COMPLIANCE AUDIT PROGRAM FOR INDIVIDUAL REGISTRANTS

HOW TO COMPLETE A CORRECTIVE ACTION PLAN

VERSION 1.1

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ENGINEERS &
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INTRODUCTION AND PURPOSE

This *How to Complete a Corrective Action Plan* guide is designed to help Registrants address and resolve any Non-conformances identified during the mandatory compliance audit conducted by Engineers and Geoscientists BC. It provides a general framework for completing Corrective Action Plans (CAPs) and offer possible steps Registrants can take to rectify any Non-conformance in an efficient and effective manner.

This document includes instructions, best practices, examples, and recommendations to assist Registrants through each phase of the corrective action process. Each section includes information and tools Registrants can use to develop appropriate corrections.

Although this document is intended to be used as part of the Engineers and Geoscientists BC compliance audit process, Registrants may also use this guide as a reference whenever a Non-conformance is identified in their professional work.

This guide is not intended to replace any existing policies, procedures, or regulatory requirements specific to Registrants' professional work or industry standards. Instead, it serves as a supplement that aims to provide Registrants with clear guidance on developing CAPs.

CORRECTIVE ACTION REQUESTS

WHAT IS A NON-CONFORMANCE?

During the compliance audit process, the assessor may encounter situations where the processes performed by individual Registrants do not comply with a specific regulatory requirement; these are called Non-conformances. Non-conformances can arise from several factors, including evolving regulations, changes to industry standards, and/or unintentional oversight.

Non-conformances identified during a compliance audit are classified as either minor or major.

A **Minor Non-conformance** is a situation where, based on the collected objective evidence:

- there is a failure by the individual Registrant undergoing a compliance audit to meet a specific regulatory requirement(s), the failure is not considered systemic but can be linked to a specific subsection of the Bylaws of Engineers and Geoscientists BC (the "Bylaws"); and
- there are no reasonable nor probable risks of injury to the environment or to the health and safety of the public or a group of people.

To align with international standards, here are key definitions from ISO 9000:2015 – Quality Management Systems – Fundamentals and Vocabulary:

- **Nonconformity (non-conformance)**: Non-fulfilment of a requirement.
- **Correction**: Action to eliminate a detected nonconformity.
- **Corrective Action**: Action to eliminate the cause of a nonconformity and prevent its recurrence.

A **Major Non-conformance** is a situation where, based on the collected objective evidence:

- there is a systemic failure by the individual Registrant undergoing a compliance audit to meet a specific regulatory requirement(s); and
- there are reasonable and probable risks of injury or significant harm to the environment or to the health and safety of the public or a group of people.

Figure 1 shows a process flow chart for both types of Non-conformances.

