
Authentication of Documents/Use of Professional Stamps or NAPEG Digital Signature

1 Introduction

The intention of this guideline is to amplify and clarify requirements for authentication of documents and use of the stamp or digital signature, based on the provisions of the *Engineering and Geoscience Professions Act (Northwest Territories)*, the *Engineers and Geoscientists Act (Nunavut)* and the bylaws of the Association of Professional Engineers and Geoscientists (NAPEG). This guideline applies to engineering and geoscience work in the Northwest Territories and Nunavut.

The reference to documents in this guideline includes paper and electronic versions.

1.1 Engineering and Geoscience Professions Act

The Engineering and Geoscience Professions Act of the Northwest Territories (S.N.W.T. 2006, c 16) provides that the objectives of the Northwest Territories Association of Professional Engineers and Geoscientists are:

- To regulate the practices of professional engineering and professional geoscience and to govern the professions in accordance with this Act and the bylaws, and
- To establish and maintain standards of knowledge, skill, care and professional ethics among the members and licensees, in order that the interests of the public may be served and protected.

The Act provides for the issuance, in accordance with the bylaws of the Association, of a stamp to a person registered as a member, licensee or permit holder of the Association. It further provides that the member, licensee or permit holder shall stamp plans, designs, specifications, reports and similar documents in accordance with the bylaws. The member, licensee or permit holder shall cease any further use of the stamp on termination or non-renewal of registration.

1.2 Bylaws

The bylaws of the association concerning the use of the stamp are set out below:

- 28.
- Upon registration, each member or licensee shall be issued a personal stamp for his/her professional use.
 - The individual whose name is on the stamp is its custodian and is responsible for its safekeeping.

- The stamp shall be signed only when the professional taking responsibility is satisfied that the work has been completed to an acceptable standard. The responsible professional shall sign across the imprint of the stamp and indicate the date of the signature.
- Upon registration each Permit Holder shall be issued a permit stamp. The custodian of the permit stamp shall be an officer or employee of the Permit Holder authorized to control its use.
- The permit stamp shall be signed only after the professional or professionals taking responsibility have affixed their personal stamps. The officer or employee, so authorized by the Permit Holder, shall sign across the imprint of the stamp and indicate the date of the signature.
- All stamps shall be issued by the Executive Director and no other stamps shall be issued. A digitized copy of a stamp is acceptable.
- All stamps remain the property of the Association and shall be returned on termination of registration.

1.3 General

A professional's stamp is intended to indicate professional responsibility for documents which deal with technical or professional matters. It is intended that formal confirmation of responsibility be a key step in the quality control procedures employed by an individual or an organization authorized to practice engineering or geosciences.

In order to protect the interests of the public, it is important that there be an indication on professional documents that they were prepared under the supervision of a professional and that those documents are authentic.

The goal of the authentication of documents, therefore, is to identify the professional taking responsibility for the document.

1.4 The Stamp and the Digital Signature

The traditional means of authentication of documents has been the application of a stamp issued by the professional organization, NAPEG in this case. This assures those using the document that it has been prepared by someone who meets the qualifications for registration as a professional engineer or professional geoscientist. The professional stamping the drawing keeps an original of the stamped document which can be referred to in case there is any question regarding whether it has been modified.

Considering the evolution of the engineering and geoscience practice in Northwest Territories, Nunavut and other jurisdictions in Canada, the NAPEG Council has moved forward in 2020 with the recommendation to implement Digital Signatures as an acceptable way to sign and seal electronic documents.

1.5 Electronic Documents

Modern legislation (*Electronic Transactions Act, SNWT 2011, c 13 and Electronic Commerce Act, SNU 2004, c.7*) is in place in Northwest Territories and Nunavut, which makes electronic documents as enforceable as printed documents and allows for digital production and electronic delivery of engineering and geoscience instruments of service. These modern concepts related to electronic documents and transactions can be applied, allowing “electronic signature, seal and delivery” provided that adequate measures are in place to ensure:

- the security and verification of electronic documents; and
- the regulation of use and revocation of an engineer or geoscientist’s stamp.

