

1.0 INTRODUCTION

Human Performance, as it applies to safety, is the study of the psychology of human behaviours and the results of human activities when carrying out work tasks. It is NB Power's objective to ensure that, as a high reliability organization, human performance concepts are strategically utilized to reduce human errors that result in incidents, accidents and events.

2.0 SCOPE

This Standard describes the requirements for an effective Human Performance Program at NB Power. Human Performance tools in the form of a Core 4 are intended to be used in all work tasks, including routine tasks, to ensure proper behaviours are considered in the way work is completed at NB Power. These tools are required to be used by all employees.

3.0 REFERENCES

US Department Of Energy STANDARD	Human Performance Improvement Handbook Volume 1: concepts and principles
US Department Of Energy STANDARD	Human Performance Improvement Handbook Volume 2: Human Performance Tools For Individuals, Work Teams, And Management
Point Lepreau Nuclear Generating Station	Human Performance Tools GU-00105-01

4.0 TERMS AND DEFINITIONS

Accountability Guide	A tool to assist the supervisor and employee to utilize in determining the type of human error that lead to an incident as well as the appropriate action(s) to take.
Attitude	A state of mind or a feeling toward a subject, activity or object of interest.
Behavior	What people do and say—a means to an end. Behavior is an observable act that can be seen, heard, and measured.
Error Precursors	Unfavorable conditions that exist at the job site that increase the probability for error during a specific action or task, they are error-likely situations. Error-likely situations are also known as error traps, pre-conditions or precipitating factors.
Human Performance	A system that comprises a network of elements that work together to produce repeatable outcomes. This includes, but is not limited to; individual behaviours, results, leadership, training, organizational culture, procedures, processes and performance. In its simplest form, human performance is a series of behaviors carried out to accomplish specific task objectives (results).
Lapses	A type of human that involve a failure of one's memory or recall. Such errors are usually the result of inattention, interruption or lack of cues.
Mind set	The mental model individuals have as their perception of the environment around them. Human beings are primarily goal-oriented by nature; people tend to focus more on what they want to accomplish, the outcome, and less on what needs to be avoided while executing a task. Due to this people tend to see what they want or expect to see, this mind set establishes the mental model individuals have

	while working. (a mind set technically is a schema or heuristic developed through previous experiences.
Mindfulness	The NB Power definition of mindfulness refers to “The act of deliberately paying attention in a specific manner to your present environment which includes the job and its requirements, the physical work environment, your co-worker’s, and your own state of mind”. Research by Dr. E. Langer suggests that actively drawing these distinctions keeps people situated in the present, the here and now. It also makes people more aware of the context and perspective of their actions than if they rely upon distinctions and categories drawn in the past
Mistakes	A type of human error and occur when a person employs an inadequate plan to achieve the intended outcome. Mistakes usually involve misinterpretations or lack of knowledge. They are either performance based or judgement and decision-making errors.
Organization	A group of people with a shared mission, resources, and plans to direct people's behavior toward safe and reliable operation. Organizations direct people's behavior in a predictable way, usually through processes and its value and belief systems
Results	Results are the outcomes of behavior(s).
Risk Perception	An individual’s assessment of the risk involved in a task. Due to the fact that people focus on the goal or outcome of an activity, their mind set leads to a “blindness” of hazards that may be present. This “blindness” reduces the individual’s risk perception of tasks they are performing.
Slips	A type of human error that occurs when the physical action fails to achieve the immediate objective. Such errors are usually the result of inattention, interruption or lack of cues.
What it Looks Like – sheets	What It Looks Like (WILL) sheets – are one page descriptors of the Human Performance Tools selected by the non-Nuclear NBP divisions as field aids for employees, supervisors, and managers to aid in performing the specific tools and observing the performance or the tool.

5.0 ROLES AND RESPONSIBILITIES

- Director of Total Health & Safety ensure a Core 4 is selected by each division of NB Power.
- Chairs the Human Performance Steering Committee of Senior Leadership and supports the entire organization in the adoption of the tools.

5.1 Employer

- Managers and Supervisors must understand that they play a key role in the adoption and success of Human Performance at NB Power.
- Managers and Supervisors support improved Human Performance by regularly monitoring the use and effectiveness of Human Performance tools by their employees and reinforcing good performance.
- Establish an environment open to giving and receiving feedback to assist in creating a high reliability organization.