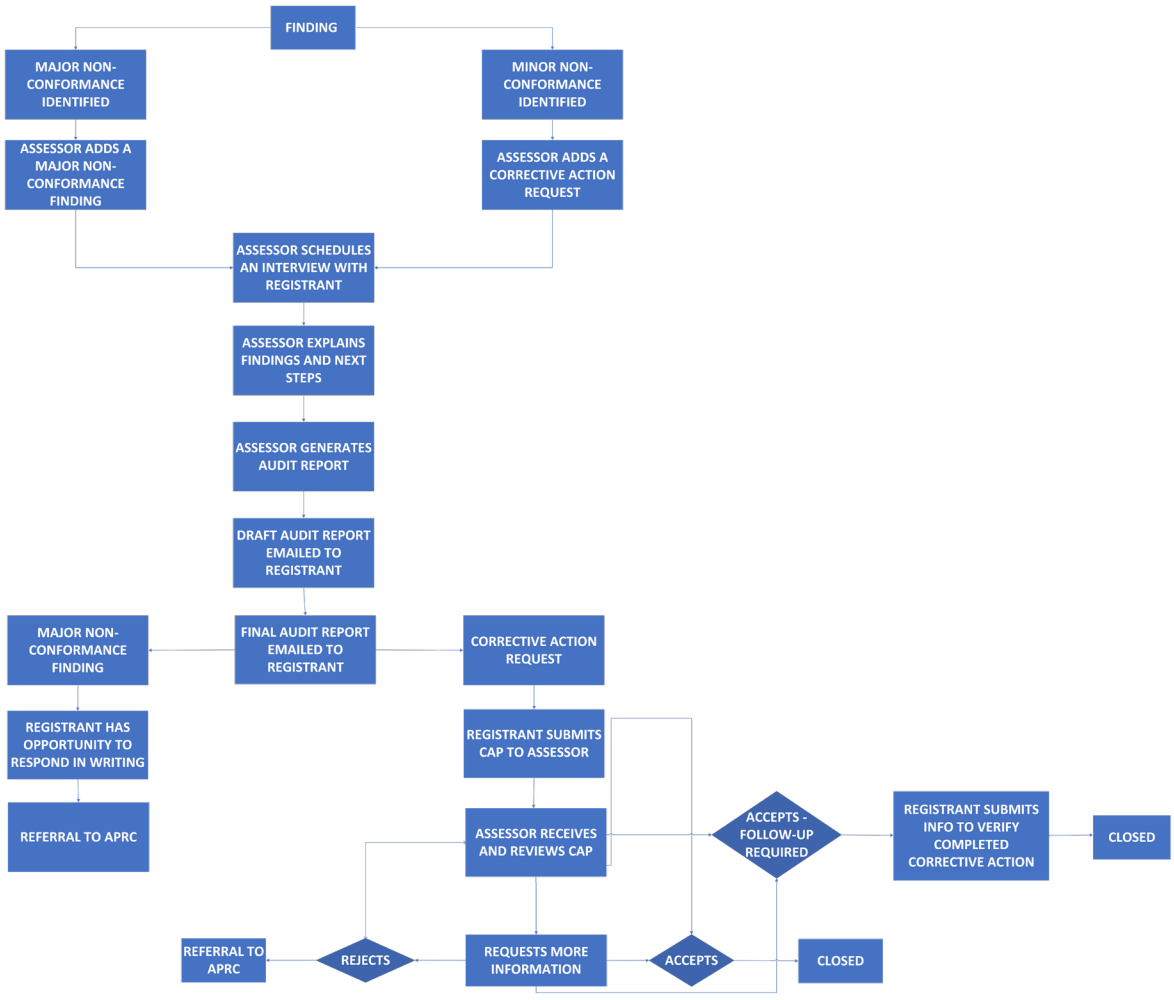

Figure 1: Process flow chart for both types of Non-conformances

WHAT IS A CORRECTIVE ACTION REQUEST?

When an assessor identifies a Non-conformance with regulatory requirements during the compliance audit, including those set forth by the *Professional Governance Act*, Regulations, the Bylaws, and Standards of Engineers and Geoscientists BC, the assessor will gather sufficient evidence to support the finding. The identified Non-conformance and supporting evidence will be presented to the Registrant through a Corrective Action Request (CAR) in the Compliance Audit Report (the "Report"). The CAR includes objective evidence obtained during the compliance audit and details the specific requirement that is not being met.

Each CAR requires the Registrant to complete a CAP. If a CAR is prepared for the compliance audit, the Registrant will be notified by email. The email will include a link to the audit portal, where the Registrant can review the CAR and complete the CAP.

COMPLETING A CORRECTIVE ACTION PLAN

When the Report identifies a CAR(s), the Registrant must complete a CAP for each CAR. The purpose of a CAP is to provide guidance in addressing, rectifying, and preventing future deficiencies. This involves outlining specific steps that the Registrant intends to take to resolve each Non-conformance. CAPs provide the Registrant with an opportunity to determine how they can improve their practice to ensure the minor Non-conformance(s) are not repeated.

The concept of corrective action planning extends beyond completing the CAP. It requires critical thinking on the Registrant's part. The steps for corrective action planning are shown in Figure 2 and described in more detail below.

