The examples provided from a Safety Function Summary Table, below, illustrate how the plant and I&C system safety analysis design basis information can be summarized to support vendor design, V&V, oversight, and regulatory review activities. The summary information serves to:

- facilitate interdisciplinary technical reviews by the licensee (e.g., safety analysis and I&C departments) to ensure plant safety analyses are correctly implemented in the I&C design,
- facilitate communication of key design basis information to the I&C vendor and support vendor oversight activities,
- support V&V activities to ensure key design basis requirements are correctly implemented, and
- facilitate regulatory reviews of the plant modification.

The example table also illustrates how the information can be presented to support the regulatory review of the modification. Four examples are presented show how change information can be presented for easy identification.

The first example presents a case where no changes are made to the BWR design basis as part of the plant I&C modernization modification. The new I&C equipment would simply implement the existing design-basis requirements on new equipment.

The second example illustrates a similar case where the design basis is based on engineering judgement rather than explicitly linked to a FSAR AOO or PA analysis.

The third example presents a case where limited changes are made to the design basis as part of the plant I&C modernization modification. Examples might be a change to an analytical limit or response time. The third example shown in the table illustrates a case where an architecture change was made to the ESFAS design to add a redundant 2-out-of-three-3 logic structure to the I&C system design. The change to the design basis information is shown in ***bold italics*** for easy identification. This change is similar to a change made for the Oconee design.

The fourth example presents a case where a new safety function is added to the design as part of a plant I&C modernization modification. The changes to the design basis information are shown in ***bold italics*** for easy identification. This change is similar to a change made for the Hope Creek Power Range Neutron Monitoring System design. The example only shows the new function added (item f) for brevity.

Examples from the Safety Function Summary Table for Section 4.2.1.1

FSAR Event (AOO/PA)	Credited Trip/Actuation Signals	Variable(s)	Range	Nominal (100% RTP)	Analytical Limit	Number of Channels	Actuation Logic	Automated Protection Function	Interlock/Permissive/ Override	Condition for Interlock/Permissive/ Override	Function	Response Time Assumed in FSAR Event Analysis (seconds)
EXAMPLE 1 Rod Withdrawal Accident, the Rod Ejection Accident, and the Steam Line Break Accident	Nuclear Overpower - High Setpoint	Power Range Neutron Flux	0 – 125% RTP	100%	109% RTP	4	2oo4↑	Reactor Trip	Power Range Linear Power Permissive	2oo4↓	Automatically switch to bypass Nuclear Overpower - High Setpoint and enable Nuclear Overpower - Low Setpoint	≤ 2
EXAMPLE 2 None	Nuclear Overpower - Low Setpoint	Power Range Neutron Flux	0 – 125% RTP	100%	15% RTP	4	2oo4↑	Reactor Trip	Power Range Linear Power Permissive	3oo4↑	Automatically enable Nuclear Overpower - High Setpoint and allow manual bypass of Nuclear Overpower - Low Setpoint	None

FSAR Event (AOO/PA)	Credited Trip/Actuation Signals	Variable(s)	Range	Nominal (100% RTP)	Analytical Limit	Number of Channels	Actuation Logic	Automated Protection Function	Interlock/Permissive/ Override	Condition for Interlock/Permissive/ Override	Function	Response Time Assumed in FSAR Event Analysis (seconds)
EXAMPLE 3 Loss of Coolant Accident	RCS Pressure – Low Setpoint	RCS Pressure	0 – 2500 psi	2250 psi	1800 psi	3	***Redundant*** 2oo3↓	ECCS Initiation	RCS Pressure Permissive	2oo4↓	Allow manual bypass of RCS Pressure – Low Setpoint	≤ 25
										3oo4↑	Automatically enable RCS Pressure – Low Setpoint	
EXAMPLE 4 Anticipated Thermal-Hydraulic Power Oscillations	Average Power Range Monitor ***f. OPRM Upscale***	LPRMs and Reactor Recirculation Flow	0 – 125% RTP	N/A	***See COLR***	***4***	***2oo4***↑	***Reactor Trip***	***OPRM Armed Permissive***	***2oo4***↑	***Automatically enable OPRM***	***≤ 2***

Note: Changes associated with license amendment request shown in ***bold italics***