



Fire protection for nuclear power plants



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Contents

Technical Committee on Fire Protection for Nuclear Power Plants	10
New Edition Task Force	13
Preface	14
1 Scope	16
1.1 *Inclusions	16
1.2 *Exclusions	16
1.3 Terminology	16
1.4 Units of measurement	16
2 Reference publications	16
3 Definitions and abbreviations	23
3.1 Definitions	23
3.2 Abbreviations	30
4 General requirements	30
4.1 Effective date	30
4.2 Responsibility	31
4.3 *Application of the Standard	31
4.3.1 *General application	31
4.3.2 *Modifications	31
4.3.3 *Alternatives and performance-based approaches	31
4.3.4 Good engineering practice	31
5 Fire protection goals, objectives, and criteria	31
5.1 *Fire protection goals	31
5.2 Nuclear safety performance objectives	32
5.2.1 *Objectives	32
5.2.2 Justification	32
5.2.3 Maintenance	32
5.3 *Life safety performance objectives	32
5.3.1 Objectives	32
5.3.2 Justification	32
5.4 Nuclear safety performance criteria	33
5.4.1 General	33
5.4.2 *Reactor shutdown	33
5.4.3 Residual heat removal	33
5.4.4 *Barrier to fission product release	33
5.4.5 Support services	33
5.4.6 Monitoring of parameters	33
5.4.7 Nuclear safety performance criteria limiting the release of radioactive material located outside the reactor	33
5.5 Life safety performance criteria	34
5.5.1 General	34

- 5.5.2 *Building code application 34
- 5.5.3 *Fire code application 34

6 Alternatives, performance-based approaches and fire protection modifications to operating NPPs 34

- 6.1 General 34
- 6.2 Documentation requirements for alternatives and performance-based approaches 35
 - 6.2.1 General 35
 - 6.2.2 Documentation details 35
 - 6.2.3 Minimum documentation requirements 35
- 6.3 *AHJ concurrence 35
- 6.4 *Fire protection for modifications to operating NPPs 35
 - 6.4.1 *General 35
 - 6.4.2 *Assessment 36

7 Fire protection requirements 37

- 7.1 General 37
- 7.2 *Defence-in-depth principle 37
 - 7.2.1 *General 37
 - 7.2.2 Fire prevention (Level 1) 37
 - 7.2.3 Fire detection and suppression (Level 2) 37
 - 7.2.4 *Limiting the effects of fires (Level 3) 37
 - 7.2.5 Controlling and mitigating events (Level 4) 37
 - 7.2.6 Mitigating events consequences (Level 5) 37
- 7.3 Fire protection assessments (FPAs) 37
- 7.4 Fire protection program (FPP) 38
- 7.5 Fire hazard control — Layout and separation 38
 - 7.5.1 Layout 38
 - 7.5.2 Systems, components, and materials 38
 - 7.5.3 Cable trays 38
- 7.6 *Redundant fire safe shutdown systems 39
 - 7.6.1 *Protection of fire safe shutdown systems and equipment 39
 - 7.6.2 *Physical separation between redundant fire safe shutdown systems 39
 - 7.6.3 Spatial separation between redundant fire safe shutdown systems 40
- 7.7 Control room complex 40
 - 7.7.1 Separation from adjoining areas 40
 - 7.7.2 Separation from the remainder of the building 41
 - 7.7.3 *Fire detection 41
 - 7.7.4 *Limiting the spread of fire 41
 - 7.7.5 Smoke infiltration 41
 - 7.7.6 *Travel routes between control rooms 42
- 7.8 Separation of the turbine generator building (hall) 42
 - 7.8.1 *General 42
 - 7.8.2 Building code application 42
 - 7.8.3 *Fire separation 43
 - 7.8.4 Protection from structural collapse 43
 - 7.8.5 *Firewall considerations 43
- 7.9 *Containment structures 43
 - 7.9.1 General 43

