

Changes Proposed?	New Item?	Deleted Item?	Location SRP	Item	SRP Item (Table, ID)	Structure and/or Component	Material	Environment	Aging Effect/Mechanism	Aging Management Program (AMP)/TLAA	Further Evaluation	Type
Yes	No	No	3.1-1, 7	IV.A1.R-04	3.1-1, 7	Reactor vessel components: flanges; nozzles; penetrations; safe ends; thermal sleeves; vessel shells, heads and welds	Steel (with or without nickel-alloy or stainless steel cladding); stainless steel; nickel alloy	Reactor coolant	Cumulative fatigue damage; <u>cracking due to fatigue or cyclical loading</u>			BWR
Yes	Yes	No	3.1-1, 113	<u>IV.A1.R-409</u>	<u>3.1-1, 113</u>	<u>Reactor vessel (external attachments): support skirt and stabilizer attachment brackets</u>	<u>Steel</u>	<u>Air – Indoor. Uncontrolled</u>	<u>Loss of material due to general pitting, crevice corrosion, or wear</u>			<u>BWR</u>
Yes	Yes	No	3.1-1, 130	<u>IV.A1.R-411</u>	<u>3.1-1, 130</u>	<u>Nozzles and nozzle-to-vessel welds; control rod drive return line (BWR-2 designs)</u>	<u>Steel (with or without stainless steel cladding)</u>	<u>Reactor coolant</u>	<u>Cracking due to cyclic loading</u>			<u>BWR</u>
Yes	Yes	No	3.1-1, 97	<u>IV.A1.R-412</u>	<u>3.1-1, 97</u>	<u>Control rod drive return line nozzle cap and associated cap-to-nozzle weld or cap-to-safe end weld (BWR-3, BWR-4, BWR-5, and BWR-6 designs)</u>	<u>Stainless steel; nickel alloy</u>	<u>Reactor coolant</u>	<u>Cracking due to stress corrosion cracking, intergranular stress corrosion cracking</u>			<u>BWR</u>
Yes	Yes	No	3.1-1, 133	<u>IV.A1.R-448</u>	<u>3.1-1, 133</u>	<u>Any</u>	<u>Steel</u>	<u>Reactor coolant, treated water</u>	<u>Long-term loss of material due to general corrosion</u>			<u>BWR</u>
Yes	Yes	No	3.1-1, 134	<u>IV.A1.R-450</u>	<u>3.1-1, 134</u>	<u>Jacketed thermal insulation</u>	<u>Any</u>	<u>Air – indoor, uncontrolled, air – outdoor, environment, air with borated water leakage, air with reactor coolant leakage, air with steam or water leakage</u>	<u>Reduced thermal insulation resistance due to moisture intrusion</u>			<u>BWR/PWR</u>
Yes	No	No	3.1-1, 16	IV.A1.R-61	3.1-1, 16	Top head enclosure: vessel flange leak detection line	Stainless steel; nickel alloy	Air with reactor coolant leakage (Internal), reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking			BWR
Yes	No	No	3.1-1, 13	IV.A1.R-62	3.1-1, 13	Vessel shell; intermediate beltline/extended beltline shell; beltline/extended beltline welds Reactor Vessel: shell and nozzle components (including associated welds) in the beltline region of the vessel	Steel (with or without stainless steel cladding)	Reactor coolant, neutron flux	Loss of fracture toughness due to neutron irradiation embrittlement			BWR

Yes	No	No	3.1-1, 94	IV.A1.R-64	3.1-1, 94	Vessel shell: attachment welds	Stainless steel; nickel alloy	Reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, <u>or cyclic loading</u>			BWR
No	No	No	3.1-1, 95	IV.A1.R-65	3.1-1, 95	Nozzles: feedwater	Steel (with or without stainless steel cladding)	Reactor coolant	Cracking due to cyclic loading			BWR
Yes	No	No	3.1-1, 96	IV.A1.R-66	3.1-1, 96	Nozzles and nozzle to vessel welds; Reactor nozzle components; control rod drive return line nozzles and nozzle-to-vessel welds (BWR-3, BWR-4, BWR-5, and BWR-6 designs) (including nozzle caps and welds)	Steel (with or without stainless steel cladding); nickel alloy	Reactor coolant	Cracking due to cyclic loading; stress corrosion cracking, intergranular stress corrosion cracking			BWR
Yes	No	Yes		IV.A1.R-67		Nozzles; beltline/extended-beltline nozzles low-pressure coolant injection or RHR injection mode	Steel	Reactor coolant and neutron flux	Loss of fracture toughness due to neutron irradiation embrittlement			BWR
Yes	No	No	3.1-1, 128	IV.A1.R-68	3.1-1, 128	Nozzle safe ends and welds: high-pressure core spray; low pressure core spray; control rod drive return line ; recirculating water; low pressure coolant injection or RHR injection mode	Stainless steel; nickel alloy	Reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking			BWR
Yes	No	No	3.1-1, 4	IV.A1.R-70	3.1-1, 4	Pressure vessel support skirt and attachment welds	Steel	Air – indoor, uncontrolled	Cumulative fatigue damage; cracking due to fatigue or cyclical loading			BWR
Yes	No	No	3.1-1, 85	IV.A1.RP-157	3.1-1, 85	Reactor Vessel: flanges; nozzles; penetrations; safe ends; vessel shells, heads and welds	Steel (with stainless steel or nickel-alloy cladding); stainless steel; nickel alloy	Reactor coolant	Loss of material due to pitting and/or crevice corrosion			BWR
Yes	No	No	3.1-1, 91	IV.A1.RP-165	3.1-1, 91	Top head enclosure; closure studs and nuts <u>Reactor Vessel Closure Flange Assembly Components: closure flanges, studs, nuts, and washers</u>	High-strength, low-alloy steel	Air with reactor coolant leakage	Loss of material due to general, pitting, and crevice corrosion, or wear			BWR

