NRC Order EA-2013-109 Workshop Follow-up Items and Template Elements

Dec 5, 2013

Topics

- FAQ Process for Order EA-13-109
- Workshop Follow-up Items
- Template Timeline
- Review of EA-12-050 Template
- Selected Template Elements

FAQ Process

- Clarification items brought to industry NEI 13-02 core team
- NEI 13-02 Core Team to provide consensus response
- Select FAQs presented to the NRC staff in draft version (interpretation FAQs)
- Final FAQ documented on NEI website
- Clarification items larger than FAQ will be resolved via other means of NEI 13-02 revision or white paper endorsement
- Phase 2 revision of NEI 13-02 will incorporate appropriate FAQs or white papers

HCVS Guidance Inquiry Form (FAQ)

A. TOPIC: Inq. No.: 2013-01

Source document: NEI 13-02 **Section:**

B. DESCRIPTION:

C.PROPOSED ANSWER (Include additional pages if necessary. Total pages: 1)

D. RESOLUTION: (Include additional pages if necessary. Total pages: 1)

Revision: **Date:**

E. NRC Review:

Not Necessary X **Interpretation** **Agency Position**

Explanation: Position is consistent with the guidance

F. Industry Approval:

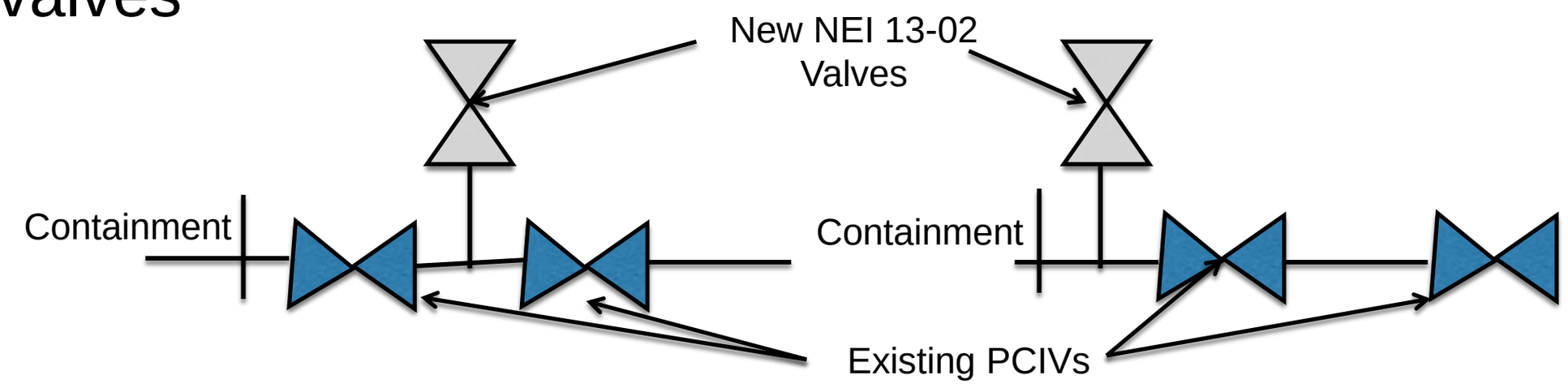
Documentation Method: **Date:**

Workshop Follow-up Items

- Adjacent buildings are ones within the general vicinity of the HCVS stack release point.
  - Other site buildings that are not in the general vicinity of the HCVS stack release point, such as cooling towers and administrative buildings are not considered to be adjacent as defined in NEI 13-02

Workshop Follow-up Items

- All existing containment nozzle, penetrations and PCIVs do not need to be upgraded to the NEI 13-02 temperature criteria of 350F for WW or 545F for DW.
  - The NEI 13-02 criteria applies to newly installed nozzles, penetrations, PCIVs, or installed instrumentation
  - The NEI 13-02 criteria applies to all non PCIV interfacing valves



Workshop Follow-up Items

- Dedicated Equipment and Motive Force:
  - Dedicated equipment is equipment in the vent flow path during the time SA venting is required. (NEI 13-02 section 2.5)
    - Shared PCIVs, piping and penetrations perform non-HCVS functions and are not dedicated to HCVS because multipurpose penetration use is acceptable in NEI 13-02.
  - Dedicated motive force is motive force that can be automatically or by minimum operator action, aligned to the vent equipment. (NEI 13-02 section 4.2.6)
    - Normal valve and instrument power if from installed batteries provide non-vent functions and are not dedicated to the HCVS except when required for HCVS function, this is acceptable for the time period until the battery source is exhausted.
    - Supplemental motive force will have capacity to ensure the HCVS function is maintained
- Containment and Suppression Pool instrumentation provide non-vent functions and are not dedicated to the HCVS.