7.9.2	Egress from containment structures	44
7.10	Protection against seismic hazards	44
7.10.1	*General	44
7.10.2	*Seismic qualification	44
7.10.3	*Manual fire suppression	44
7.10.4	*Automatic fire suppression	44
7.10.5	Seismic qualification of critical paths	45
7.11	*Protection against external fires	45
7.12	*Other fire hazards	45
7.13	*Fire response capability	45
7.14	Quality management system	45
8	Design requirements for the prevention and mitigation of fires	45
8.1	*Mitigation measures	45
8.2	Fire separation	45
8.2.1	Fire separation for areas containing radioactive substances	45
8.2.2	Fire area and compartment separation	46
8.2.3	Fire separation between floors and between buildings	46
8.2.4	Fire-resistance rating	46
8.2.5	Fire-resistance rating for combustible materials storage	46
8.3	Spatial separation	46
8.4	Firestopping	46
8.4.1	Penetrations	46
8.4.2	*Firestop rating	46
8.4.3	*Joints in a fire separation	46
8.4.4	Record for firestops	46
8.5	*Fire protection of structures	47
8.5.1	Fire separation assemblies and structure supporting fire separations	47
8.5.2	*Structural failures assessment	47
8.6	Life safety	47
8.6.1	Methods of egress	47
8.6.2	Emergency and exit lighting	47
8.6.3	Emergency lighting power supply	47
8.6.4	Minimum lighting level	47
8.6.5	*Identification of egress routes	47
8.7	*Access for fire fighting	47
8.8	*Combustible material in buildings and interior finishes	47
8.8.1	Buildings	47
8.8.2	Control of combustible materials	48
8.8.3	Metabolic construction	48
8.8.4	*Combustible materials used in interior finishes	48
8.9	*Combustible materials used in buildings and fixtures	48
8.9.1	Fixtures and interior finishes	48
8.9.2	Minimization of combustibles	48
8.9.3	*Foamed plastics	48
8.9.4	Shelves and racks	48
8.10	Storage of combustible materials	49
8.10.1	Permanent storage	49
8.10.2	Fire separation	49

8.11	Design to facilitate control of transient materials	49
8.11.1	Storage and laydown areas	49
8.11.2	Design for transient materials	49
8.11.3	Storage facilities	49
8.11.4	*Storage rooms	49
8.11.5	Transient combustible materials	49
8.12	Control of combustible materials in HVAC equipment	49
8.12.1	Ducts	49
8.12.2	Air filter media	49
8.12.3	HEPA filters	50
8.12.4	*Charcoal filters	50
8.13	Control of combustible materials in electrical equipment and cables	50
8.13.1	*Minimization of combustibles	50
8.13.2	*Electric and control cabinets	50
8.13.3	Electrical cable trays	50
8.13.4	*Electrical cables	50
8.14	Control of flammable liquids and combustible liquids	50
8.14.1	General	50
8.14.2	*Use of flammable liquids and combustible liquids in design	50
8.14.3	*Containment of combustible liquids	51
8.14.4	*High-flash-point liquids	51
8.15	Control of gases	51
8.15.1	*Reducing the fire and explosion hazards of hydrogen	51
8.15.2	*Controlling the production of hydrogen and deuterium in processes	51
8.15.3	*Use of compressed gases	51
8.15.4	Aerosol storage	51
8.15.5	*Bulk storage of dangerous goods	51
8.16	*Storage of radioactive materials	52
8.17	Control of ignition sources	52
8.17.1	Permanent ignition sources	52
8.17.2	Temporary ignition sources	52
8.17.3	Electrical equipment and wiring	52
8.17.4	Minimizing ignition sources in design	52
8.17.5	Lightning protection	52
8.17.6	Lightning protection system	52
8.18	*Fire alarm systems	52
8.19	Fire suppression	52
8.19.1	Manual suppression	52
8.19.2	*Automatic fire suppression systems	53
8.20	*Smoke management	53
9	Design and installation requirements for fire protection systems	53
9.1	General	53
9.1.1	Overview	53
9.1.2	Qualification	53
9.2	Fire alarm systems	53
9.2.1	General	53
9.2.2	Input devices	57
9.2.3	Output devices	57

