

ISO/FDIS 2889:2023(E)

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Secretariat: **AFNOR**

Sampling airborne radioactive materials from the stacks and ducts of nuclear facilities

Échantillonnage de substances radioactives en suspension dans l'air dans les émissaires de rejet et les conduits des installations nucléaires

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Contents Page

Foreword	xii
Introduction	xiii
1 — Scope	1
2 — Normative references	1
3 — Terms and definitions	1
4 — Symbols	12
5 — Factors impacting the sampling program	15
6 — Sample extraction locations	16
7 — Sampling system design	19
8 — Quality assurance and quality control	31
Annex A (informative) — Techniques for measurement of flow rate through a stack or duct	33
A.1 — General	33
A.2 — Special considerations for use of ISO 10780 in sampling stacks and ducts of nuclear facilities	34
A.2.1 — General	34
A.2.2 — Pitot tubes	34
A.2.3 — Mean molar mass of the stack or duct gas	35
A.2.4 — Thermal anemometers	35
A.3 — Conversion of data from single point or single line measurements to total flow rate	35
A.3.1 — General	35
A.3.2 — Pitot tube	36
A.3.3 — Thermal anemometer	36
A.3.4 — Acoustic flow meter	37

Annex B (informative) Modelling of particle losses in transport systems	38
B.1 General	38
B.2 Aerosol particle penetration through transport system components	39
B.2.1 General	39
B.2.2 Wall losses in nozzles	40
B.2.3 Straight tubes	41
B.2.4 Bends	43
B.3 Calculation of sample losses in a transport system	46
Annex C (informative) Special considerations for the extraction, transport and sampling of radioiodine	49
C.1 General	49
C.2 Sample extraction and transport	49
C.3 Collection media for radioiodine	51
Annex D (informative) Optimizing the selection of filters for sampling airborne radioactive particles	54
Annex E (informative) Evaluating the errors and the uncertainty for the sampling of effluent gases	61
E.1 General	61
E.2 Uncertainty estimation related to the emission of a radioactive substance	61
E.3 Quantifying uncertainty	63
E.3.1 Stack or duct emission measurement uncertainty analysis methods	63
E.3.2 Combined uncertainty associated with the measurement process	63
E.3.3 Uncertainty associated with bias	64
E.3.4 Uncertainty associated with conceptual systematic uncertainty	65
E.3.4.1 General	65

E.3.4.2 Uncertainty associated with temporal variations	65
E.3.4.3 Model systematic uncertainty	65
E.3.5 Describing the combined uncertainties in emission measurement	65
E.4 Evaluation of uncertainties	67
E.4.1 General	67
E.4.2 Uncertainty in sample volume, stack or duct area, and transmission efficiency	67
E.4.3 Uncertainty in velocity measurement parameters	67
E.4.4 Uncertainty in measurement parameters	68
E.4.5 Methodological bias	68
E.5 Summary of uncertainty analysis	69
E.6 Correlated uncertainties	69
Annex F (informative) Mixing demonstration and sampling system performance verification ..	70
F.1 Mixing demonstration methods	70
F.1.1 General	70
F.1.2 Method 1	70
F.1.2.1 General	70
F.1.2.2 Tracers	70
F.1.2.3 Measurement conditions	70
F.1.2.4 Measurement points	71
F.1.2.5 Transference of qualification test results	71
F.1.3 Method 2	71
F.1.4 Numerical modeling to qualify the sample extraction location	73
F.1.5 Alternative approaches	74

F.2 — When to conduct sampling system performance verification	74
F.2.1 — General	74
F.2.2 — Approaches to verification	74
F.2.3 — In-place testing	75
F.2.3.1 Particle sampling examples	75
F.2.3.2 Radioiodine sampling examples	76
F.2.4 — Laboratory simulation	76
F.2.4.1 General	76
F.2.4.2 Aerosol particle examples	76
F.2.4.3 Radioiodine examples	76
F.2.5 — Modeling	76
F.2.5.1 General	76
F.2.5.2 Particle examples	76
F.2.5.3 Radioiodine examples	77
Annex G (informative) Transuranic aerosol particulate characteristics — Implications for extractive sampling in nuclear facility effluents	78
G.1 — General	78
G.2 — HEPA filtration effects	78
G.3 — Transuranic aerosol particulate characteristics under accident conditions	79
G.4 — Implications for nozzle design	81
G.5 — Implications for other nuclear facilities	81
Annex H (informative) Tritium sampling and detection	82
H.1 — Tritium chemistry	82
H.2 — Sampling considerations	82

H.2.1	General	82
H.2.2	Sampler nozzle	82
H.2.3	Heat tracing	82
H.2.4	Medium location	82
H.3	Sample media	83
H.3.1	General	83
H.3.2	Silica gel	83
H.3.3	Molecular sieves	83
H.3.4	Bubblers	83
H.3.5	Condensation	84
H.3.6	Catalysts	84
H.4	On-line detection	84
H.4.1	Ionization detectors	84
H.4.2	Proportional counters	84
Annex I (informative)	Action levels	85
I.1	General	85
I.2	Action levels for control monitoring	87
I.3	Action levels for record sampling	88
I.4	System sensitivity needed to achieve selected action levels	88
I.5	System performance and availability alarms	93
Annex J (informative)	Quality assurance	94
J.1	General	94
J.2	Documentation	94

