

HCVS Guidance Inquiry Form

A: TOPIC: HCVS FLEX and Generic Assumptions

Inq. No.: HCVS-06

Source document: EA-13-109/NEI 12-06

Sections: Various in 13-02 and 3.2.1.2, 3.2.1.3 and 3.2.1.4 in 12-06

B. DESCRIPTION:

Provide key assumptions and characteristics associated with implementation of HCVS Phase 1 actions in a durable reference source.

C. PROPOSED ANSWER (Include additional pages if necessary. Total pages: 2)

Applicable EA-12-049 assumptions:

- 049-1. Assumed initial plant conditions are as identified in NEI 12-06 section 3.2.1.2 items 1 and 2
- 049-2. Assumed initial conditions are as identified in NEI 12-06 section 3.2.1.3 items 1, 2, 4, 5, 6 and 8
- 049-3. Assumed reactor transient boundary conditions are as identified in NEI 12-06 section 3.2.1.4 items 1, 2, 3 and 4
- 049-4. No additional events or failures are assumed to occur immediately prior to or during the event, including security events except for failure of RCIC or HPCI. (Reference NEI 12-06 3.2.1.3 item 9)
- 049-5. At Time=0 the event is initiated and all rods insert and no other event beyond a common site ELAP is occurring at any or all of the units. (NEI 12-06, section 3.2.1.3 item 9 and 3.2.1.4 item 1-4)
- 049-6. **{Site Specific Time}** (time critical at a time greater than **{Site Specific time}**) an ELAP is declared and actions begin as defined in EA-12-049 compliance
- 049-7. DC power and distribution can be credited for the duration determined per the EA-12-049 (FLEX) methodology for battery usage, (**{Site Specific Time}**) (NEI 12-06, section 3.2.1.3 item 8)
- 049-8. Deployment resources are assumed to begin arriving at hour 6 and fully staffed by 24 hours
- 049-9. All activities associated with plant specific EA-12-049 FLEX strategies that are not specific to implementation of the HCVS (i.e., HCVS valves, instruments and motive force) can be credited as having been accomplished.

Applicable EA-13-109 generic assumptions:

- 109-1. Site response activities associated with EA-13-109 actions are considered to have no limitations up to the time that the RPV level is below 2/3 core height (core damage is imminent) when access becomes restricted. For actions that take place after the core is uncovered, evaluations will only be required for elevations above the water level in the RPV or Containment.
- 109-2. Portable equipment can supplement the installed equipment after 24 hours provided the portable equipment credited meets the criteria applicable to the HCVS. An example is use of FLEX portable air supply equipment that is credited to recharge air lines for HCVS components after 24 hours. The FLEX portable air supply used must be demonstrated to meet the "SA Capable" criteria that are defined in NEI 13-02 Section 4.2.4.2 and Appendix D Section D.1.3.
- 109-3. SFP Level is maintained with either on-site or off-site resources such that the SFP does not contribute to the analyzed source term (Reference FAQ HCVS-07)
- 109-4. Existing containment components design and testing values are governed by existing plant containment criteria (e.g., Appendix J) and are not subject to the testing criteria from NEI 13-02 (reference FAQ HCVS-05 and NEI 13-02 section 6.2.2).
- 109-5. Classical design basis evaluations and assumptions are not required when assessing the operation of the HCVS. The reason this is not required is that the order postulates an unsuccessfully mitigation of an event such that an ELAP progresses to a severe accident with ex-vessel core debris which classical design basis evaluations are intended to prevent. (Reference NEI 13-02 section 2.3.1).
- 109-6. HCVS manual actions that require minimal operator steps and can be performed in the postulated thermal and radiological environment at the location of the step(s) (e.g., load stripping, control switch

HCVS Guidance Inquiry Form

- manipulation, valving-in nitrogen bottles) are acceptable to obtain HCVS venting dedicated functionality. (reference FAQ HCVS-01)
- 109-7. HCVS dedicated equipment is defined as vent process elements that are required for the HCVS to function in an ELAP event that progresses to core melt ex-vessel. (reference FAQ HCVS-02 and White Paper HCVS-WP-01)
 - 109-8. Use of MAAP Version 4 or higher provides adequate assurance of the plant conditions (e.g., RPV water level, temperatures, etc.) assumed for Order EA-13-109 BDBEE and SA HCVS operation. (reference FLEX MAAP Endorsement ML13190A201) Additional analysis using RELAP5/MOD 3, GOTHIC, PCFLUD, LOCADOSE and SHIELD are acceptable methods for evaluating environmental conditions in areas of the plant provided the specific version utilized is documented in the analysis.
 - 109-9. Utilization of NRC Published Accident evaluations (e.g. SOARCA, SECY-12-0157, NUREG 1465) as related to Order EA-13-109 conditions are acceptable as references. (reference NEI 13-02 section 8)
 - 109-10. Permanent modifications installed per EA-12-049 are assumed implemented and may be credited for use in EA-13-109 Order response.
 - 109-11. This Overall Integrated Plan is based on Emergency Operating Procedure changes consistent with EPG/SAGs Revision 3 as incorporated per the sites EOP/SAMG procedure change process.
 - 109-12. Under the postulated scenarios of order EA-13-109 the Control room is adequately protected from excessive radiation dose per General Design Criterion (GDC) 19 in 10CFR50 Appendix A and no further evaluation of its use as a HCVS control location is required. (reference FAQ HCVS-01)

D. RESOLUTION: (Include additional pages if necessary. Total pages: _____)

Revision: 0 Date: _____

E. NRC Review:

Not Necessary _____ Interpretation X _____ Agency Position _____
Explanation: _____

F. Industry Approval:

Documentation Method: _____ FAQ _____ Date: _____