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Yes	No	No	3.1-1, 1	IV.A1.RP-201	3.1-1, 1	Top head enclosure; closure studs and nuts <u>Reactor Vessel Closure Flange Assembly</u> <u>Components: closure flanges, studs</u>	High-strength, low-alloy steel	Air with reactor coolant leakage	Cumulative fatigue damage; <u>cracking</u> due to fatigue <u>or</u> <u>cyclical loading</u>			BWR
Yes	No	No	3.1-1, 14	IV.A1.RP-227	3.1-1, 14	Vessel shell (including applicable beltline/extended beltline) components: shell; shell plates or forgings; shell welds; nozzle plates or forgings; nozzle welds <u>Reactor Vessel: shell and nozzle components (including associated welds) in the beltline region of the vessel</u>	Steel (with or without cladding)	Reactor coolant, neutron flux	Loss of fracture toughness due to neutron irradiation embrittlement			BWR
No	No	No	3.1-1, 98	IV.A1.RP-369	3.1-1, 98	Penetrations: control rod drive stub tubes; in core monitor housings; jet pump instrument; standby liquid control; flux monitor	Stainless steel; nickel alloy	Reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading			BWR
No	No	No	3.1-1, 30	IV.A1.RP-371	3.1-1, 30	Penetrations: drain line	Stainless steel; nickel alloy	Reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading			BWR