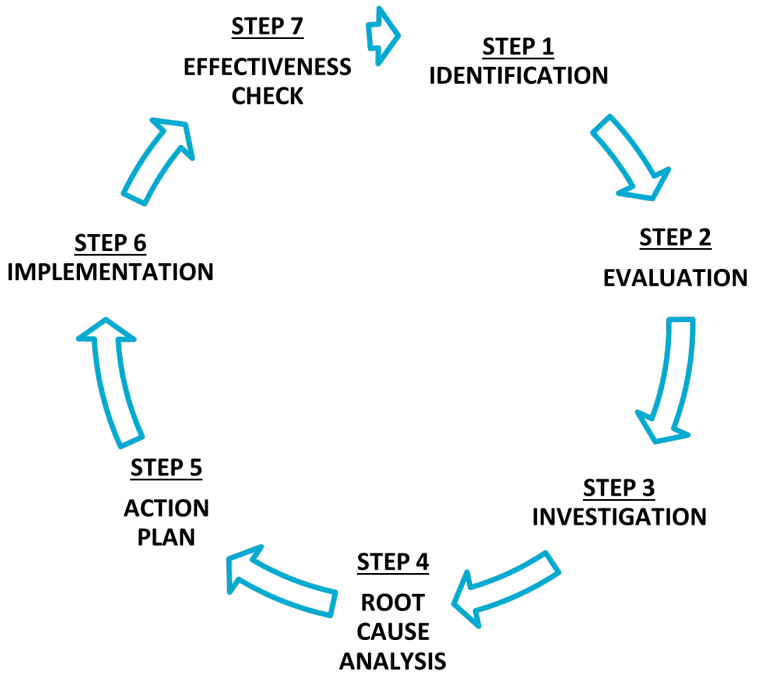

Figure 2: Corrective Action Planning Steps

STEP 1: IDENTIFICATION

During the compliance audit, the assessor may identify one or more Non-conformances and communicate them to the Registrant using the CAR. As outlined above, the CAR will include all the relevant information about the Non-conformance, including findings, objective evidence, and the requirement.

STEP 2: EVALUATION

One the Registrant receives the CAR, they must evaluate the documented issues to assess their appropriateness. This is an important step to ensure the information recorded by the assessor is accurate and Registrants are fully aware of the reasons the Non-conformance is concerning and the possible impacts on the environment and health and safety of the public.

STEP 3: INVESTIGATION

At this stage, the Registrant may choose to do more investigation to help ensure the information documented in the

CAR is accurate and to determine all the contributing factors, circumstances, and responsible parties that led to the Non-conformance.

STEP 4: ROOT CAUSE ANALYSIS

When a Non-conformance or other issue is identified, Root Cause Analysis (RCA) is a method that can be used to identify and address the Non-conformance by determining what led to it. The Registrant can use RCA to address any underlying inefficiencies or deficiencies and take the necessary steps to address them to prevent future recurrence. RCA is an effective tool that can help identify minor process errors that could be eliminated before they become major systemic concerns.

When considering RCA, the Registrant should thoroughly examine the issue and the evidence provided by the assessor and focus on "why" the Non-conformance occurred, rather than on "who" was responsible. The emphasis should be on improving processes, not on individual oversights or failures.

This section of this guide will focus on the "5 Whys" method for RCA; please refer to Appendix I for descriptions of other popular RCA methods.

In the "5 Whys" method, the Registrant first defines the problem by describing the Non-conformance, either using the CAR provided by the assessor or by re-writing the Non-conformance in their own wording. The Registrant should then proceed to ask why that Non-conformance occurred. Once the initial reasoning for the Non-conformance is identified, the Registrant should continue asking "why," repeating the question until the root cause of the problem is identified. Although it may take more than five "why" questions to understand the root cause of the Non-conformance, five is typically the minimum number needed.

Figure 3 on page 5 shows a graphical representation of the "5 Whys" method of RCA.

STEP 5: ACTION PLAN

Once the root cause of the Non-conformance has been determined and documented, the Registrant must create an action plan to resolve the issue and prevent its recurrence. An effective action plan should include:

1. Details on the steps to be completed;
2. Any changes to documents, methods, specifications, processes, etc.;
3. A list of responsible personnel;
4. Required training (if applicable);
5. Completion date or timeline; and
6. A list of proposed evidence to validate the effectiveness of the action plan.

