

Comments on Minimum Inventory Draft ISG

1. An applicability statement should be added to state that this ISG applies to both new plants and existing plant upgrades.
2. Origin of Minimum Inventory: This section should be reworked and the third paragraph deleted.
3. Purpose of Minimum Inventory and Definition of Minimum Inventory: Replace these sections with:

The purpose of a minimum inventory (MI) is:

- To ensure adequate HSIs for accident mitigation and achieving safe shutdown through a minimum set of safety-related HSIs that meet regulatory requirements.
 - To help ensure operator awareness of threats to critical safety functions and accessibility for critical human action in a control room with highly selectable HSIs through a minimum set of spatially-dedicated HSIs that are readily accessible to the operators without having to select them from a menu or hierarchy of available screens.
 - To handle potential failure of the normally used non-safety HSIs to maintain plant operation and/or achieve safe shutdown through a minimum set of backup HSIs. These backup HSIs used to address failure of the normally-used HSIs are largely discretionary and are not driven by regulatory requirements.
 - To ensure adequate diverse backup HSIs to handle common cause failures concurrent with design basis events in accordance with BTP 7-19.
4. Development Process: This section should be modified to apply to both new plants and existing plant upgrades. Discussion of submittals (i.e., Tier 1, ITAAC, Tier 2*) should be moved to a new section on Licensing Submittals.
 5. Development Process: Eliminate A.1 and replace A.2 with: “The criteria and process for selecting the MI.”
 6. Development Process: Where did GTG come from?
 7. Development Process: Why is this Tier 2* as opposed to Tier 2?
 8. Development Process: NRC should only review the EOPs with regard to adequate safety. Adequate safety is achieved through credited safety success paths. Revise A as follows: “controls and displays required to accomplish credited manual operator actions in the safety analysis and the manual safety success path”
 9. Development Process: The GTGs and supporting documentation should be available for NRC audit.

10. Development Process: Revise C.d as: “Task analysis of operator actions needed to mitigate accidents and safely shut down using only safety related HSIs.”
11. Development Process: Revise C.e as follows: “alarms to alert the operator to perform credited manual actions directly or to enter EOPs which direct those manual actions.”
12. Development Process: Need discussion on quality and qualification of alarms in C.e.
13. Development Process: Revise C.f as follows: “spatially dedicated controls and indications credited for Point 4 of BTP 7-19”
14. Development Process: Insert the following new item g under C: “concept of operations and minimum inventory of backup HSIs to address loss of primary non-safety HSIs.”
15. Development Process: Minimum inventory of procedures—should that be item h under C?
16. Development Process: In the first paragraph on page 3, the multidisciplinary review should include operations.
17. Acceptance Criteria: **Scope of the GTGs**: Remove “dedicated, fixed position” and replace “preferred/credited” with “preferred, credited, safety”. Revise the last sentence as follows: “The GTGs (or plant-specific EOPs, if applicable) were reviewed to identify operator actions for preferred, credited, safety, success paths.”
18. Acceptance Criteria: **PRA/HRA**: The last sentence of this paragraph should be a separate item and revised as follows: “The results of the diversity and defense-in-depth evaluation were reviewed to identify any specific HSIs credited for Point 4 of BTP 7-19.”
19. Acceptance Criteria: **Analysis of operator actions**: Delete “function-based” and “both available and”
20. Acceptance Criteria: **Analysis of operator actions**, operator functions and tasks list, 2nd bullet: Minimum inventory does not encompass manual component-level backups for automatic protective actions. Revise and split this bullet into two separate bullets as follows:
 - Monitoring of automatic protective actions
 - Manual system-level actuations
21. Acceptance Criteria: **Analysis of operator actions**, operator functions and tasks list, Delete the fourth bullet
22. Acceptance Criteria: **Analysis of operator actions**, operator functions and tasks list, Revise the fifth bullet as follows: “Monitoring safety system availability at the system level”
23. Acceptance Criteria: **Regulatory Guide 1.97**, Discussion of submittals (e.g., Tier 1) should be moved to a new section on Licensing Submittals.
24. Acceptance Criteria: **Regulatory Guide 1.97**, All MI requirements related to RG 1.97 are covered above; therefore, the last sentence is unnecessary. Delete the last sentence.

25. Acceptance Criteria: **Design of the I&C Architecture**, Revise the second bullet as follows:
“Loss or degradation of a data network, control network, or other information pathway or loss of communication capability among controllers or between controllers and field devices that causes loss or delay of information to displays.”
26. Acceptance Criteria: **Design of the I&C Architecture**, HSI to accommodate loss of automatic control functions is not within the scope of MI. The fourth bullet should be deleted. Backup HSI is required for loss of HSI, not for loss of automation; the normal non-safety HSI is sufficient for this function.
27. Acceptance Criteria: **Concept of Operations**, Insert a new sentence at the beginning of this section: “The minimum inventory to accommodate degraded normal HSI conditions is dependent on the selection of concept of operations.”
28. Acceptance Criteria: **Concept of Operations**, The original first sentence should be revised as follows: “The desired concept of operations has been defined for the identified normal non-safety HSI failure conditions. A number of options are possible, including, but not limited to the following (all assume that the reactor is at power and no secondary event or accident has occurred):”
29. Acceptance Criteria: **Design of HSI**, The third bullet should be split into two bullets, requirements for independence and requirements for diversity, consistent with the MI purpose and definition.