2 Definitions

“**Act**” means the *Engineering and Geoscience Professions Act* of the Northwest Territories.

“**Association**” means the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists.

“**Authentication**” means the application of the professional’s signature and professional title and registration number, or the professional’s stamp and signature, including the date, or the application of the professional’s NAPEG digital signature in all cases carried out in accordance with the requirements of the *Engineering and Geoscience Professions Act* and Bylaws.

“**Bylaws**” means the Northwest Territories Association of Professional Engineers and Geoscientists bylaws.

“**Coordinating Professional**” means the professional responsible for integrating the expertise and work output of other professionals and who takes overall and total responsibility for the work including authentication of the documents.

“**Contributing professional**” means the professional who has responsibility for a portion of the work and who takes responsibility for that portion of the work that can be relied upon by the coordinating professional

“**Digital signing certificate**” means Cryptographically protected information in which the veracity of the certificate details is certified by a Certificate Authority. Digital signing certificates are used to apply digital signatures to electronic documents.

“**Digital signature**” means encrypted alphanumeric data set, used as personal electronic identification information, that people attach to a document to permanently associate themselves with the document. A digital signature can only be used by the holder of a digital signing certificate. It cannot be reproduced by anyone who does not have access to the protected passphrase of that specific digital signing certificate.

“**Direct supervision**” means the responsibility for the control and conduct of the work of a subordinate.

“**Document**” means a single coherent body of information recorded on any medium in the form of words, symbols, sounds or images or any other system of symbols. The information is defined and structured, according to the medium used, by tangible or logical features and may be rendered using any type of writing.

“**Document integrity**” means that information in a document has not been altered since it has been authenticated and has been maintained in its entirety in a medium that provides stability and required longevity to the information maintained throughout its life cycle including authentication, consultation, examination, verification, fragmentation, reproduction, transfer, transmission, storage, archiving, destruction, recovery, reconstitution or manipulation of any kind.

“**Document reliability**” means objective degree to which the reader can be sure of the identity of signers and of the integrity, authenticity and longevity of a document. When the document is a professional document, document reliability also relates to the professional affiliation of the signer.

“**Electronic document**” means data that is recorded or stored on any medium in or by a computer system or other similar device and that can be read or perceived by a person or a computer system or other similar device. It includes a display, printout or other output of that data.

“**Impression**” means a facsimile of a stamp on a document, regardless of the medium used.

“**NAPEG digital signature**” means a Digital signature in which the professional association affiliation and corresponding right of practice is cryptographically asserted and controlled by the regulator NAPEG.

“**Original**” means a document that emanates directly from the author and is the only authentic source for copies or reproductions. In the case of electronic documents, the integrity of the original must be ensured and the original must be capable of being linked to a person, whether or not the document is released. It is the master copy of the document used to create additional copies for distribution or other use.

“**Professional**” and “**Professionals**” when used as a noun refer to Professional Engineers or to Professional Geoscientists who are licensed to practice in accordance with the *Engineering and Geoscience Professions Act* proclaimed on May 1, 2008.

“**Retention**” means to store authenticated documents so that they can be found later, on request, without having been altered.

“**Seal**” or “**stamp**” are equivalent terms for the official mark issued to a member, licensee or permit holder by the Association authorizing them to produce an impression.

“**Signature**” means the name or personal mark that a person affixes to stable information and routinely uses to express consent or acknowledge responsibility with respect to the document.

“**Software**” means all information, commands, instructions, programs or procedures required to use and operate a computer system, one of its components or any other digital data processing device. Software is independent of the medium in which it is recorded.

“**Transmission**” means to send a document from one person to another using information technology.

3 Concepts and Principles of Authentication

3.1 Principles

Stamping, signing and dating or digitally signing (collectively referred to as “authentication”) of documents related to the practice of professional engineering or professional geoscience is a requirement under the *Engineering and Geoscience Professions Act* and bylaws. The principles involved in authenticating a document are independent of the methods employed for producing the document.