Items 1-6 should be entered into the "Action Plan" box in the CAP window, while the targeted completion date for implementing the action must be selected from the date selection menu below the "Action Plan" box.

STEP 6: IMPLEMENTATION

Once an action plan is developed, the Registrant can start working to put their corrective action(s) into practice. This may involve a short-term action, such as updating policies, procedures, or templates, or a longer-term action, such as taking additional training, changing work processes, or developing new systems. The targeted completion date submitted as part of the CAP should take into account the relative difficulty and duration required to implement the corrective action(s).

STEP 7: EFFECTIVENESS CHECK

To complete the final step of the corrective action planning process, the Registrant and the assessor must check in

on the effectiveness of the proposed corrective action(s).

For the Registrant, it is recommended to revisit the CAP approximately two months after the implementation of the corrective action to confirm that it was effective. For a simple corrective action, such as taking additional training, the check would be to confirm if the training was completed by the target implementation date. For a more complex corrective action, such as redesigning a process, the effectiveness check could include a review of documentation to ensure the reference standard (e.g. the Guide to the Standard for the Authentication of Documents) is being met.

For the assessor and Engineers and Geoscientists BC overall, effectiveness checks may take one of two forms:

- For a simple corrective action, the assessor will leave the compliance audit file open until the Registrant has demonstrated completion of their required corrective action. Demonstration of completed corrective action could include submitting revised documents, policies, or procedures, or proof of completion of additional training.

- For a complex corrective action (e.g., corrective action that would take multiple months or years to implement and demonstrate effectiveness on), the assessor will close the current compliance audit file and the implemented corrective action would be verified during the Registrant's next compliance audit.