- Monitoring that Employees are using the tools as part of the Tailboard / Pre-job Brief as a means of planning error reduction into the task to be performed. WILL sheets can be utilized to assist with these observations
- Leadership must demonstrate the use of Human Performance tools to model the behaviors for employees. Individual behavior is influenced by organizational processes and values which establish the culture at an organization.
- Events can be avoided by understanding the reasons mistakes occur and applying the lessons learned from past events. Leadership must investigate incidents for the error likely situation and complete corrective action to prevent re-occurrence. Shared learning must be shared within the division of NB Power if lessons learned are applicable to the wider audience.

5.2 Employees

- Use Human Performance tools appropriately to minimize the probability of an incident or event by reducing the occurrences of errors and managing the effective controls.
- Utilize the WILL Sheets to assist in the performance of selected Human Performance Tools
- Assist peers in using Human Performance tools to reduce human error.
- To use the tools routinely during the performance of work, including the tools in the Tailboard / Pre-job Brief discussion as a method of planning the appropriate tools into the work to be performed.

5.3 Total Health & Safety

- Must support the organization in monitoring Human Performance by performing Field Visits that include observations for the use of Human Performance tools.
- Maintain the Health & Safety Standard and the WILL Sheets, governing human performance outside of PLNGS
- Discuss Human Performance tools with employees and give positive feedback when the appropriate use of the tools has been observed.
- Provide feedback to workers if a Human Performance tool could have been utilized or the use improved.
- Monitor that Human Performance tools are included as part of the Tailboard / Pre-job Brief as a means of incorporating the tools into the task to be completed.
- Assist in the evaluation of the effectiveness of the Core 4 within NB Power divisions.
- During incident investigation, assess the use of the Core 4 tools in relation to the errors that lead to the incident.

6.0 STANDARD

6.1 Training and Qualifications

All Managers, Superintendents, Supervisors and Safety Specialist / Coordinators/Champions within; Generation, Transmission, Distribution and PMO will receive Human Performance Leadership training.

Employees within; Generation, Transmission, Distribution, and PMO will receive Human Performance Tools training.

6.2 Human Performance

Is a system that comprises a network of elements that work together to produce repeatable outcomes. Human Performance associated with work occurs in the context of the organization the worker is performing within. As a result of this, the culture of an organization impacts the individual's attitudes, performance and ultimately the outcomes of work tasks. The goal of Human Performance is to provide tools to workers to reduce human errors. Depending upon the industry, human performance is a cause in 80 – 90 % of events, (*DOE STANDARD - Human Performance Improvement Handbook volume 1:*

Concepts and Principles). NB Power's intent is to reduce errors in order to decrease incidents, accidents and events while increasing the organization's reliability.

In Human Performance, a distinction must be drawn between an event or accident that has occurred, from the error that led to the event or accident. Humans are fallible and errors will always occur, the goal of human performance is to reduce errors that lead to accidents and events. To this end Human Performance is a set of tools and education to equip leadership, individuals and organizations in error prevention.

The proper use of these tools will have no impact on safety if the worker does not have a solid technical competency related to the equipment, systems, and processes they work with. Error likely situations exist in plant equipment, work processes, organizations / culture, and its leadership processes. These all contain hidden flaws or latent conditions that could harm a person, a plant, or property if work is done without significant conscious thought. Mindfulness during work execution is required during all work execution. Safety is not obtained by mindlessly using human performance tools, but by people conscientiously applying their knowledge, skills, insights, and the tools to accomplish their work goals. Human error is a (lack of?) specific action, and specific actions are required to avoid incidents.

The purposes of Safety Rules vs Error Prevention Tools differ. General safety rules protect the individual from the equipment while human performance tools protect the equipment from the individual. Safety Rules and Human Performance Tools are however interconnected. The mitigation of hazards by the use of PPE, work permits, barriers and other safety practices are generally already covered under the conventional hazard discussion in the Tailboard / Pre-Job Brief. A Peer Check by another worker may remind an individual, for example, that they forgot hearing protection.

Human Performance establishes general practices that enable employees to anticipate, prevent, and recognize human error during the performance of work. They are intended for anyone who touches plant, equipment or company assets and is capable of altering its status.

Immediate and Root Cause analysis have been completed for decades on events and accidents, in order to understand major and common causes and errors that lead to events, incidents and accidents. Ultimately, accidents are the end result of errors, typically more than one, where barriers have broken down. In order to protect employees, the public and the environment, defense in depth (multiple layers of protection) is applied to any high hazard work. This begins in the planning phase of the work to be executed, i.e. work permits, hazard identification and controls, and extends to the execution phase (application of Human Performance Tools) and close out of the work (capture lessons learned from the job to improve quality and safety the next time the work is complete). As with PPE, Human Performance Tools are frequently one of the last lines of defense.

