

**Industry Review of NRC Inspection Manual Temporary Instruction 2515/193**

#	Section/Page	Comment
1	App A 03.01 / A-1  and comment applies similarly to  App B 03.01 / B-1	<p>The procedures to safely operate the HCVS during an extended loss of AC power (ELAP) and during postulated severe accident scenarios have been integrated into the existing plant procedures such that entry into <b>and exit from</b> the procedures are clear, as described in Section A.3.1 of Order EA-13-109</p> <p><b>Comment</b> - Exit from venting procedures would include restoration to normal lineup. Under severe accident conditions, this will be a recovery action determined by the ERO. Neither Order Section A.3.1 nor NEI 13-02 addresses this specific detail. Recommend removing “and exit from”.</p>
2	App A 03.01 / A-1  and comment applies similarly to  App B 03.01 / B-1	<p>Licensee staff have been adequately trained to ensure personnel can <b>successfully proficiently</b> operate the HCVS during an ELAP and severe accident scenario as described in Section A.3.2 of Order EA-13-109.</p> <p><b>Comment</b> - Proficiently implies either routine use or frequent training. Recommend changing “proficiently” to “successfully”,</p>
3	App A 03.02 / A-2	<p>1.b. Verify the following <b>type of actions are addressed</b>:</p> <p>1. Operation does not require use of jumpers or lifted leads <b>to defeat valve interlocks</b>.</p> <p><b>Comment</b> – Recommend adding “type of actions” because “minimize the reliance on operator actions” is a collective activity where one specific action may be acceptable such as the example in the OIP in appendix K. Recommend adding “to defeat valve interlocks.” Need all of Section 4.2.6.1.3.3 since this may not apply for other actions such as defeating logic so that boundary valves may be isolated to prevent unintended cross-flow to other systems or units.</p>
4	App A 03.02 / A-2  and comment applies similarly to  App B 03.02 / B-2	<p>If <b>installing shielding for event response</b> is used, confirm <b>shielding materials and installation guidance equipment and procedures</b> are available such that they support the licensee’s timeline.</p> <p><b>Comment</b> – Make statement for conditional use of shielding. Shielding could be installed as a direct result of the HCVS Order implementation or credited existing shielding such as building/containment structures. Most licensees are crediting existing shielding to determine deployment locations and access routes are acceptable.</p>
5	App A 03.02 / A-3	<p>The HCVS control panel is located in the main control room or a remote location <b>that is readily accessible during sustained operation</b>. (Order EA-13-109 Attachment 2, Requirement A.1.2.4). Sustained operation is defined in Appendix A of NEI 13-02.</p> <p><b>(a) Verify locations are as described in licensee submittal(s) or SE.</b></p> <p><b>Comment</b> – Should be determined acceptable as part of the SE process so that it does not have to be interpreted to be acceptable during the inspection. Recommend adding (a) text.</p>

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6	App A 03.02 / A-3	<p>Manual operation (e.g., reach-rod with hand wheel or manual operation of pneumatic supply valves from a shielded location) <b>is accessible to plant operators</b> (Order EA-13-109 Attachment 2, Requirement A.1.2.5).  <b>(a) Verify locations are as described in licensee submittal(s) or SE.</b></p> <p><b>Comment</b> – Should be determined acceptable as part of the SE process so that it does not have to be interpreted to be acceptable during the inspection. Recommend adding (a) text.</p>
7	App A 03.02 / A-3  and comment applies similarly to  App B 03.02 / B-2	<p>Communication equipment (installed or portable) exists <b>such that the operators can communicate between the control, remote, and various manual operating stations given the adverse radiological and environmental conditions of a severe accident scenario.</b>  <b>(a) Verify locations are as described in licensee submittal(s) or SE.</b></p> <p><b>Comment</b> – We are responding to a generic ISE open item that addresses this item. The responses should be sufficient to conclude this portion of the item is met as long as the equipment is available. Recommend adding (a) text.</p>
8	App A 03.02 / A-3	<p>The HCVS includes indication of the status of the vent system (e.g., valve position indication) from the control panel <b>required by A.1.2.4</b> that is capable of sustained operation during an extended loss of AC power (Order EA-13-109 Attachment 2, Requirement A.1.2.8).</p> <p><b>Comment</b> – There could be more than one HCVS control panel but A.1.2.8 specifically requires it to be at the panel required by A.1.2.4. Recommend adding A.1.2.4 as indicated.</p>
9	App A 03.02 / A-3	<p>Includes a means to monitor the effluent discharge for radioactivity that may be released from operation of the HCVS. The monitoring system shall provide indication from the control panel <b>required by A.1.2.4</b> and shall be designed for sustained operation during an extended loss of AC power (Order EA-13-109 Attachment 2, Requirement A.1.2.9).</p> <p><b>Comment</b> – There could be more than one HCVS control panel but A.1.2.9 specifically requires it to be at the panel required by A.1.2.4. Recommend adding A.1.2.4 as indicated.</p>
10	App A 03.02 / A-4	<p>The HCVS portable and installed equipment is maintained to ensure reliability. Standard industry templates (e.g., EPRI) and associated bases have been developed to define specific maintenance and testing (NEI 13-02, Section 5.4.3 <b>and 6.2.4</b>).</p> <p><b>Comment</b> – In general section 5.4.3 is intended to address portable equipment maintenance while Section 6.2.4 is intended to address installed equipment maintenance.</p>