Changes Proposed?	New Item?	Deleted Item?	Table	Identifier	ID	Type	Component	Aging Effect/Mechanism	Aging Management Program (AMP)/TLAA	Further Evaluation Recommended	GALL-SLR Item
Yes	No	No	3.1-1	3.1-1, 1	1	BWR/PWR	High strength, low alloy steel reactor vessel top head closure stud flange assembly components exposed to air with potential for reactor coolant leakage	Cumulative fatigue damage; <u>cracking</u> due to fatigue <u>or cyclical loading</u>			IV.A1.RP-201 IV.A2.RP-54
Yes	Yes	No	3.1-1	<u>3.1-1, 113</u>	<u>113</u>	<u>BWR</u>	<u>Steel reactor vessel external attachments exposed to an indoor, uncontrolled air</u>	<u>Loss of material due to general pitting, crevice corrosion, or wear</u>			<u>IV.A1.R-409</u>
Yes	Yes	No	3.1-1	<u>3.1-1, 128</u>	<u>128</u>	<u>BWR</u>	<u>Stainless steel, nickel alloy nozzles safe ends, and welds; high pressure core spray; low pressure core spray; recirculating water; low pressure coolant injection or RHR injection mode exposed to reactor coolant</u>	<u>Cracking due to stress corrosion cracking, intergranular stress corrosion cracking</u>			<u>IV.A1.R-68</u>
Yes	No	No	3.1-1	3.1-1, 13	13	BWR/PWR	Steel (with or without stainless steel <u>or nickel alloy</u> cladding) reactor vessel beltline shell, nozzles, and weld <u>components</u> exposed to reactor coolant and neutron flux	Loss of fracture toughness due to neutron irradiation embrittlement			IV.A1.R-62 IV.A1.R-67 IV.A2.R-81 IV.A2.R-84
Yes	Yes	No	3.1-1	3.1-1, 130	<u>130</u>	<u>BWR</u>	<u>Steel (with or without stainless steel cladding) control rod drive return line nozzles and their nozzle-to-vessel welds exposed to reactor coolant in BWR-2 designs</u>	<u>Cracking due to cyclic loading</u>			<u>IV.A1.R-411</u>
Yes	Yes	No	3.1-1	<u>3.1-1, 133</u>	<u>133</u>	<u>BWR/PWR</u>	<u>Steel components exposed to reactor coolant or treated water</u>	<u>Long-term loss of material due to general corrosion</u>			<u>IV.A1.R-448</u> <u>IV.C1.R-448</u> <u>IV.C2.R-448</u> <u>IV.D1.R-448</u> <u>IV.D2.R-448</u>
Yes	Yes	No	3.1-1	<u>3.1-1, 134</u>	<u>134</u>	<u>BWR/PWR</u>	<u>Jacketed thermal insulation in air-indoor, uncontrolled, air with borated water leakage, air with reactor coolant leakage, or air with steam or water leakage</u>	<u>Reduced thermal insulation resistance due to moisture intrusion</u>			<u>IV.A1.R-450</u> <u>IV.A2.R-450</u> <u>IV.C1.R-450</u> <u>IV.C2.R-450</u> <u>IV.D1.R-450</u> <u>IV.D2.R-450</u>
Yes	No	No	3.1-1	3.1-1, 14	14	BWR/PWR	Steel (with or without cladding) reactor vessel beltline shell, nozzles, and weld <u>components</u> ; <u>safety injection nozzles exposed to reactor coolant and neutron flux</u>	Loss of fracture toughness due to neutron irradiation embrittlement			IV.A1.RP-227 IV.A2.RP-228 IV.A2.RP-229
No	No	No	3.1-1	3.1-1, 16	16	BWR	Stainless steel and nickel alloy top head enclosure vessel flange leak detection line	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking			IV.A1.R-61
No	No	No	3.1-1	3.1-1, 30	30	BWR	Stainless steel or nickel alloy penetration: drain line exposed to reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading			IV.A1.RP-371
Yes	No	No	3.1-1	3.1-1, 4	4	BWR/PWR	Steel pressure vessel support skirt and attachment welds	Cumulative fatigue damage; <u>cracking</u> due to fatigue <u>or cyclical loading</u>			IV.A1.R-70 IV.A2.R-70
Yes	No	No	3.1-1	3.1-1, 7	7	BWR	Steel (with or without nickel-alloy or stainless steel cladding), or stainless steel; or nickel alloy reactor vessel components: <u>flanges</u> ; nozzles; penetrations; safe ends; thermal sleeves; vessel shells, heads and welds exposed to reactor coolant	Cumulative fatigue damage; <u>cracking</u> due to fatigue <u>or cyclical loading</u>			IV.A1.R-04
Yes	No	No	3.1-1	3.1-1, 85	85	BWR	Stainless steel, nickel alloy, and steel with nickel alloy or stainless steel cladding reactor vessel flanges, nozzles, penetrations, safe ends, vessel shells, heads and welds exposed to reactor coolant	Loss of material due to pitting <u>and/or</u> crevice corrosion			IV.A1.RP-157 <u>IV.A2.RP-28</u>
Yes	No	No	3.1-1	3.1-1, 91	91	BWR	High strength low alloy steel reactor vessel closure head stud flange assembly components (including flanges, nut, studs, and washers) exposed to air with potential for reactor coolant leakage	Cracking due to stress corrosion cracking; loss of material due to general, pitting, <u>and</u> crevice corrosion, or wear (<u>BWR</u>)			IV.A1.RP-165 IV.A1.RP-51
Yes	No	No	3.1-1	3.1-1, 94	94	BWR	Stainless steel and nickel alloy vessel shell attachment welds exposed to reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, <u>or</u> <u>cyclic loading</u>			IV.A1.R-64
No	No	No	3.1-1	3.1-1, 95	95	BWR	Steel (with or without stainless steel cladding) feedwater nozzles exposed to reactor coolant	Cracking due to cyclic loading			IV.A1.R-65
Yes	No	No	3.1-1	3.1-1, 96	96	BWR	Steel (with or without stainless steel cladding) control rod drive return line nozzles <u>and their nozzle-to-vessel welds</u> exposed to reactor coolant <u>in BWR-3, BWR-4, and BWR-5, and BWR-6 designs</u>	Cracking due to cyclic loading, <u>stress corrosion cracking, or intergranular stress corrosion cracking</u>			IV.A1.R-66

Yes	No	No	3.1-1	3.1-1, 97	97	BWR	Stainless steel and nickel alloy piping, piping components, and piping elements greater than or equal to 4 NPS; nozzle safe ends and associated welds; <u>control rod drive return line, nozzle cap and associated cap-to-nozzle weld or cap-to-safe end weld in BWR-3, BWR 4, BWR 5, and BWR-6 designs</u>	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking			IV.A1.R-68 <u>IV.A1.R-412</u> IV.C1.R-20 IV.C1.R-21
No	No	No	3.1-1	3.1-1, 98	98	BWR	Stainless steel or nickel alloy penetrations: instrumentation and standby liquid control exposed to reactor coolant	Cracking due to stress corrosion cracking, intergranular stress corrosion cracking, cyclic loading			IV.A1.RP-369