STRUCTURE / AREA	ASSOCIATED I&C ATTRIBUTES	SELECTED CONSIDERATIONS ASSOCIATED WITH THE STRUCTURE / AREA	IEEE 323	IEEE 336	IEEE 344	IEEE 384	IEEE 420	IEEE 567	IEEE 627	IEEE 1023	ISA 67.02.01
Main Control Room	EQ (mild)	HVAC & heat loads - ambient temperature effect on internal equipment temperatures (hot spots)									
	Independence	Cable & wiring separation (relaxed – low energy)									
	Equipment arrangement and access	Human factors									
	Panel & equipment mounting	Seismic Category (SC) I SC II/I interaction									
Instrument Rack /Cable Spread Room	EQ (mild)	HVAC & heat loads - Ambient temperature effect on internal temperatures									
	Independence	Cable & wiring separation (relaxed – low energy)									
	Equipment arrangement and access	Human factors									
	Panel & equipment mounting	Seismic Category (SC) I SC II/I interaction									
Remote Shutdown Panel Room	EQ (mild)	HVAC & heat loads - Ambient temperature effect on internal temperatures									
	Independence	Cable & wiring separation (might be relaxed)									
	Isolation	Isolation of RSP from control room									
	Equipment arrangement and access	Human factors									
	Panel & equipment mounting	Seismic Category (SC) I SC II/I interaction									

STRUCTURE / AREA	ASSOCIATED I&C ATTRIBUTES	SELECTED CONSIDERATIONS ASSOCIATED WITH THE STRUCTURE / AREA	IEEE 323	IEEE 336	IEEE 344	IEEE 384	IEEE 420	IEEE 567	IEEE 627	IEEE 1023	ISA 67.02.01
Field Areas[1]	EQ (harsh)	LOCA /HELB (e.g., radiation, temperature, pressure, humidity, chemical spray, submergence)									
	EQ (mild but abnormal)	Loss of ventilation; MELB; radiation; heat conduction into component									
	EQ (mild)	Heat sources									
	Seismic	Seismic Cat I Seismic Cat II / I									
	Independence	Cable separation - high energy hazards Component separation Sensing line separation									
	Equipment arrangement and access	Human factors									
	Panel & equipment mounting	Seismic Category (SC) I SC II/I interaction Supports									
	Hazards	Missiles; pipe whip; jet / spray impingement; internal / external flooding; vibration / dynamic effects; power circuits; EMI;									

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[1] Field areas could include containment, containment penetration areas, reactor auxiliary building (pump rooms and piping areas), main steam line areas, switchgear rooms, transformer areas; diesel rooms; service water intake structure, turbine building, and others.

NOTES:

The objective of this student activity is to give the students the opportunity to learn, through an exercise, the association between selected I&C attributes and specific standards. They will be expected to learn:

1. Which specific standards address (at least in part) the attributes identified on the table.

2. How the attributes might be addressed differently, depending on the plant structure or plant area in which the I&C equipment is located.

This table is a general illustration of the relationship between plant structures that contain I&C equipment and some selected standards that apply to the design and installation of I&C in those respective locations.   It does <u>not</u> identify all of the attributes or all of the applicable standards, only <u>typical</u> instances where implementation of the standards could be location-dependent, based on the environment, hazards, or high energy sources; or based on the nature of the I&C equipment (panel, rack, field instrument, etc.) located in the plant area of interest.

ACTION:

The students will be given a table without the "X" entries. They will be asked to enter the "Xs", based on reviewing their notes and using their own judgment. Class discussion will follow, using a "master" table.

It is expected that completion of the table should provoke some constructive discussion among the students and the instructor. Student's questions, or suggestions regarding additional attributes or standards for consideration, should be encouraged.