OIP Template Timeline

- Pilot plant(s) identified by December 23, 2013
- Draft template by January 20, 2014
- Final Draft template March 15
- NEI 13-02 Revision to include template by April 15
- Next Joint Template Meetings
  - 2nd week of January
  - 4th week of January (Draft Template)
  - 3rd week of February (Pilot Plant Portion 1)
  - 1st week of March (Pilot Plant Portion 2)
- Industry Template Workshop, 1st week of April

Order 050 Template

Order EA-050 1.2.3 Requirement:

The HCVS shall include a means to prevent inadvertent actuation.

ISG 1.2.3 Criteria:

The design of the HCVS shall incorporate features, such as control panel key-locked switches, locking systems, rupture discs, or administrative controls to prevent the inadvertent use of the vent valves. The system shall be designed to preclude inadvertent actuation of the HCVS due to any single active failure. The design should consider general guidelines such as single point vulnerability and spurious operations of any plant installed equipment associated with HCVS. The objective of the HCVS is to provide sufficient venting of containment and prevent long-term overpressure failure of containment following the loss of active containment heat removal capability or prolonged SBO. However, inadvertent actuation of HCVS due to a design error, equipment malfunction, or operator error during a design basis loss-of-coolant accident (DBLOCA) could have an undesirable effect on the containment accident pressure (CAP) to provide adequate net positive suction head to the emergency core cooling system (ECCS) pumps. Therefore, prevention of inadvertent actuation, while important for all plants, is essential for plants relying on CAP. The licensee submittals on HCVS shall specifically include details on how this issue will be addressed on their individual plants for all situations when CAP credit is required.

Response (ref. ISG Item 1.2.3):

The features that prevent inadvertent actuation are [*site specific list, example two CIV's in series powered from different division, a rupture disk, or key lock switches*].

EA-13-109 OIP Template

- Structure
  - Provide compliance, milestones, assumptions and references
  - Follow ISG/NEI 13-02 Elements
    - This addresses order elements like EA-12-050 OIP with specific reference to NEI 13-02
    - Follow section 7.2 of NEI 13-02 for elements of OIP Template.

- Level of detail
  - Drawings and layout from the EA-12-050 OIP is acceptable
  - Consistent with the FLEX ISE-Audit process

Template Elements

- Part 1 includes a statement about compliance with NEI 13-02 with any exceptions or clarifications (referenced to the appropriate portion of section 3 & 4)
- Part 2 will be the assumptions about compliance for an event that creates an ELAP that leads to core damage.
- Part 3 will be the specifics about the compliance actions relative to the ISG and NEI 13-02 (sections 2 & 4)
- Part 4 will be Programmatic and Training elements relative to the ISG and NEI 13-02 (sections 5 & 6)
- Part 5 will be the milestone table
- Part 6 will be identified open items
- Part 7 will be references
- Part 8 will be drawings/sketches

Part 2 Assumptions

- At Time=0 the event is initiated and all rods insert and no other event beyond a common ELAP leading to core damage is occurring at any of the sites.
- At 1 hour (or as defined in the sites FLEX submittal) an ELAP is declared and actions begin as defined in FLEX compliance.
- DC power and distribution is lost at the time determined per the FLEX methodology for battery usage, NO recharging from “FLEX only” actions is assumed successful. Recharging after 24 hours with a “SA Capable” actions is assumed successful.
- Existing containment components design and testing values are governed by existing plant containment criteria and are not subject to change to the NEI 13-02 criteria.
- 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. Routinely performed operator actions (e.g., load stripping, connecting nitrogen bottles) are acceptable to obtain dedication during HCVS venting.
- SFP Level is maintained above EA-12-051 Level 2 with either on-site or off-site resources such that no contribution to source term need be considered.
- BYDB and SA Plant responses will be modeled using MAAP version 4 or higher

Milestone Schedule

Milestone	Target Completion Date	Activity Status	Comments
Submit Overall Integrated Plan			
Submit 6 Month Updates:			
Unit 1 Design Engineering			
Unit 1 Implementation Outage			
Create Site-Specific Operations Procedures			
Create Maintenance Procedures			
Training Complete			
Walk-throughs or Demonstrations Complete			
Unit 1 HCVS Implementation			
Submit Completion Report			

Informational dates not commitment dates

Drawings or Sketches

- Plant layout with egress and ingress pathways
- Piping routing for vent path
- Instrumentation Process Flow
- Electrical Connections