

STANDARD REVIEW PLAN - INSTRUMENTATION AND CONTROLS - POTENTIAL UPDATE TOPICS PRIORITY 1 SECTIONS

Update Needed to Support Combined License Application Preparation

Section	Section Title	Potential Update Topics
Appendix 7.1-C	Guidance for Evaluation of Conformance to IEEE Std 603	Move discussions of IEEE Std 7-4.3.2 and RG 1.152 to Appendix 7.1-D IEEE Std 603 RG 1.180 - EMI, RFI RG 1.204 - Lightning Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Appendix 7.1-D (new)	Guidance for Evaluation of Conformance to IEEE Std 7-4.3.2	Move discussions of IEEE Std 7-4.3.2 and RG 1.152 from Appendix 7.1-C Software Review Lessons Learned Commercial Grade Dedication Lessons Learned IEEE Std 603 RG 1.180 - EMI, RFI RG 1.204 - Lightning Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 14.3.5	Instrumentation and Controls (Tier 1)	ITAAC implementation under 10 CFR 50 Part 52 Software Review Lessons Learned Digital System Life Cycle Process IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-14	Guidance on Software Reviews for Digital Computer-Based Instrumentation and Control Systems	Software Review Lessons Learned Commercial Grade Dedication Lessons Learned IEEE Std 7-4.3.2, RG 1.152 RG 1.168 - Software Verification & Validation Digital System Life Cycle Process Update References, Latest Standards, Latest Regulatory Guides, Branch Name

Section	Section Title	Potential Update Topics
BTP 7-16	Guidance on the Level of Detail Required for Design Certification Applications Under 10 CFR Part 52	Update in conjunction with DG-1145 ITAAC implementation under 10 CFR 50 Part 52 Software Review Lessons Learned Digital System Life Cycle Process IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Defense - In - Depth and Diversity Emerging Technology PRA Update References, Latest Standards, Latest Regulatory Guides, Branch Name

STANDARD REVIEW PLAN - INSTRUMENTATION AND CONTROLS - POTENTIAL UPDATE TOPICS PRIORITY 2 SECTIONS

Update Needed to Support License Application Reviews

Section	Section Title	Potential Update Topics
Section 7.0	Instrumentation and Controls - Overview of Review Process	ITAAC implementation under 10 CFR 50 Part 52 RG 1.177 - Risk Informed Regulation IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Commercial Grade Dedication Lessons Learned Reliability Technical Specification Changes, 10 CFR 50.36 Power Uprates Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Appendix 7.0-A	Review Process for Digital Instrumentation and Control Systems	ITAAC implementation under 10CFR 50 Part 52 Software Review Lessons Learned Commercial Grade Dedication Lessons Learned Digital System Life Cycle Process IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Human Factors Interface Soft Control Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Appendix 7.1-A	Acceptance Criteria and Guidelines for Instrumentation and Control Systems Important to Safety	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Technical Specification Changes, 10 CFR 50.36 RG 1.180 - EMI, RFI RG 1.204 - Lightning RG 1.105 - Setpoints RG 1.97 - Accident Monitoring Instrumentation Digital Sampling (new BTP) Digital Operating System Testing (new BTP) Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.2	Reactor Trip System	ITAAC implementation under 10 CFR 50 Part 52 RG 1.105 - Setpoints IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Update References, Latest Standards, Latest Regulatory Guides, Branch Name

Section	Section Title	Potential Update Topics
Section 7.3	Engineered Safety Features Systems	ITAAC implementation under 10 CFR 50 Part 52 RG 1.105 - Setpoints IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Power Uprate Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.4	Safe Shutdown Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.5	Information Systems Important to Safety	ITAAC implementation under 10 CFR 50 Part 52 RG 1.105 - Setpoints IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Human Factors Interface Soft Control RG 1.97 - Accident Monitoring Instrumentation RG 1.177- Risk Informed Regulation Isolation Designs Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.6	Interlock Systems Important to Safety	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 603 Power Uprate Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.7	Control Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 603 Power Uprate Human Factors Interface Soft Control Update References, Latest Standards, Latest Regulatory Guides, Branch Name

Section	Section Title	Potential Update Topics
Section 7.8*	Diverse Instrumentation and Control Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Defense - In - Depth and Diversity Power Uprate Isolation Designs Human Factors Interface Soft Control PRA Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 7.9	Data Communications Systems	ITAAC implementation under 10 CFR 50 Part 52 RG 1.105 - Setpoints IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 RG 1.180 - EMI, RFI RG 1.204 - Lightning Defense - In Depth and Diversity Human Factors Interface Soft Control Isolation Designs Security Issues Update References, Latest Standards, Latest Regulatory Guides, Branch Name
Section 9.5.2	Communications Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 RG 1.180 - EMI, RFI RG 1.204 - Lightning Human Factors Interface Digital System Life Cycle Process Security Issues Wireless Communications Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-10	Guidance on Application of Regulatory Guide 1.97	RG 1.97 - Accident Monitoring Instrumentation Update References, Latest Standards, Latest Regulatory Guides, Branch Name

Section	Section Title	Potential Update Topics
BTP 7-11	Guidance on Application and Qualification of Isolation Devices	Isolation Designs IEEE Std 603 RG 1.180 - EMI, RFI RG 1.204 - Lightning Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-12	Guidance on Establishing and Maintaining Instrument Setpoints	RG 1.105 - Setpoints Graded Approach to Setpoints IEEE Std 603 Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-17	Guidance on Self-Test and Surveillance Test Provisions	Technical Specification Changes, 10 CFR Part 50 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-18	Guidance on the Use of Programmable Logic Controllers in Digital Computer-Based Instrumentation and Control Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Commercial Grade Dedication Lessons Learned Software Reviews Lessons Learned Digital System Life Cycle Process Isolation Designs RG 1.180 - EMI, RFI RG 1.204 - Lightning Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-19*	Guidance for Evaluation of Defense-in-Depth and Diversity in Digital Computer-Based Instrumentation and Control Systems	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Defense - In - Depth and Diversity Commercial Grade Dedication Lessons Learned Software Reviews Lessons Learned Digital System Life Cycle Process Emerging Technology Human Factors Interface Soft Control Update References, Latest Standards, Latest Regulatory Guides, Branch Name

Section	Section Title	Potential Update Topics
BTP 7-21	Guidance on Digital Computer Real-Time Performance	ITAAC implementation under 10 CFR 50 Part 52 IEEE Std 7-4.3.2, RG 1.152 IEEE Std 603 Commercial Grade Dedication Lessons Learned Software Reviews Lessons Learned Digital System Life Cycle Process Update References, Latest Standards, Latest Regulatory Guides, Branch Name
BTP 7-22 (new)	Guidance on Digital Sampling	Digital Sampling
BTP 7-23 (new)	Guidance on Digital Operating System Testing	Digital Operating System Testing

* Section 7.8 and BTP 7-19 may need to be accelerated (become Priority 1) based on pending Commission paper on defense-in-depth and diversity