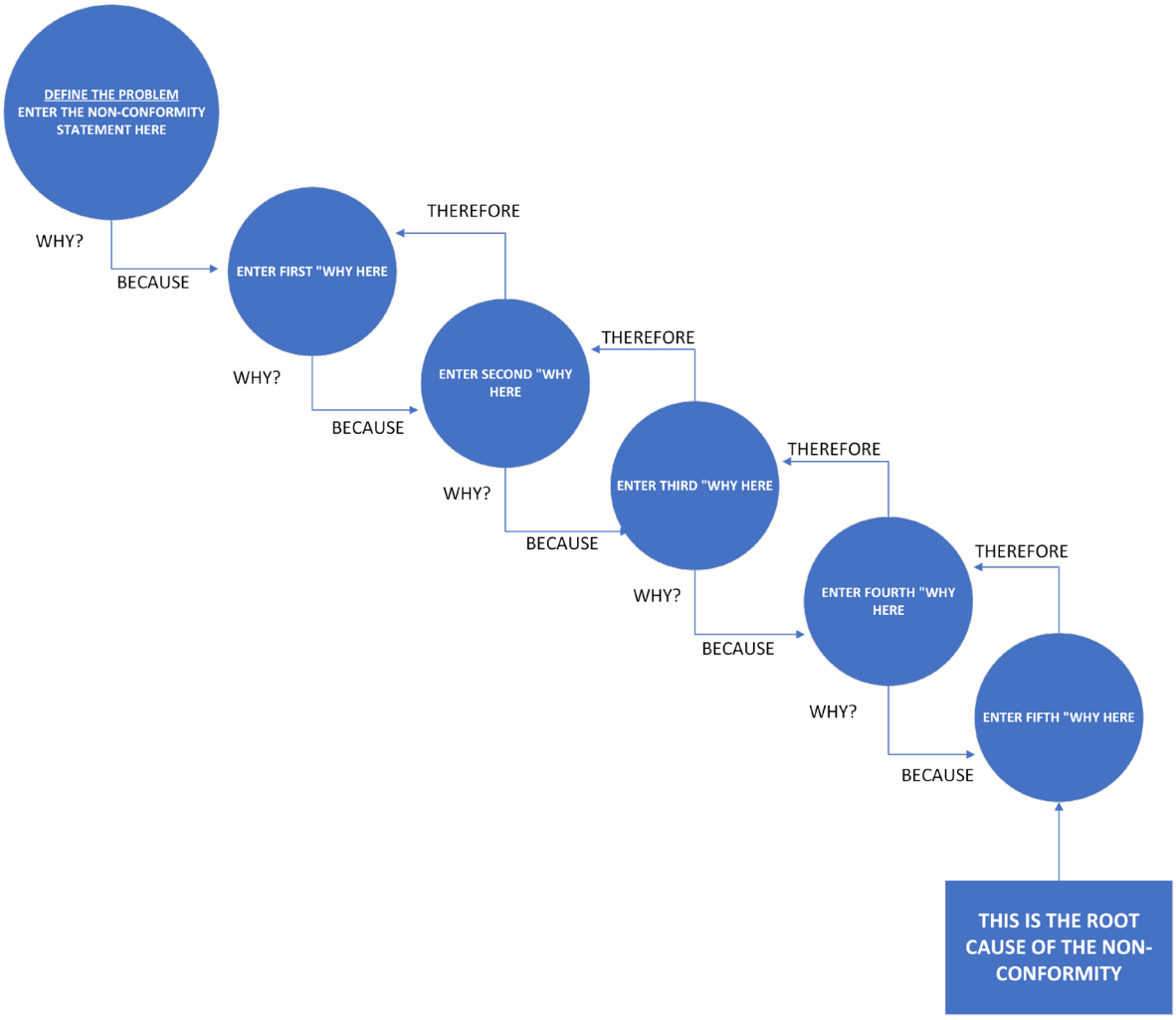

Figure 3: 5 Whys Diagram

WHY A CORRECTIVE ACTION PLAN MIGHT BE REJECTED

Below are common reasons why the assessor might reject a CAP. Before submitting the CAP, the Registrant should review the following points to see if they might apply:

ROOT CAUSE

- The root cause is not clearly identified.
- The RCA is superficial or incomplete, or addresses symptoms rather than the underlying problems.

PROPOSED CORRECTIVE ACTION IS INADEQUATE OR INAPPROPRIATE

- Missing key details, such as responsible parties, timelines, or resources.
- Does not meet specific requirements outlined in regulations or policies.
- Vague or not directly linked to addressing the problem.
- Impractical or cannot realistically be implemented.
- Not proportionate to the severity of the issue.
- Focusses on short term fixes rather than sustainable long-term solutions.
- Does not implement systemic changes to prevent recurrence.
- There are gaps or failures to provide solutions for critical risks.
- Fails to adequately evaluate or prioritize risks associated with the findings.
- Lacks a plan for monitoring and verifying the effectiveness of a corrective action(s).

OTHER REASONS

- Timeline for implementation is unachievable, or it extends beyond acceptable limits.
- The CAP appears to be a formality with no genuine intent to resolve the issue.
- Evidence of prior failed CAPs for similar issues.

COMPLETING THE CORRECTIVE ACTION PLAN IN THE AUDIT PORTAL

The Registrant must complete the CAP in the Audit Portal (see Figure 4 on page 8 for a screenshot of the CAP window). The four window areas that must be completed for each CAP are listed on the following page with more detail.

ROOT CAUSE

- List the root cause(s) for the Non-conformance. (Note: Several root causes may be identified for the same Non-conformance.)

- Optional: Describe the RCA method used to determine the root cause(s) (or upload it as a supporting document).

ACTION PLAN

The Registrant should list:

- All planned action items (immediate or scheduled).
- All interim control measures taken to mitigate the risks and prevent recurrence while the other action items are being implemented.
- The time frame required to implement these actions.
- All parties responsible for the implementation of the action items.
- All parties responsible for the verification of the effectiveness of the action items.

IMPLEMENTATION DATE

List the date of the action that will take the longest to complete by:

- Prioritizing all action items based on their risk level, focusing on critical tasks.
- Determining the scope of the change for each action item.
- Determining the resources required to implement each action item.
- Using professional judgment to set a deadline to complete each action item.

After setting the implementation date, the Registrant should:

- Ensure all responsible parties are clear about the deadlines and the consequences of not meeting them.
- If an extension is needed, ensure the rationale for the extension is documented.