The stamp or the NAPEG digital signature constitutes the distinctive mark of the professional. It certifies that its holder is a member of the Association and is licensed to practice professional engineering or professional geoscience within the **Northwest Territories and Nunavut**.

Traditionally, plans and specifications and other documents have been drawn up in written or graphic form on paper or film media. The stamp, which is either inking or embossing, is issued by the Association and intended for manual application on paper or film media. Electronic systems, computer-aided design software and electronic networks, allow modern methods for creating, authenticating, using, transmitting and storing documents. A document can now be created, transmitted and stored on media based on information technologies, such as a computer file. It raises questions about the traditional use of the stamp and signature.

Starting September 1, 2020, NAPEG practitioners can avail themselves with a NAPEG digital Signature allowing them to authenticate final electronic documents. **This is the preferred way to properly authenticate final electronic documents.** Without a digital signature, the documents are not adequately protected, and an unauthorized transmission or modification can be difficult to detect. Where electronic documents are used a digital signature protects the documents’ integrity and guarantees that the documents were finalized by a NAPEG practitioner in good standing with NAPEG at the time of the signature.

For reasons of public confidence and legal and professional security, the integrity of authenticated documents is essential and of the utmost importance. The authentication of documents should be the last professional act performed with respect to the technical content of the documents.

3.2 Purpose of the Stamp and the NAPEG digital signature

The stamp or the NAPEG digital signature constitutes the distinctive mark of the professional. It identifies work performed by, or under the direct supervision of, a licensed professional. It assures the document's recipient that the work meets the standards expected of experienced professionals who take personal responsibility for their judgements and decisions. The stamp and the NAPEG digital signature are important because they are a visible commitment to the standards of the profession and signifies to the public that a professional has accepted responsibility for the document.

It should be considered a "mark of reliance", an indication that others can rely on the fact that the opinions, judgements, or designs in the stamped or digitally signed documents were provided by a professional held to high standards of knowledge, skill and ethical conduct. The stamp and the NAPEG digital signature represent the professional's commitment to standards of care and excellence.

By affixing the stamp or applying a NAPEG digital signature, professionals assume responsibility and are answerable for the quality of the work presented therein. It is a statement by the professional to others that they can, with a high degree of confidence, depend upon the contents of the document for the furtherance of their projects. The stamp or the NAPEG digital signature are not, and should not be considered, certification marks or warranty of correctness.

It is important to emphasize to professionals that they are still responsible for work in which they are involved but choose not to stamp or digitally sign.

3.3 Obtaining a Stamp

The traditional stamp used on a document is the impression of the rubber stamp issued by the Association to its registrants. Section 28 of the bylaws specifies that all stamps must be issued by the Executive Director of the Association. A digitized copy of an issued stamp is acceptable only if used with a NAPEG digital signature.

3.4 Electronic Version of a Stamp

The holder of the original stamp may reproduce it by any means to generate an impression, including procedures that use information technologies. The impression must correspond in all respects to the original stamp to preserve its characteristics except that of size. The size must be large enough that the elements of the stamp are legible.

Similarly, the professional's signature may be reproduced electronically and be used in a size that ensures it is legible. The professional should ensure that access to the electronic version of the stamp and signature remains under their control to prevent unauthorized use. The electronic version of a Stamp or signature shall not be used alone to authenticate final electronic documents by NAPEG practitioners.

An electronic version of a stamp shall not be confused nor is it the equivalent of a NAPEG Digital Signature.

3.5 Digital Signature

The traditional stamp and signature differ from the form of security known as a “digital signature”, which is an encrypted alphanumeric data set, used as personal electronic identification information, that people attach to a document to permanently associate themselves with the document. It is not an identical electronic copy of a handwritten signature obtained by scanning or electronic pen. A digital signature is intended to have the same legal force and distinguishing effect as the use of a signature affixed by hand. For this reason, the digital signature must be:

- Unique to the person using it;
- Capable of verification;
- Under the sole control of the person using it; and
- Attached to, or associated with, data in such a manner that it authenticates its own attachment to the particular data using it and the integrity of the data transmitted.

