476190	ERFDADS RCS Leak Rate	DRC-2013-3620 was issued. It was closed on 2/18/14. This included 3 runs on each simulator. (The NRC requested us to run the same malfunction several times to see if RCS leakrate is repeatable.)
4477166	Multiple TCW Alarms	DRC-2014-3628, DRC-2014-3626 issued for this. They are still open.
4476283	Control Channel Gain Pots	CRAI 4477220 added this to the Unit Differences (SOC approved). This was done on 10/29/13.
4476289		

Comparison of Duplicate Scenario Events Between 2015 and 2012/2013 NRC Exams

2015 Scenario/Event	2012 or 2013 Scenario	Comments
Scenario 1 - Inadvertent AFAS Train B (Pump B 86 L/O)	2012, Scenario 3 (Success Path HR-2 via MVAC)	In 2012, Success Path recovered AFB. In 2015, Success Path is via Condensate Pumps.
Scenario 1 - Loss of Vacuum (SEVERE LOSS)	2012, Scenario 3 2012, Scenario 4 (downpower) – Did NOT Use	Identical. In 2012 (Scenario 3) and 2015, no substantive actions taken in AOP – just the Trip Initiator.
Scenario 1 - 86 L/O Aux Feed N	2013, Scenario 2 2012, Scenario 3	In 2012 & 2013, Success Path recovered AFB. In 2015, Success Path is via Condensate Pumps.
Scenario 2 - SIT-1A Gas Leak	2013, Scenario 4 - Did NOT Use	Identical
Scenario 3 - CEDM Fans Trip	2012, Scenario 4 –Did NOT Use	Identical
Scenario 3 - UV-1 LOV Relay Failure (2012-2)	2012, Scenario 2	Identical
Scenario 3 - RCS Leak	2012, Scenario 2	Identical, although size of leak different. In 2012, leak was 16 gpm. In 2015, leak is 4 gpm.
Scenario 3 - LOCA (Steam Space)	2012, Scenario 2 - although NOT PZR Stm Space	In 2012, this event was a simple RCS leak. In 2015, the PZR Steam Space LOCA provides different indications and different responses.

2015 Scenario/Event	2012 or 2013 Scenario	Comments
Scenario 3 - ATWS	Similar to 2013, Scenario 4	Different Success Paths. In 2013, Success Path was open breakers for L03/L10. In 2015, Success Path is B05 pushbuttons.
Scenario 3 - HPSI Trip/Fail to Auto-Start - Critical Task	2013, Scenario 3 2012, Scenario 1	Identical
Scenario 4 - Inadvertent Train B CSAS, NC valve fail to open	Similar to 2013, Scenario 4 - NOT used	In 2013, this event was a straight-forward Inadvertent CSAS (no additional failures). In 2015, the failure of the NC containment return valve is the Trip Initiator.
Scenario 4 - LOOP	2012, Scenario 4 - NOT used	Different Success Paths. In 2012, Success Path was FRP (MVAC-3). In 2015, Success Path is Blackout.
Scenario 4 - Loss of DG A	2012, Scenario 4 - NOT used	Different Success Paths. In 2012, Success Path was FRP (MVAC-3). In 2015, Success Path is Blackout.

Conclusions/Observations:

- Scenario Breakdowns:
 - Scenario 1 has 9 events
 - Scenario 2 has 7 events
 - Scenario 3 has 8 events
 - Scenario 4 has 6 events
 - Total # events = 30
- 6/30 events (20%) are basically identical to events run in either 2012 or 2013
- No scenarios are identical (to those scenarios run in 2012/2013, or to PVNGS “bank” scenarios) and all scenarios satisfy the following criteria from NUREG-1021, ES-301:

The simulator operating tests (i.e., scenario sets) will be constructed by selecting and modifying scenarios from existing facility licensee or NRC scenario banks and by developing new scenarios.

In order to maintain test integrity, every applicant shall be tested on at least one new or significantly modified scenario that he or she has not had the opportunity to rehearse or practice. A significant modification means that at least one condition or event has been substantively changed to alter the course of action in the scenario. Furthermore, any other scenarios that are extracted from the facility licensee’s bank must be altered to the degree necessary to prevent the applicants from immediately recognizing the scenarios based on the initial conditions or other cues.

- 5/30 (16%) events are the same, or similar, to events from 2012/2013, but have different Success Paths.
- 1/30 (3.3%) events (LOCA) is similar, but with different indications/symptoms (PZR Steam Space vs. Cold Leg Break)
- All of the scenarios meet the “50% criteria” that