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11	App A 03.02 / A-4	<p>The HCVS outboard of the containment boundary (outer PCIV to the last isolation point from the plant building per NEI 13-02, Section 6.2.3.2) is tested to ensure vent flow is released outside plant structures and with minimal leakage, if any, through the interfacing boundaries with other systems or units (NEI 13-02, Section 6.2.3).</p> <p><b>Comment</b> – Clarification is needed as indicated to prevent mis-interpretation of test boundary.</p>
12	App A 03.02 / A-4	<p>Installed primary containment isolation valves (PCIVs) added for order EA-13-109 are either locked closed, automatically isolated, or a normally-closed valve with a fail-closed mode (i.e., AOVs) (NEI 13-02, Section 4.1.2.1.3.4).</p> <p><b>Comment</b> – Clarification is needed as indicated to avoid possible confusion by making it clear that only one of the available options needs to be implemented for newly installed PCIVs.</p>
13	App A 03.02 / A-4	<p>PCIV remote operation control switches added for order EA-13-109, have a key lock or other approved GDC method as described in the SE and key control is in accordance with plant procedures (NEI 13-02, Section 4.1.2.1.3.5)</p> <p><b>Comment</b> – Other methods are acceptable per the GDC and in NEI 13-02 only for newly installed PCIVs. Key control is a good idea but is beyond the guidance of NEI 13-02, recommend deleting text as indicated by strikeout. The correct reference is NEI 13-02 Section 4.1.2.1.3.5 vs. 4.1.2.1.1.3.5 (extra .1 in draft TI).</p>
14	App A 03.02 / A-4	<p>If HCVS components including instrumentation are installed outside a seismic category 1 (or equivalent) building or enclosure then ensure the equipment is protected from the external hazards that screen in for the plant as defined in guidance NEI 12-06, Rev 0 as endorsed by JLD-ISG-12-01 for Order EA-12-049.</p> <p>(a) Verify HCVS components including instrumentation installed outside a seismic category 1 (or equivalent) building or enclosure is protected as described in licensee submittal(s) or SE.</p> <p><b>Comment</b> – This should be determined acceptable in the SE and confirmed protected as described in licensee document(s) or SE. Recommend adding (a) text.</p>