9.3	Fire suppression	58
9.3.1	Selection	58
9.3.2	Standards and Codes	58
9.3.3	*Design	59
9.3.4	*Special extinguishing systems	59
9.3.5	Hazards mitigation	59
9.3.6	Pressure-retaining components	60
9.4	Water supply for fire protection	60
9.4.1	*Water sources	60
9.4.2	*Fire protection water supply volume	60
9.4.3	*Flow rate	60
9.4.4	Demand	60
9.4.5	Reservoirs or tanks — General	60
9.4.6	Reservoirs or tanks — Design	61
9.4.7	*Drafting	61
9.4.8	*Emergency use	61
9.5	*Fire pumps	61
9.6	*Fire protection water distribution system	62
9.7	Automatic and manual water-based fire suppression systems	62
9.7.1	*Automatic sprinkler system design and installation	62
9.7.2	Multiple automatic sprinkler systems	62
9.7.3	Structural steel protection	62
9.7.4	*Cable trays and automatic sprinkler discharge	63
9.7.5	*Cable tray protection	63
9.7.6	*Diking and drainage	63
9.7.7	*Oil-filled transformers	63
9.8	Special extinguishing systems	63
9.8.1	*General	63
9.8.2	Special extinguishing systems design, installation, maintenance, and inspection	63
9.9	*Portable extinguishers	64
9.10	Fire hydrants	64
9.10.1	Outdoor areas	64
9.10.2	*Spacing	64
9.10.3	*Connections	64
9.10.4	Isolation valves	64
9.10.5	Wall hydrants	64
9.10.6	Marking	64
9.11	*Standpipes	64
9.12	Manual firefighting	64
9.12.1	General	64
9.12.2	*Access for firefighting	65
9.13	Seismic qualification	65
9.13.1	*General	65
9.13.2	Seismic Category A	65
9.13.3	Seismic Category B	65
10	Fire protection program	66
10.1	*General	66
10.1.1	Overview	66

10.1.2	Policy document	66
10.1.3	*Program elements	66
10.1.4	Application	66
10.1.5	Maintenance	67
10.2	Roles, responsibilities, and authority	67
10.3	Fire protection for NPP modifications	67
10.4	Fire safety training	67
10.4.1	*General	67
10.4.2	Fire safety training needs analysis	67
10.4.3	Application	67
10.4.4	Fire safety awareness training for facility personnel	67
10.4.5	Training for fire brigade members	68
10.4.6	Initial training — General	68
10.4.7	Initial training — Response to a fire event	68
10.4.8	*Requalification interval	68
10.4.9	Hands-on portable fire extinguisher training	68
10.5	Housekeeping	68
10.5.1	General	68
10.5.2	Metal receptacles	69
10.5.3	Maintenance	69
10.5.4	Means of egress and access routes	69
10.6	Minimization and management of combustibles	69
10.6.1	General	69
10.6.2	Restrictions	69
10.6.3	Transient materials	69
10.6.4	Combustible waste	69
10.6.5	Combustible contents	69
10.6.6	*SSCs	70
10.7	Fire protection for the handling, use, and storage of radioactive materials	70
10.7.1	Administrative procedures	70
10.7.2	Handling	70
10.7.3	*Storage	70
10.7.4	Combustible materials	70
10.7.5	*Protection from fire and firefighting activities	70
10.8	Relocatable structures	70
10.8.1	*General	70
10.8.2	*Requirements	71
10.8.3	Visual inspection	71
10.8.4	*FPA impact	71
10.9	Thermal insulating materials	71
10.9.1	General	71
10.9.2	Inspection	71
10.9.3	Replacement	71
10.10	Handling and storage of dangerous goods	71
10.10.1	General	71
10.10.2	Storage	72
10.10.3	Flammable liquid cabinets	72
10.10.4	Containment structure	72
10.10.5	Compressed gases and cryogenic fluids	72

