



QUALITY MANAGEMENT GUIDELINES

RETENTION OF PROJECT DOCUMENTATION

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ENGINEERS &
GEOSCIENTISTS
BRITISH COLUMBIA

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ABBREVIATIONS

ABBREVIATION	TERM
BC	British Columbia
CADD	Computer-Aided Drafting and Design
QM	Quality Management

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1.0 DEFINITIONS

The following definitions are specific to this Quality Management (QM) guideline.

TERM	DEFINITION
Act	<i>Engineers and Geoscientists Act</i> [RSBC 1996] Chapter 116.
Bylaws	The Bylaws of Engineers and Geoscientists BC made under the <i>Act</i> .
Document(s)	Includes, but is not limited to, reports, letter reports, certificates, design briefs, memos, field memos, specifications, drawings, maps, plans and some shop drawings that provide recommendations, designs, directions, estimates, calculations, opinions, interpretations, or observations that involve technical engineering or geoscience matters in hard copy, email, or digital format. The term Document has an extended meaning and includes a photograph, film, recording of sound, any Record of a permanent or semi-permanent character, and any information recorded or stored by means of any device (B.C. Reg. 168/2009).
Documentation	See the definition of Record.
Engineering/Geoscience Professional(s)	Professional engineers, professional geoscientists, and licensees who are licensed to practice by Engineers and Geoscientists BC.
Engineers and Geoscientists BC	The Association of Professional Engineers and Geoscientists of the Province of British Columbia, also operating as Engineers and Geoscientists BC.
Organization	Any firm, corporation, partnership, government agency, sole proprietor, or other type of legal entity that employs Engineering/Geoscience Professionals and provides products and/or services requiring the application of professional engineering and/or professional geoscience
Record (Documentation)	Any Document that is evidence of engineering or geoscience-related activities, events, or transactions, or is evidence that Engineering/Geoscience Professionals have met their professional and contractual obligations.
Records Management	The systematic control of all Records, regardless of media, from creation to disposal.

2.0 PURPOSE AND SCOPE

2.1 Bylaw 14 states:

“(b) Members and licensees shall establish and maintain documented quality management processes for their practices, which shall include, as a minimum:

- (1) retention of complete project documentation which may include, but is not limited to, correspondence, investigations, surveys, reports, data, background information, assessments, designs, specifications, field reviews, testing information, quality assurance documentation, and other engineering and geoscience documents for a minimum period of 10 years;”
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2.2 Engineering/Geoscience Professionals must meet the requirement for retaining complete project Documentation as set out in the Bylaws. This QM guideline is intended to assist Engineering/Geoscience Professionals in establishing and maintaining a documented process for retaining complete project Documentation that meets Bylaw 14(b)(1) including:

- which project Documents to retain as Records;
- roles and responsibilities for controlling and retaining project Documentation;
- digital Record keeping;
- retention period(s); and
- considerations for effective Document control and retention.

2.3 For Engineering/Geoscience Professionals employed by Organizations, Documents and Records are generally the property of the Organization; therefore, the means by which

the Organization manages and retains them is often established by the Organization itself. Engineering/Geoscience Professionals employed by Organizations are not required to maintain a separate set of Documents and Records when the means and methods by which the Organization retains project Documentation are consistent with the intent of Bylaw 14(b)(1) and this QM guideline. Engineers and Geoscientists BC recognizes that this may mean that Engineering/Geoscience Professionals may not have access to engineering or geoscience Documents and Records when they leave an Organization, or in the event of the dissolution or bankruptcy of that Organization. Such circumstances are not considered by Engineers and Geoscientists BC to be within the control of the Engineering/Geoscience Professional.

2.4 Project Documentation in the context of this QM guideline includes Documents related to any ongoing engineering or geoscience work, which may not have a discrete start and end date, may result in or apply to a service or product, and may occur in any sector.

Sectors may include but are not limited to the following:

- Aerospace
- Construction
- Consulting
- Education
- Government
- Healthcare
- High technology

- Light and heavy industry
- Manufacturing
- Marine engineering and naval architecture
- Natural resources
- Operations
- Research and development
- Utilities

2.5 This QM guideline describes the minimum standard for retention of project Documentation by Engineering/Geoscience Professionals. Failure to meet the intent of this QM guideline may be evidence of unprofessional conduct and may give rise to disciplinary proceedings by Engineers and Geoscientists BC.

3.0 GUIDELINES FOR PRACTICE

3.1 WHAT IS THE PURPOSE OF RETAINING PROJECT DOCUMENTATION

3.1.1 Retaining complete and easily retrievable project Documentation is critical to professional practice, and assists Engineering/Geoscience Professionals in holding public safety paramount and serving the public interest as required by the *Engineers and Geoscientists Act (Act)*. It allows for an orderly handoff from one project manager or other team member to another, even when the requirement to do so comes without warning. It can make the difference between a well-run project that meets client objectives and professional standards, and one that does not. After the completion of the project or work, complete Documentation enables Engineering/Geoscience Professionals to demonstrate that they have met the intent of Bylaw 14(b)(1). The Documentation may also allow Engineering/Geoscience Professionals to resolve issues, meet legal and regulatory requirements, document decision-making, defend claims, facilitate undertaking future work, or make intellectual property readily retrievable for future solutions.