The specific type of digital signature used should enable verification that:

- The document came from the professional whose authentication appears on it (identification);
- The information on the document has not changed since it was signed (integrity).

It is recommended that the professional incorporate the use of asymmetric key encryption systems with a certificate of authenticity and the calculation of a unique code for the document. NAPEG has selected Solutions Notarius Inc., a Canadian certificate authority, to be the official provider of the NAPEG digital signature which provides such a service.

The professional shall ensure that access to the NAPEG digital signature remains under their control. Access codes must be kept confidential and access to computers should be controlled when these codes are activated.

3.6 Obtaining a NAPEG Digital Signature

NAPEG practitioners can obtain their NAPEG digital signature via www.notarius.com/NAPEG.

3.7 Custody and Control of Stamps and NAPEG Digital Signature

A stamp or the NAPEG digital signature shall at all times remain under the direct control of that member or licensee.

All professional stamps or NAPEG digital signatures are the property of the NAPEG, notwithstanding their issuance to members or licensees for use as defined in the *Act* and bylaws, and shall be returned upon request and in the case of the NAPEG digital signature will be revoked by NAPEG.

4 Authentication of Documents

4.1 Documents Requiring Stamps

In general, stamps are required on all documents which:

- Transfer technical information upon which others are entitled to rely, or
- Have a technical impact on a third party, or
- Have been specifically requested by a client or an authority having jurisdiction.

Some examples of documents are given in Appendix A.

4.2 Authenticating Single Discipline Documents

Each document covering a single discipline or specific area of expertise should be authenticated by the professional at the lowest level of full responsibility. For documents covering work within a single discipline but developed by several professionals, the coordinating professional responsible for adherence to concept or corporate standards and coordinating the work of the team should authenticate the document. That professional should be intimately connected to the work. Administrative supervision over a group would not entitle the supervisor to authenticate the work of the group.

In cases when several professionals are authenticating a single discipline document, each shall apply their stamp and qualify their responsibility to specific portions of the document.

Professionals should be encouraged to authenticate all their documents, regardless of whether there is a coordinating professional.

4.3 Authenticating Multi-Discipline Documents

For a project covering work within several disciplines, all documents within a particular discipline must be signed and stamped by the professional taking overall responsibility for work within that discipline.

Each professional applying their signature and stamp should qualify their level of responsibility, i.e.: what discipline they are taking responsibility for.

4.4 Authenticating Other Types of Documents

Manuals prepared for direction and guidance of others in technical and/or public safety matters should be authenticated. Preliminary documents that are incomplete should not be authenticated. A document should not be signed and stamped unless it is completed for the purposes intended. For example, a drawing submitted for a permit may not be complete for construction. However, it must be sufficiently complete for the purpose of obtaining a permit and it should be authenticated as fit for that purpose. Preliminary plans, reports and specifications that have not been authenticated should be clearly marked **PRELIMINARY** or **NOT FOR CONSTRUCTION**.

5 Other Recommended Practices

5.1 Modifications to Documents

All stamped or digitally signed documents are considered to be final documents. However, occasionally such documents need to be edited, altered or amended either during the course of the project or as part of a new project. In order to ensure that professionals are not unknowingly accepting responsibility for work they did not do, it is important that documents, once stamped or digitally signed, are not altered without undergoing an appropriate revision documentation process.

Modifying an authenticated document constitutes a professional act that should be identified as such. Authors of the modifications are professionally responsible for the work segment directly or indirectly affected by their modifications, particularly if these modifications affect the original concept.

The author of the modifications should authenticate the documents they have modified. The purpose and precise subject of all modifications should be indicated.

In cases where altering of documents signed and stamped or digitally signed by another professional is required for an ongoing project the following procedure should be followed:

- Original authentication to remain on documents unaffected by the alterations;
- Professional(s) altering documents authenticates their work;
- Professional(s) clearly identifies alterations and who is responsible for them.
- The author(s) should authenticate modifications, including all elements of the original document affected by the modification, and clearly document and define the professional responsibility of the original author(s) and the author(s) of the modifications.