10.10.6	Transient compressed gases and cryogenic fluids	72
10.10.7	Compressed gases and cryogenic fluids minimization	72
10.10.8	Aerosols	72
10.10.9	Dangerous goods	72
10.11	Ignition source control	72
10.11.1	*Control of hot work	72
10.11.2	Control of smoking	72
10.12	*Fire protection of safety-related systems	73
10.12.1	General	73
10.12.2	Restrictions for plant vehicles	73
10.12.3	*Ignition sources	73
10.13	Fire safety during work activities	73
10.13.1	General	73
10.13.2	*Planning	73
10.14	*Reporting and follow-up of fire incidents	73
10.14.1	*Fire reporting	73
10.14.2	Notification	73
10.14.3	*Investigation	73
10.14.4	AHJ notification	74
10.14.5	Trending	74
10.14.6	Impact on future performance	74
10.15	Inspection, testing, maintenance, and operation of fire protection equipment	74
10.15.1	*General	74
10.15.2	Documentation	74
10.15.3	*Performance-based inspection, testing, and maintenance program	74
10.16	*Impairments to fire protection systems	74
10.16.1	General	74
10.16.2	Planned impairments	74
10.16.3	Unplanned impairments	74
10.16.4	Compensatory measures	74
10.16.5	*Impairment plan	75
10.16.6	*Impairment procedure	75
10.17	*Inspection requirements	75
10.18	Fire protection program audit	76
10.18.1	*General	76
10.18.2	*Scope of FPP audit	76
10.19	*Annual NPP condition inspection	76
10.20	Fire response capability	76
10.21	Fire safety plans	77
10.22	*Quality management system	77
11	Fire protection requirements for decommissioning	77
11.1	*General	77
11.2	Application	77
11.2.1	General	77
11.2.2	*Preparation for decommissioning	77
11.2.3	Execution of decommissioning	77
11.2.4	Demolition activities	78
11.3	*Fire protection program	78

11.4	Fire protection assessment	78
11.4.1	*Updates	78
11.4.2	Impact on adjacent units	78
11.5	Fire protection systems	78
11.5.1	*General	78
11.5.2	*Fire alarm systems	78
11.5.3	Fire protection water supply	78
11.5.4	*Fire hydrants	78
11.5.5	Automatic and manual water-based fire suppression systems	79
11.5.6	Standpipes and hose systems	79
11.5.7	Special extinguishing systems	79
11.5.8	Portable extinguishers	79
11.5.9	Fire separations	79
11.5.10	Fire exits	79
11.6	Protection of operating units	79
11.7	Fire response	79
11.7.1	General	79
11.7.2	Changes	79
11.7.3	Facility fire brigade (FFB)	79

12 Fire response capability 80

12.1	General	80
12.1.1	Fire hazards	80
12.1.2	Overview	80
12.1.3	*Fire response needs analysis (FRNA)	80
12.1.4	External aid	81
12.2	Facility fire brigade (FFB)	82
12.2.1	General	82
12.2.2	*Duties	82
12.2.3	Personnel and equipment	82
12.2.4	Operations controlling authority (OCA)	82
12.3	Pre-incident planning	82
12.3.1	General	82
12.3.2	Overview	82
12.3.3	Maintenance	83
12.4	Facility fire brigade (FFB) member qualifications	83
12.4.1	*Fitness requirements	83
12.4.2	Training	83
12.4.3	*Operational air management program	83
12.5	Response coordination and drills	83
12.5.1	*Incident management	83
12.5.2	External aid	83
12.5.3	*Drills	84
12.5.4	Fire response drill reviewer	84
12.5.5	Evaluation of fire response capability	84
12.6	Communication	84
12.6.1	General	84
12.6.2	*Recording of communications	84
12.6.3	Security communication	84