3.2 WHAT DOCUMENTATION SHOULD BE RETAINED AS A RECORD AND WHEN

3.2.1 A Record is anything that contains information that needs to be kept as evidence of a decision or action, regardless of media. In the context of the engineering and geoscience work being undertaken, many different types of Documents will be generated, many of which will be Records that must be retained.

3.2.2 Documentation may also include items that are not relevant to the engineering or geoscience work, such as insignificant exchanges about lunches, appointment times, newsletters, advertisements, and social events that have no ongoing value as Records. These Documents need not be retained as Records and may be discarded once they are no longer useful.

3.2.3 These days, Documentation or Records may be created and stored in and on various media. They may be generated in various software packages, such as those used for word processing, spreadsheets, computer-aided drafting and design (CADD), presentations, or email, or recorded voice mail. Records may be in hard copy or digital format, and may be stored in file cabinets or on hard drives, cloud storage, CDs, DVDs, and other digital media. To add an additional level of complexity to an already

complex array of media, Records may even be created and stored on websites and in social media on sites such as blogs, Twitter®, LinkedIn®, and Facebook®.

3.2.4 Records are retained based on the value of their content rather than the means or format by which they are created, stored, and distributed. Documentation that is evidence of engineering or geoscience-related activities, events, or transactions, or is evidence that Engineering/Geoscience Professionals have met their professional and contractual obligations, must be retained as a Record for a minimum of ten years after the end of the project or ten years after a Document used in ongoing work is no longer in use.

3.2.5 Statutory or regulatory requirements in a jurisdiction, such as the provincial *Limitation Act*, may give rise to longer retention periods. Business and contractual obligations must be considered and may necessitate a longer retention period. Current and anticipated litigation, audits, government inspections, or other legal issues may require that a legal hold be placed on the destruction of Documents, even though their retention period has passed.

3.2.6 The Engineering/Geoscience Professional should exercise professional judgment to make sure that the Documentation created and retained is appropriately complete, given the nature of the work, specifics of the situation, and any applicable Records retention program.

3.3 WHAT MAKES A GOOD PROFESSIONAL RECORD

3.3.1 Documents being retained as Records may be used as evidence in court. No matter what form or media the Documents are in, certain qualities of Documents make them reliable as evidence and a Record:

- **Authenticity** – being able to demonstrate, through security and access control, the origin of the Document and the identity of those who created and revised it
- **Integrity** – being able to show that controls are in place to prevent the material content and meaning from being changed after the Document was created
- **Accuracy** – being able to show that the Document is correct and factual
- **Completeness** – being able to show that all parts of the original Document are intact
- **Trustworthiness** – being able to demonstrate that the Document control and Records Management systems provide authentic, reliable, accurate, and complete Records

3.3.2 For ease of organization, Documents including emails should have easy references that are project-specific and related to the subject of the Document. The project name alone may not provide sufficient context for Document retention purposes.

3.3.3 When Documents meant only the hard copy originals, it may have been simpler to provide Records that met the qualities listed. Now, with so much Documentation being initiated and remaining in digital format, more consideration must be given to the processes and systems for Documents and Records control.

- References to any related processes and procedures
- Confidentiality and security considerations

3.4 HOW ARE TRUSTWORTHY DOCUMENTS CREATED

3.4.1 An effective program to manage Documents and Records must generally be in place before the start of the engineering or geoscience work, so that any Document created or received throughout the course of the project or work can be trusted as a Record. The retention of engineering and geoscience Documents should be an integral part of an overall Records Management program. An effective program will typically include a policy, processes or procedures, and training.

3.4.3 Processes and procedures should be put in place to control Documents and Records through their life cycle, including how they will be created, revised, received, coded or named, filed, issued, archived, stored, and destroyed.

3.4.4 Optional systems, such as applications that provide Document control and/or storage, may help facilitate effective Document and Records Management.

3.4.5 Training about the policy, processes, and systems for users and for Document and Records managers will improve how effectively the program is implemented and used.

3.4.2 A policy for managing Documents and Records should include the following information:

- Definitions of what constitutes Documents and Records
- Which Documents are considered Records to be retained
- How long Documents should be retained
- Roles, responsibilities, and accountability for Documents throughout their life cycle
- Rules to be followed throughout a Document's life cycle

3.5 WHAT SHOULD BE CONSIDERED

3.5.1 CREATING DOCUMENTS

3.5.1.1 To create Documents that may be relied upon as Records, consider using the following methods:

- Develop and use standard templates and forms that list the author(s) names and identify the date the Document was created or revised, so the same required information is included in each Document
- Complete the Document properties or metadata associated with electronic files (which does not usually automatically appear), so information important to the Document and its audit trail is retained within the Document

3.5.2 RECEIVING DOCUMENTS

3.5.2.1 When Documents were in hard copy format and arrived by traditional mail or courier, processes to code them, distribute them to those who needed to act on them, and file them were less complicated because they could all be funnelled through one person or one position. Today, digital files are often received by everyone in the Organization. Each of those receivers must understand how to manage Documents they receive by:

- recording when the Document was received, how, and by whom;
- addressing the Document's contents and recording that action; and
- assessing whether the Document is considered a copy that may be kept for convenience as long as it is useful, or is a Record that must be retained and, if so, how it should be retained.