J.2.1	General	94
J.2.2	Source term	94
J.2.3	Effluent flow characterization	94
J.2.4	Design and construction	94
J.3	Maintenance and inspection	95
J.3.1	General	95
J.3.2	Inspections	95
J.3.3	Sampling system flow meter inspections	95
J.3.4	Continuous effluent flow measurement apparatus	96
J.4	Calibration	97
J.4.1	General	97
J.4.2	Calibration of sampling system flow meters	97
J.4.3	Calibration of effluent flow measurement devices	98
J.4.4	Calibration of timing devices	98
Annex K (informative)	Carbon-14 sampling and detection	99
K.1	Carbon-14 chemistry	99
K.2	Sampling considerations	99
K.2.1	General	99
K.2.2	Particulate ¹⁴ C	99
K.2.3	Gaseous ¹⁴ C	99
K.3	Sampling media	99
K.3.1	Particulate ¹⁴ C	99
K.3.2	Gaseous ¹⁴ CO ₂	100

K.3.2.1 General	100
K.3.2.2 Collection with caustic solutions	100
K.3.2.3 Collection with solid caustic materials	101
K.3.2.4 Collection with molecular sieves	101
K.3.3 Non-CO₂ gaseous ¹⁴C	101
Annex L (informative) Factors impacting sampling system design	102
L.1 Sampling objective	102
L.2 Considerations for different sampling situations	102
L.2.1 General	103
L.2.2 Considerations for sampling normal and off-normal conditions	103
L.2.3 Sampling for aerosol particles	104
L.2.4 Concerns for large particles	105
L.2.5 Sampling condensable vapour or reactive gases	106
L.2.6 Sampling non-condensable, non-reactive gases	106
L.3 Action levels	106
L.4 Sampling environment	106
L.4.1 Characterizing the sampling environment	106
L.4.2 Temperature	107
L.4.3 Effluent flow rate	107
L.4.4 Effluent composition	107
L.4.5 Particle size	107
L.5 Influence of potential emissions on sampling	108
Annex M (informative) Sampling nozzles and probes	109

M.1	General	109
M.2	Nozzle design	109
M.3	Multi-nozzle probe designs	111
M.3.1	General	111
M.3.2	Multi-nozzle probe theory	112
M.3.3	Multi-nozzle probe examples	114
Annex N (informative)	Stack or duct sampling and analysis for ¹⁰⁶Ru	118
Bibliography		119
Foreword		xii
Introduction		xiii
1	Scope	1
2	Normative references	1
3	Terms and definitions	1
4	Symbols	12
5	Factors impacting the sampling program	15
6	Sample extraction locations	16
7	Sampling system design	19
8	Quality assurance and quality control	31
Annex A (informative)	Techniques for measurement of flow rate through a stack or duct	33
Annex B (informative)	Modelling of particle losses in transport systems	38
Annex C (informative)	Special considerations for the extraction, transport and sampling of radioiodine	49
Annex D (informative)	Optimizing the selection of filters for sampling airborne radioactive particles	54

<u>Annex E (informative) Evaluating the errors and the uncertainty for the sampling of effluent gases</u>	61
<u>Annex F (informative) Mixing demonstration and sampling system performance verification ..</u>	70
<u>Annex G (informative) Transuranic aerosol particulate characteristics — Implications for extractive sampling in nuclear facility effluents</u>	78
<u>Annex H (informative) Tritium sampling and detection</u>	82
<u>Annex I (informative) Action levels.....</u>	85
<u>Annex J (informative) Quality assurance.....</u>	94
<u>Annex K (informative) Carbon-14 sampling and detection.....</u>	99
<u>Annex L (informative) Factors impacting sampling system design</u>	102
<u>Annex M (informative) Sampling nozzles and probes.....</u>	109
<u>Annex N (informative) Stack or duct sampling and analysis for ¹⁰⁶Ru.....</u>	118
<u>Bibliography</u>	119

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 85, *Nuclear energy nuclear technologies and radiological protection*, Subcommittee SC 2, *Radiation protection*.

This fourth edition cancels and replaces the third edition (ISO 2889:2021), ~~of which has been technically revised; it constitutes a minor revision.~~

The main changes are:

- clarification of the circumstances where numerical modelling may be used to perform or assist with meeting the qualifications for sample extraction locations;
- clarification of passages allowing the use of alternate aerosol particle sizes for the purpose of testing to meet various performance criteria described in this document;
- changes for the discussion of standard uncertainty with regard to setting action levels (Annex I).

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

This document focuses on monitoring the activity concentrations and activity releases of radioactive substances in air in stacks and ducts. Other situations for monitoring the activity concentrations and activity releases of radioactive substances in air (environmental or workplace monitoring) are being addressed in subsequent standards. This document provides performance-based criteria for the use of air-sampling equipment, including probes, transport lines, sample collectors, sample monitoring instruments and gas flow measuring methods. This document also provides information covering sampling programme objectives, quality assurance, development of air monitoring control action levels, system optimization and system performance verification.

ISO 2889 was first published in 1975 as a guide to sampling airborne radioactive materials in the ducts, stacks, and working environments of installations where work with radioactive materials is conducted. Since then, an improved technical basis has been developed for each of the major sampling specialities. The focus of this document is on the sampling of airborne radioactive materials in ducts and stacks.

The goal of achieving an unbiased, representative sample is best accomplished where samples are extracted from airstreams in which potential airborne contaminants are well mixed in the airstream. This document sets forth performance criteria and recommendations to assist in obtaining valid measurements of the concentration of airborne radioactive materials in ducts or stacks.

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