- The procedure used to modify a document should be appropriate to the medium used for the document. Wherever possible, it should be the same as that used for the original document.
- In cases where one professional is retained to review the work of another professional, the review report shall be authenticated.

5.2 Retention of Documents

Documents shall be retained for as long as any liability for the work exists. Once a document is authenticated, it should be stored in a manner that preserves the integrity of the document and the stamp. For an electronic document it is good practice that the document is converted to the PDF/A ISO standard.

Professionals responsible for stamping documents should ensure that their organization implements a document management process that prevents the possibility of:

- Others altering stamped documents without the knowledge of the author;
- Removal, or duplication and unauthorized use of the stamp; and
- Unauthorized use of the documents.

To provide this protection, the document management process should incorporate the following, non-exclusive, features:

- Procedures that assure all documents have been prepared by or under the direct supervision and control of a professional;
- Procedures that assure the design, report, or other output of technical work complies with all applicable regulations, codes, standards, practices;
- An authenticating procedure to ensure that all documents are signed and stamped by the professional taking responsibility for the work;
- Procedures that assure data integrity by prohibiting unauthorized and/or undocumented changes;
- Procedures to identify unauthorized copies of final documents;
- Records retention procedures such that the records to be retained are selected by the professional responsible for stamping the documents;
- Procedures for validating records before storage;
- Established document retention periods; and

- Protection of records against loss or inadvertent destruction.

Because electronic documents can easily be changed and copied with no obvious indication, organizations must have well documented processes to support the authenticity and integrity of documents with electronic signatures and stamps. Professionals responsible for stamping technology-based documents should ensure that their organizations adopt a method of creating, archiving and distributing electronic format documents that will:

- Control and protect the electronic facsimile of the stamp and signature;
- Ensure document integrity, i.e. documents are not altered once signed, without undergoing the revision process; and
- Allow verification of the identity of the professional originating the document.

5.3 Transmission of Documents

When transmitting documents electronically, the NAPEG digital signature protects the copyright of the work and ensures the integrity of the documents and the authenticating marks (electronic version of stamps, electronic version of signatures). The document should contain a note that an authenticated original is on file or a digital signature, which is unique to the user, under the sole control of the user and able to be verified.

If such a procedure cannot be used, any stamps or signatures should be removed and notice to this effect included. Thus, an electronic document that is not authenticated can be transmitted without a digital signature or specific security; but it should not contain any authenticating mark. The name of the author should always be indicated on any non-authenticated document. Such a document should include a notice that it is transmitted for information or coordination purposes only.

5.4 Withdrawal of Stamp

There are circumstances under which a professional may decide they no longer take professional responsibility for the work they have prepared and stamped. This amounts to a revocation of the approval that existed at the time the stamp was applied. This is appropriate when the professional becomes aware of a deficiency in the work or when some parameters have changed which negate the work.

However, it is not appropriate or ethical to revoke an approval as a means to enforce the position of the professional in contractual disputes with the client once the work has been released and in the hands of a third party.

6 Permit to Practice Stamp

6.1 Permit to Practice Stamp

Section 28 of the bylaws specifies that all stamps must be issued by the Executive Director of the Association.

6.2 Electronic Version of the Permit to Practice Stamp

Entities may reproduce their Permit to Practice stamp by any means to generate an impression, including procedures that use stamp technologies. The impression must correspond in all respects to the original stamp that the elements of the stamp are legible.

Similarly, each professional signature may be reproduced electronically and be used in a size that ensures it is legible. The entity should ensure that access to the electronic version of the stamp and signatures remains under their control to prevent unauthorized use.

Both the Electronic Version of the Permit to Practice Stamp and the electronic signature shall be used with a NAPEG digital signature.

6.3 Use of the Permit to Practice Stamp

Every holder of a permit to practice shall place its stamp or equivalent on all documents that have been prepared by a member or licensee on its behalf. Whenever a professional who is an employee of a Permit to Practice holder is required to stamp documents on behalf of the Permit to Practice Holder, the Permit to Practice stamp is also required.