3.5.3 CODING OR FILE-NAMING DOCUMENTS

3.5.3.1 Properly coding or labelling hard copies helps facilitate filing and retrieval of paper files in their appropriate folder in a file drawer.

3.5.3.2 Standard file-naming with appropriate components for electronic files can help identify where to file a Document, and help find and retrieve it at a later date.

3.5.4 REVISING DOCUMENTS

3.5.4.1 For a Record to be considered reliable and trustworthy, an audit trail of its revisions is needed. This can be accomplished by providing a revision Record of who created,

who revised, and who reviewed the Document, and when. This would apply to Documents such as reports, surveys, drawings, and other Documents that are revised and issued periodically or throughout the project or work. Metadata saved with electronic files can provide an audit trail for other types of Documents.

3.5.5 FILING DOCUMENTS

3.5.5.1 Standard File Structure

1. Creating a file structure that suits the type of work being undertaken, is simple to understand, and is standardized across the Engineering/Geoscience Professional's work will facilitate:
 - proper and correct filing of Documents;
 - consistency across the work;
 - efficient search and retrieval of Documents by those involved in the work and others who require them; and
 - smooth transition or transfer of files to new team members.
2. Engineers and Geoscientists BC recognizes that in some circumstances clients may impose file structures on projects that vary from the standard generally implemented by the Engineering/Geoscience Professional.
3. Properly referencing hard copies of all Documents with the project or work name and number, and filing them in chronological order, will make the

Documents easier for others to find when needed. Using consistent file-naming that includes a project reference for electronic files will allow for easier search and retrieval of electronic Documents.

4. A standard file structure and orderly filing will not make the transfer of responsibilities from one team member to another instantaneous. It will, however, allow a new person who may be unfamiliar with the project or work to readily find the files, understand the decision-making, and assess the status of the project or work from a complete and orderly set of Documentation. That person may then begin to take over responsibilities with less risk of errors on important issues. The quality of Documentation should be such that another Engineering/Geoscience Professional referring to these files can fully recreate the requirements of the project or work, the engineering and geoscience processes that went into it, and the assumptions that led to the resulting product.

3.5.5.2 Hard Copy versus Digital Filing

1. Documents may be filed and stored in hard copy format, digital format, or a combination of both. Engineers and Geoscientists BC will accept any of these options as meeting the requirements of this QM guideline, as long as Documents are shown to be present and can be readily retrieved by users.

2. If both formats are used, a cross-referencing system should be established so that users know which system contains the “originals” for each type of Document. A better solution may be to designate either the digital files or the hard copy files as the primary system, containing the “originals” of Documents. The Engineering/Geoscience Professional must be confident that the designated or primary system includes a complete set of all Documents. This means making sure that email Records related to a project are identified as such and filed in the primary project filing system. Documents in the non-designated or secondary system would be considered “convenience copies” that may be destroyed when no longer in use.
3. Preventing unauthorized access to files that contain personal or confidential information will confirm compliance with privacy legislation and any non-disclosure agreements.

3.5.6 ISSUING DOCUMENTS

- 3.5.6.1 An audit trail, indicating who received information and when, will assist anyone picking up a new file, and may make all the difference in being able to defend a claim. This can be accomplished by keeping a transmittal Record (form, email, or other) or using a system that prepares and logs transmittals.

3.5.7 ARCHIVING RECORDS

- 3.5.7.1 When archiving Records at the end of a project, or when the work they represent is no longer active, Engineering/Geoscience Professionals must:
- be clear about what is and what is not a Record to retain;
 - cull files to remove Documents that have no ongoing purpose or value and do not need to be retained;
 - group, label, and log project Records for easy search and retrieval at a later date; and
 - confirm that Records are trustworthy (authentic, reliable, correct, and complete; see **Section 3.3 What Makes a Good Professional Record**).
- 3.5.7.2 Engineers and Geoscientists BC understands that Engineering/Geoscience Professionals may not be allowed to retain Records for work for clients in high-security areas or with valuable trade secrets, where these clients require the return or destruction of Documents and Records at the end of the work. A note in the project file explaining this contractual requirement will be sufficient to meet the intent of the Bylaw and this QM guideline.

3.5.8 STORING RECORDS

- 3.5.8.1 Processes for storing Records for the duration of their retention period must address:
- search and retrieval;
 - availability to those authorized to access them;
 - security and media that prevent Records from being altered;
 - environmental controls to preserve and prevent deterioration of the Records;
 - retaining older hardware and software to allow access to older media;
 - keeping a log of any lost or damaged Records; and
 - confidentiality and security requirements.

3.5.9 DESTROYING RECORDS

- 3.5.9.1 Before destroying Records:
- review and confirm that retention requirements have been met;
 - confirm and comply with any legal requirements that prevent destruction; and
 - record what is destroyed and when.

4.0 REFERENCES AND RELATED DOCUMENTS

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