SUPPORTING DOCUMENTS

The Registrant should upload any supporting documents that assist in justifying the root cause, action plan, or implementation date. Examples of supporting documents include:

- RCA method
- Risk assessments
- Documents that were revised to satisfy the action plan
- Evidence of implementation (e.g., updated policies, procedures, or documents)
- Evidence of effectiveness (e.g., internal audits, internal metrics, outstanding long-term items).

Please refer to Appendix II for examples of Corrective Action Plans.

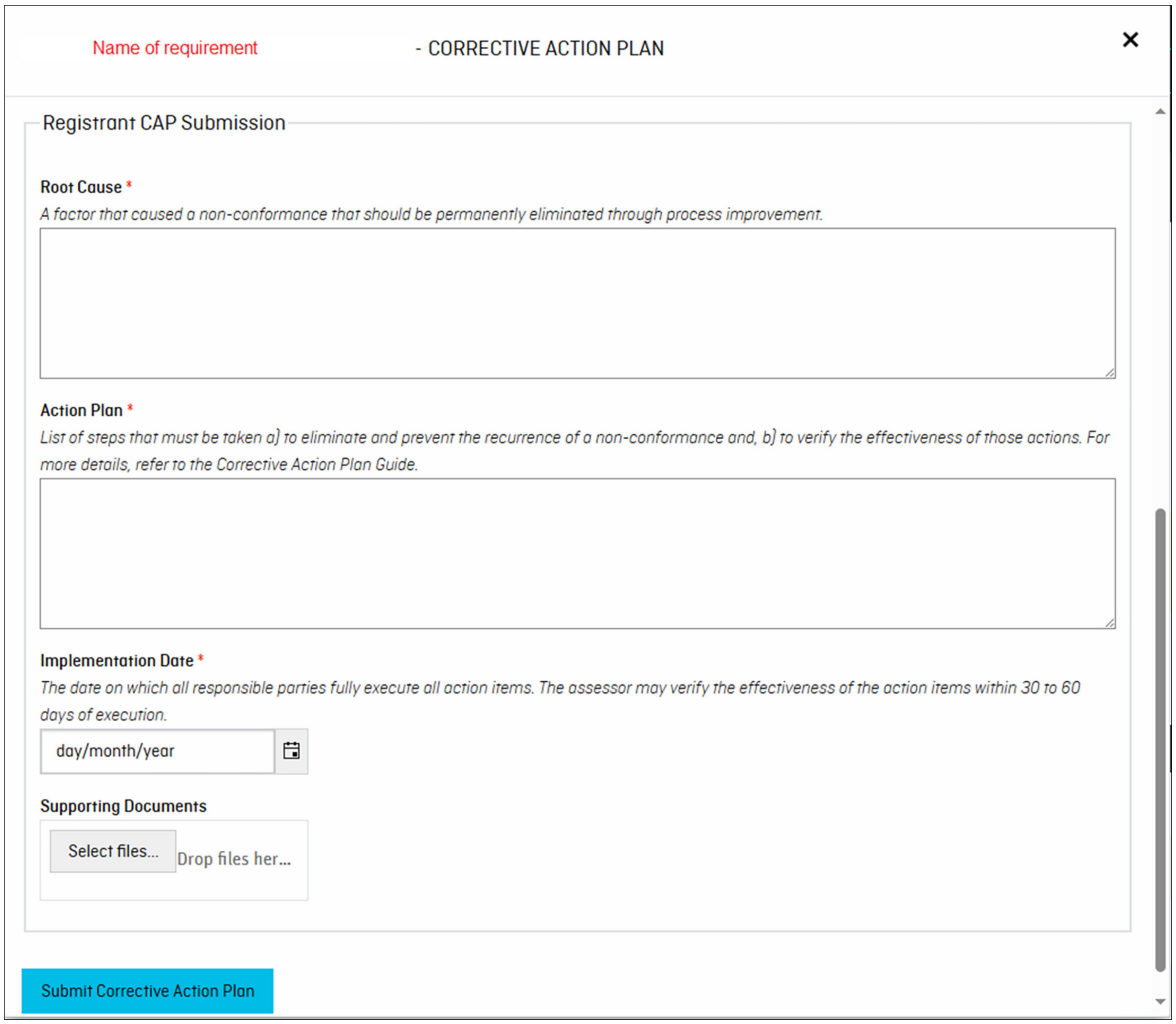

Figure 4: Sample CAP window displayed in the Audit Portal

APPENDIX I

POPULAR ROOT CAUSE ANALYSIS METHODS

1. 5 Whys

Description: A simple, iterative technique that involves asking "why" multiple times (typically five) to drill down to the root cause of a problem.

Usage: Effective for straightforward problems where the root cause is not immediately apparent.

Example: Asking why a machine stopped working and tracing the issue back to a lack of maintenance.

2. The Ishikawa Fishbone Diagram (IFD)

Description: Also known as the Fishbone Diagram, this visual tool helps teams identify potential causes of a problem by categorizing them into groups, such as people, methods, machines, and materials.

Usage: Ideal for complex problems with multiple potential causes.

Example: Categorizing causes under headings like People, Process, Equipment, and Materials.

3. Pareto Chart

Description: Based on the Pareto Principle, this chart helps identify the most significant factors contributing to a problem.

Usage: Useful for prioritizing issues to focus on the most impactful causes.

Example: Displaying the frequency of different causes to highlight the most common ones.

4. Failure Mode and Effects Analysis (FMEA)

Description: A proactive method that identifies potential failures in a process and their effects, prioritizing them based on severity, occurrence, and detection.

Usage: Best for complex processes where preventing failures is critical.

Example: Analyzing a manufacturing process to identify and mitigate potential points of failure.

5. PROACT® RCA Method

Description: A comprehensive approach that involves preserving evidence, organizing an analysis team, analyzing the event, communicating findings, and tracking the impact.

Usage: Suitable for chronic, recurrent failures that require a detailed investigation.