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15	App B 03.01 / B-1	<p>SAWA is needed in the near term (approximately 8 hours) to stabilize and cool core debris <del>limit drywell temperature and prevent liner melt through</del>. SAWA “during ex-vessel core melt scenarios provides the additional benefit of sufficiently limiting overall containment temperatures so that the pressure retaining function of the containment remains intact” (NEI 13-02, Section C.5.2).</p> <p><b>Comment</b> –The Order is specific in that the HCVS is to prevent containment failure from overpressure. Recommend replacing “limit drywell temperature and prevent liner melt-through” with “stabilize and cool core debris”. Cooling containment and preventing liner melt-through is a benefit of the SAWA strategy but prevention of containment failure from high temperature is not required by the Order.</p>
16	App B 03.02 / B-2	<p>The licensee’s onsite SAWA/SAWM pump meets the requirements <del>can provide the flow rate</del> as described in the SE and the licensee submittal document(s) (NEI 13-02, Appendix I, Section 1.4.1)</p> <p><b>Comment</b> – Should be verified by staff review of hydraulic calculation that confirms SAWA flow rate at the required delivery pressure during preparation of the SE. Inspection should be limited to a verification that the licensee has a pump that meets the pump capacity per the SE.</p>
17	App B 03.02 / B-2	<p><b>Confirm</b> the described SAWA/SAWM access route accounts for environmental and radiological conditions discussed in licensee submittals and the SE, that would impede personnel action needed to deploy and operate SAWA/SAWM equipment.</p> <p><b>Comment</b> – This verification should be limited to routing paths that require personnel access for the scope of the event per the order. Recommend adding the word “access” for clarity.</p>
18	App B 03.02 / B-2	<p><b>Confirm</b> the required motive force is provided for any (pneumatically or electrically) operated valve as discussed in licensee submittals and the SE.</p> <p><b>Comment</b> – Clarify limits of “required” to be those in the SE.</p>
19	App B 03.02 / B-2	<p><b>Confirm</b> components discussed in licensee submittals and the SE can be accessed without using temporary ladders or scaffolding.</p> <p><b>Comment</b> – Clarify limits of “components” to be those in the SE. Plants utilize permanently installed ladders to reach many locations in a site. The limitation is on the operator burden to install or use a temporary access tool (ladder or scaffold).</p>

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20	App B 03.02 / B-2	<p>The licensee installed Backflow prevention as described in licensee document submittal(s) or SE. (NEI 13-02, Section 4.1.4.2).</p> <p><b>Comment</b> – Most if not all licensees are crediting existing PCIV check valves for the backflow prevention function. Recommend adding “in licensee document submittal(s) or SE” for clarification where backflow prevention should be described.</p>
21	App B 03.02 / B-3	<p>If applicable, the portable and installed equipment are protected from inadvertent actuation by using manual valves or some other means as described in licensee document submittal(s) or SE (NEI 13-02, Section 4.2.1.4).</p> <p><b>Comment</b> – Recommend adding “in licensee document submittal(s) or SE” for clarification where it should be described.</p>
22	App B 03.02 / B-3	<p>The SAWA/SAWM flow path can be deployed and provide flow within the time limits specified (NEI 13-02, Appendix I, Section 6.1.1.7.4.3 and 1.4.2).</p> <p>(a) Review TSA validations to confirm deployment timing is within time limits described in the licensee document submittal(s) or SE.</p> <p><b>Comment</b> – Recommend adding “6.1.1.7.4.3” to reference applicable guidance for performing validation of TSAs. Recommend adding text with the above item for clarification as to how compliance with time limits for providing flow is evaluated and confirmed.</p>
23	App B 03.02 / B-3	<p>The SAWA/SAWM system including water sources is capable of operating for the first 7 days as described, or the licensee has described the alternate reliable containment heat removal and pressure control strategy as described in their plant specific submittal (NEI 13-02, Appendix C, Section 7.4).</p> <p>(a) Confirm the SAWA/SAWM system is capable of controlling the SAWM flow rate as described in licensee document submittal(s) or SE.</p> <p><b>Comment</b> – Should reference all of Section 7 since 7.1 only addresses the 7 day approach. Recommend deleting “.1”. Recommend adding text to clarify that the inspector is looking at how the system can be controlled as described in the SE.</p>
24	App B 03.02 / B-3	<p>The availability of instrumentation listed in the licensee specific submittal (table in Final Integrated Plan or SE) has the range and qualification stated and that any portable instrumentation is available for use necessary to support SAWA/SAWM (NEI 13-02, Appendix I, Section 1.6 Appendix C, Section 8).</p> <p><b>Comment</b> – This should be verified when the SE is written. Licensees will be providing an instrumentation table in the FIP that defines the HCVS instruments, ranges and qualifications. The inspection should confirm that we installed have is in the table. Recommend clarification above.</p>