The professional who signs the Permit to Practice stamp need not be the same person or persons who stamped the document.

The Permit to Practice stamp shall be signed only after the responsible professional(s) have placed their stamp on the document and signed it.

6.4 Custody and Control of the Permit to Practice Stamp

A stamp issued to a partnership, association of persons, or corporation shall at all times remain under its direct control. The custodian of the Permit to Practice stamp shall be an officer or employee of the permit holder authorized to control its use. The Stamps issued by the NAPEG for use as defined in the *Act* and bylaws are the property of NAPEG and shall be returned upon request.

Appendix A – Examples of Documents

Preliminary Drawings

Stamps should **not** be applied to these drawings; rather, it is strongly recommended that they be clearly marked “**Preliminary – Not for Construction**”, or marked with similar statements to note their preliminary nature.

Final Drawings

As stamping of all reproductions is not considered practical, originals may instead be stamped.

a) Covering a single discipline:

Final drawings encompassing a single discipline of engineering must be signed, stamped and dated by the responsible design engineer and/or the approving engineer. It is recommended that both engineers stamp the drawings. However, if only one person is to stamp the drawings it should be the approving engineer, i.e. the one taking responsibility.

b) Covering more than one discipline:

It is recommended that final drawings that encompass more than one engineering discipline are signed and stamped by the design engineer for each discipline and the approving engineer.

For detailed drawings containing information from more than one discipline, stamping should be by the working level professional for each discipline involved and the stamps should be qualified by the professionals involved. “Qualified” in this sense means adding a note such as “for electrical only” on a drawing which shows electrical and mechanical information.

For registered firms, the permit stamp must also appear.

It is strongly recommended that a record of issue of all stamped drawings be maintained and that the note “**Issued for Construction**” or a similar phrase be clearly shown.

Stamping of incomplete drawings issued for the purpose of obtaining building permits or for other reasons is not recommended.

Record Drawings (Revisions)

Record drawings that have been revised from final drawings and require input by/or preparation under the direct supervision and control of an engineer must be stamped.

As-built drawings prepared by others not under the direct supervision of a professional must **not** be stamped.

Shop Drawings

Shop drawings requiring input by/or preparation under the direct supervision and control of an engineer must be stamped. Shop drawings submitted for review do not normally require stamping by the reviewing engineer.

Preliminary Reports

These documents should **not** be stamped and should be marked with the words “**Draft Copy**” or similar note on each page to clearly indicate the preliminary nature of the report.

Final Reports

The stamp of the responsible author or authors signed and dated, including the permit stamp if required, must be applied. The location of the stamp is left to the author’s discretion. The foregoing would also apply to letter reports. The stamp and/or permit stamp will cover the entire contents of the report including maps and logs.

Well & Core Logs

The stamp of the responsible professional signed and dated, and the permit stamp, if required, should be located at the heading or near the top of the log.

Maps and Geophysical Sections

Preliminary maps should **not** be stamped but should be clearly marked with the words “**Preliminary Field Print**” or with a similar note so that users are made aware of the map’s preliminary status. Final maps and interpreted seismic sections should bear the stamp of the professional responsible for their preparation, signed and dated, including the permit stamp if required. As with working drawings, a record of issue should be maintained.

Letters

Letters normally do not require sealing unless they fall within the scope of the general guidelines given at the beginning of this section. Members and Licensees are encouraged to use their designation to indicate their professional status when signing letters.

Specifications

The stamping of specifications, which are read in conjunction with stamped drawings, is left to the discretion of the responsible professional.

Specifications which stand alone require stamping. The location and frequency of application is a matter for professional judgement and practical considerations.

Design Notes and Field Notes

Design notes normally remain in the possession of the consultant or employer. Under certain circumstances, the client may request copies of these documents, which need not be stamped by either the responsible professional or company’s permit stamp.

Computer input data sheets and output listings may be considered as equivalent to design notes unless they fall within the category of stand-alone specifications.