Example: Using a logic tree to identify physical, human, and latent root causes of a recurring equipment failure.

6. Affinity Diagram

Description: This tool organizes a large amount of data into groups based on their natural relationships, creating a

clear visual representation. Note that this RCA method is usually used in conjunction with other methods.

Usage: Useful for condensing brainstorming session feedback into manageable categories.

Example: Grouping customer feedback into themes to identify common issues.

7. Fault Tree Analysis (FTA)

Description: A top-down, deductive failure analysis that maps out multiple causal chains to identify possible root causes.

Usage: Particularly useful in high-risk industries where preventing failure is crucial.

Example: Analyzing a system failure in aerospace to identify and mitigate risks.

APPENDIX II

EXAMPLES OF CORRECTIVE ACTION PLANS

EXAMPLE 1

Note: This example is written for a Registrant who is employed by an Engineers and Geoscientists BC Registrant firm with a Permit to Practice. In this example, the Registrant is following the Registrant firms' policies and procedures for meeting the quality management requirements in the Bylaws.

Minor Non-conformance identified: Individual deviated from the document retention policy with an insufficient explanation.

Root Cause Analysis – 5 Whys:

1. Why was a deviation made from the documented policy?
    - Because the individual required additional storage space for the new documents
2. Why was additional storage space needed?
    - Because the existing document storage system was reaching its capacity limit, and no immediate expansion options were available.
3. Why were there no immediate expansion options?
    - Because the budget allocated for upgrades did not prioritize storage expansion.
4. Why was storage expansion not prioritized?
    - Because there was a lack of awareness about the growing need for document storage and the potential impact on regulatory compliance.
5. Why was there a lack of awareness?
    - Because the individual in charge of managing document storage had an inadequate understanding of the regulatory requirements for retaining project documents by Registrants.

Root Cause

- Individual in charge of managing document storage had an inadequate understanding of the regulatory requirements for retaining project documents that Registrants must follow.

