CONCEPT

Technical Report Writing for Engineers: Reports, Specifications and Technical Data

18 – 22 January 2027
London - Central London four-star



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Ref: 70_9030 **Date:** 18 – 22 January 2027 **Location:** London - Central London four-star **Fees:** 23000 SAR

Introduction:

Technical report writing decides whether test results, inspection findings and investigation conclusions lead to the right engineering decision. Reports that hide the key finding, mix results with opinion or present data without units and uncertainty cause rework, disputed conclusions and unsafe decisions. This Core Concept course takes engineers and specialists through planning, structuring, drafting, illustrating and reviewing technical reports, specifications and work instructions against recognised report and controlled-language standards. Participants produce a Technical Report Template Pack, including a model report rewritten from their own work.

Course Objectives:

- Plan technical documents from a reader profile, purpose statement and defined scope before drafting
- Structure test, inspection and investigation reports with the report elements of ANSI/NISO Z39.18, keeping results, discussion and conclusions separate
- Write specifications and work instructions in controlled technical English using ASD-STE100 writing rules and IEC/IEEE 82079-1:2019 principles
- Present engineering data in tables and figures with correct units, significant figures and stated measurement uncertainty
- Cite standards, drawings and data sources and control document numbering, revisions and approvals
- Review and edit colleagues' technical documents through a structured comment and resolution process

Target Audience:

- Engineers who write design, test and commissioning reports
- Inspectors and surveyors reporting asset condition, defects and non-conformities
- Laboratory and quality specialists issuing test results to internal and external clients
- Maintenance and reliability specialists documenting equipment failure investigations
- Technical authors and document controllers preparing specifications and work instructions

Course Outline:

Day 1: Technical Document Types and Reader Needs

- Technical Document Map: Test, Inspection, Investigation, Design and Progress Reports
- Reader Profile Matrix: Decision-Maker, Technical Reviewer and Operator
- Purpose Statement and Scope Definition Worksheet
- Technical Information Gathering from Field Notes, Test Logs and Data Sheets
- Current Report Audit Against a Technical Report Quality Checklist

Day 2: Technical Report Standards and Report Architecture

- ANSI/NISO Z39.18 Report Elements: Front Matter, Body and Back Matter
- Executive Summary and Abstract Construction for Technical Readers
- Introduction, Method and Test Conditions Sections
- Separating Results, Discussion and Findings
- Conclusions and Recommendations Traceability Matrix

Day 3: Writing Controlled Technical Content, Specifications and Instructions

- ASD-STE100 Simplified Technical English Writing Rules and Approved Vocabulary
- Technical Sentence Construction: Active Voice, Defined Terms and One Action per Step
- Instructions for Use Principles in IEC/IEEE 82079-1:2019
- Technical Specification Clauses: Performance, Prescriptive and Acceptance Criteria
- Requirement Statement Conventions: Shall, Should and May

Day 4: Technical Data Presentation, Referencing and Revision Control

- Engineering Tables: Column Headings, Units and Significant Figures
- Figure Selection: Line, Scatter, Bar and Schematic Diagrams with Captions
- Measurement Uncertainty and Error Bars in Reported Results
- Reference List for Standards, Drawings and Data Sources
- Revision Control: Document Numbering, Revision Status Table and Approval Signatures

Day 5: Report Case Work and the Technical Report Template Pack

- Equipment Failure Investigation Case: Rewriting Findings and Recommendations
- Laboratory Test Report Case: Converting Raw Data into Tables and Figures
- Site Inspection Report Case: Defect Description and Severity Rating
- Technical Peer Review with a Reviewer Comment Resolution Sheet
- Technical Report Template Pack Assembly and Presentation

Skills You Will Gain:

- Reader Analysis
- Technical Report Structuring
- Simplified Technical English
- Specification Drafting
- Engineering Data Presentation
- Uncertainty Reporting
- Technical Referencing
- Technical Peer Review

Why Attend This Course:

- Return with a Technical Report Template Pack and a model report rewritten from your own work
- Shorten review cycles because reviewers find the finding, the evidence and the recommendation where they expect them
- Write instructions and specifications that contractors and operators can read in one way only
- Compare reporting practice with engineers and specialists from energy, utilities, construction, manufacturing and laboratory settings

Conclusion:

A technical report is only as useful as the decision it supports. The course moves from reader analysis and planning, through recognised report structure, to controlled technical English, specifications and instructions, and then to presenting data, citing sources, controlling revisions and reviewing drafts. The final day applies these methods to failure investigation, laboratory test and site inspection cases and produces a Technical Report Template Pack that participants can adopt as the reference for their team's reports.