12.6.4	OCA communication	84
12.7	Equipment	84
12.7.1	Personal protective clothing and protective equipment	84
12.7.2	Radiation detection and dose monitoring equipment	84
12.7.3	*Fire response equipment	85
12.7.4	Readiness	85
12.7.5	Self-contained breathing apparatus (SCBA)	85
12.7.6	Compatibility of equipment	85
12.8	Facility fire brigade (FFB) performance criteria	85
12.8.1	General	85
12.8.2	Initial response	85
12.8.3	*Set-up and intervention	85
13	Fire protection assessments (FPA)	86
13.1	*General	86
13.2	*FPA development	86
13.3	*Code compliance review (CCR)	86
13.3.1	General	86
13.3.2	CCR scope	86
13.3.3	CCR development	86
13.3.4	*CCR maintenance	87
13.4	Fire hazard assessment	87
13.4.1	General	87
13.4.2	FHA scope	87
13.4.3	FHA development	87
13.4.4	*FHA maintenance	88
13.4.5	Operational modes	88
13.4.6	FHA documentation and assessment	88
13.5	Fire safe shutdown analysis (FSSA)	89
13.5.1	General	89
13.5.2	FSSA scope	89
13.5.3	FSSA development	89
13.5.4	*FSSA maintenance	90
13.5.5	*FSSA documentation	90
13.5.6	Limitations and uncertainties	90
13.6	Valid assumptions for the FHA and FSSA	90
13.7	Quality assurance	91
13.7.1	General requirements for quality assurance	91
13.7.2	*Personnel qualifications	91

Annex A (informative)	— Commentary on Clauses in CSA N293	92
Annex B (informative)	— Guidelines for the preparation of a fire protection assessment	130

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Preface

This is the fifth edition of CSA N293, *Fire protection for nuclear power plants*. It supersedes the previous editions published in 2012, 2007, 1995, and 1987.

This edition of CSA N293 includes changes arising from new knowledge, operating experience, and comments from users of the Standard. It also incorporates the information from CSA N293S1 on small modular reactors.

The Standard has been restructured from its previous edition to allow for improved usability, accessibility, and removal of duplicated requirements. An asterisk (*) as the first character of a clause title or at the beginning of a paragraph indicates that there is guidance or rationale related to that item in Annex A.

Users of this Standard are reminded that the site selection, design, manufacture, construction, installation, commissioning, operation, and decommissioning of nuclear facilities in Canada are subject to the *Nuclear Safety and Control Act* and Regulations. The Canadian Nuclear Safety Commission might impose requirements additional to those specified in this Standard.

The CSA N-Series Standards provide an interlinked set of requirements for the management of nuclear facilities and activities. CSA N286 provides overall direction to management to develop and implement sound management practices and controls, while the other CSA Group nuclear Standards provide technical requirements and guidance that support the management system. This Standard works in harmony with CSA N286 and does not duplicate the generic requirements of CSA N286; however, it may provide more specific direction for those requirements.

This Standard was prepared by the New Edition Task Force, under the jurisdiction of the Technical Committee on Fire Protection for Nuclear Power Plants and the Strategic Steering Committee on Nuclear Standards, and has been formally approved by the Technical Committee.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization – Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include "Request for interpretation" in the subject line:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
 - b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.
- 5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:*
 - a) *Standard designation (number);*

- b) *relevant clause, table, and/or figure number;*
- c) *wording of the proposed change; and*
- d) *rationale for the change.*

CSA N293:23

Fire protection for nuclear power plants

1 Scope

1.1 *Inclusions

This Standard provides the minimum fire protection requirements for the design, construction, commissioning, operation, and decommissioning of nuclear power plants (NPPs) and small modular reactors (SMRs), including structures, systems, and components (SSCs) that directly support the NPP/SMR and the protected area.

Notes:

- 1) Where requirements do not state specific applicability to NPPs or SMRs, the requirements apply to both types of nuclear facilities.
- 2) When a clause in this Standard includes a subsection for NPPs and a subsection for SMRs, the requirements for SMRs are separate from the requirements for all other NPPs. In all other cases throughout this Standard, the term "NPP" is inclusive of SMRs.

1.2 *Exclusions

External events, such as an aircraft crash or terrorist attack, are outside the scope of this Standard.

1.3 Terminology

In this Standard, "shall" is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Standard; "should" is used to express a recommendation or that which is advised but not required; and "may" is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.

1.4 Units of measurement

The values given in SI units are the units of record for the purposes of this Standard. The values given in parentheses are for information and comparison only.

2 Reference publications

This Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below.

Note: In cases where the editions listed below are amended, replaced by new editions, or superseded by another Standard during the life of this referencing Standard, it is the responsibility of the users of this Standard to investigate the possibility of applying those amendments, new editions, or superseding Standards (see Clause 6 regarding alternatives and performance-based approaches).