Action Plan

- Review and update document retention policy: Since the firm's document retention policy is listed in its Professional Practice Management Plan, I will provide recommendations to the firm's Responsible Registrants to update its document retention policy to ensure it aligns with current and anticipated storage needs. After updating, the policy will clearly define acceptable deviations and the process for approvals.
- Increase document storage capacity: I will recommend the firm's Responsible Registrants explore cloud-based storage solutions and include the budgeting team in the discussion to allocate resources.

- **Enhance communication:** I will recommend that the firm enhances communication and collaboration between the IT team and its Registrants to ensure awareness of compliance risks are clearly identified.

- **Training and awareness:** I will recommend that training sessions be conducted regularly to educate Registrants on the importance of their individual compliance to the standards and to the requirements set out in the Bylaws.

- **Monitoring and reporting:** I will recommend incorporating a monitoring process to track and trace deviations and effectiveness of the corrective actions.

Responsibilities – Timeline

- **Compliance Team**: Review and update document retention policy within 30 days.

- **Individual**: Develop a more robust training program within 45 days to ensure there is clear understanding of Registrant requirements.

- **IT department**: Implement a cloud-based storage solution to address document storage limitations within the next year.

Implementation Date (to be entered in the audit portal)

- Enter the target date for the action item that will take the longest to implement, up to a maximum of 3 months. In this example, the target date will be 45 days from the date the CAP is approved because the cloud-based storage solution will take more than 3 months to implement. For example, if the CAP is approved on July 1, 2025, the target implementation date would be August 15, 2025. Any items to be implemented beyond that window would be confirmed at the next compliance audit.

Effectiveness check

- All responsible teams will carry out a periodic assessment to verify the effectiveness of the implemented corrective actions. Any identified deviations or issues will be addressed promptly, and if required, additional measures shall be taken.

EXAMPLE 2

Note: This example is written for a Registrant who is not employed by an Engineers and Geoscientists BC Registrant firm. In this example, the Registrant has their own policies and procedures to address the quality management requirements in the Bylaws.

Minor Non-conformance identified: Individual failed to provide sufficient and accurate requirements when appointing a checker carrying out documented checks.

Root Cause Analysis – 5 Whys

1. Why did the individual fail to provide sufficient and accurate requirements when appointing a checker to carry out documented checks?

    - Because the Registrant's policy regarding the appointment of checkers lacks clarity and specific guidelines.

2. Why did the policy lack clarity and specific guidelines?

    - Because the policy was not adequately reviewed during the development phase.

3. Why was the policy not adequately reviewed during the development phase?

    - Because there was insufficient understanding of the specific requirements by the Registrant.

4. Why there was insufficient understanding of the specific guidelines by the Registrant?

    - Because the Registrant was not aware of the importance of including these specific requirements as stated in the Bylaws.

5. Why was the Registrant not aware of the importance of including these specific requirements as stated in the Bylaws?

    - Because the Registrant has not completed sufficient continuing education and training to understand the Standard for Documented Checks.

Root Cause

The Registrant has not completed sufficient continuing education and training to understand the Standard for Documented Checks.

Action Plan

- Training: Since I have not completed a specific training module on the Standard for Documented Checks, I will complete training on this standard.
- Review and update the policy: After completing the training module, I will review and update the policy to ensure it more accurately reflects the requirements stated in the Bylaws.
- Policy Revisions: I will ensure all revisions to the policy are documented, made easily available, and traceable.
- Monitor and reporting: I will incorporate a monitoring process to verify compliance and the effectiveness of the corrective actions.

Responsibilities – Timeline

- The Individual will:
    - complete the training module within 15 days;
    - review and update the policy within 30 days;
    - develop a more robust training program that needs to be completed within 90 days; and
    - establish a monitoring process to generate ongoing internal compliance reports (on an ongoing basis).

Implementation Date

- Enter the target date for the action item that will take the longest to implement, up to a maximum of 3 months. In this example, the target date will be 90 days from the date the CAP is approved. For example, if the CAP is approved on July 1, 2025, the target implementation date would be October 1, 2025.

Effectiveness check

- Responsible teams will conduct a periodic assessment to verify the implemented corrective actions' effectiveness. Any identified deviations or issues will be addressed promptly, and if required, additional measures shall be taken.