People tend to overestimate their ability to maintain control when they are doing work. Maintaining control means that everything happens that is supposed to happen during performance of a task and nothing else. Workers apply tools during all work activities to help them maintain positive control, regardless of their perception of the risk. Clearly, the worker's mindset toward the task at hand sets the stage for excellence.

6.3 Human Performance Tools

Below are brief descriptions of Human Performance Tools. It is the intent of each division to utilize their selected Core 4 as the implementation of Human Performance while executing work. The Core 4 may be adjusted from the list below to reduce errors while performing work.

- **Concurrent Verification** - is a series of actions by two individuals working together at the same time and place to separately confirm the condition of a component before, during, and after an
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action, when the consequences of an incorrect action would lead to immediate and possibly irreversible harm to the plant/system or personnel.

- **Correct Component Verification (CCV)** - is a human performance tool that focuses on preventing a mistake by the performer; verify that you are working on the correct component by referring to the work order / switching plan or procedure and field labels by using self-checking and talking / touching.
 - **Do Not Disturb Sign** – is a tool utilized by work planners, control room operators and engineers who perform risk important or safety-critical work. It is essential that they maintain their concentration and attention on the task at hand, especially if that task involves a review or a verification of a work product or safety permits / isolations. A Do Not Disturb Sign is posted during the performance of this type of work to prevent distraction of the worker.
 - **Effective Communication** - effective communication is mutual understanding between two or more people, especially communication involving technical information related to plant/system operation or personnel safety. Tools associated with Effective Communication are Phonetic Alphabet and Three-Way Communication
 - **Flagging** - If a component is physically near other similar-looking components and is handled multiple times, flagging helps the user consistently touch the correct component. Using self-checking, an individual distinctly marks the correct component with a flagging device that helps a worker visually return to the correct component during the activity or after a distraction or interruption.
 - **Independent Verification** - is a series of actions by two individuals working independently to confirm the condition of a component after the original act that placed it in that condition. The independent verification tools include: Independent Verification, and Peer-Checking
 - **Job-Site Review (Two Minute Drill)** - Take time to think, “Take a Breath!” A key objective of this tool is to improve a worker’s situational awareness, when first arriving at the job site. It is a carefully performed job-site review which will take as much time as needed to help the worker develop an accurate understanding of critical indicators, system/equipment condition, the work environment, hazards, and even team members. This is performed after the Tailboard / Pre-job Brief is completed.
 - **Peer-Checking** - is a series of confirmatory actions by two individuals working together at the same time and place, before and during a specific action, to prevent an error by the performer.
 - **Phonetic Alphabet**- Several letters in the English language sound alike and can be confused in stressful or noisy situations. The phonetic alphabet specifies a word for each letter of the English alphabet. By using a word for each letter there is less chance that the worker listening will confuse the letters.
 - **Place-keeping** - is physically marking steps in a procedure or other guiding documents that have been completed or that are not applicable to the job. Effective place-keeping prevents omitting or duplicating steps. There are different method utilized for place-keeping, the method utilized by NB Power is two step place-keeping known as circle slash. During place-keeping using circle-slash, the step in progress is circled; once the step is complete it is slashed over.
 - **Post-job Review** - Errors that trigger significant events are organizational failures. Therefore, feedback on work preparation and work performance (after completion of a job) is very important information for management. Procedure and equipment problems and minor human error require management’s attention. Such conditions tend to be latent in nature and accumulate within the organization if uncorrected
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- **A Tailboard/ Pre-job Brief** - is a meeting of workers and supervisors conducted before performing a job to discuss the tasks involved, identify the hazards, and discuss related safety precautions. This meeting helps individuals to better understand what to accomplish, who is involved in the job, and what to avoid.
- **Procedure Use and Adherence** - Procedure adherence means understanding the procedure's intent, purpose and following its direction. The user performs all actions as written in the sequence specified by the document. However, if it cannot be used as written, then the activity is stopped, and a deviation to the procedure is discussed and approved before continuing. Procedure Use is related to the usage categories such as In-Hand, Step-by-step, manufacturer's recommendations and For Information.
- **Questioning Attitude** - A questioning attitude fosters situational awareness, encouraging thoughts about safety before action is taken. Being mindful of the work situation helps a person maintain an accurate understanding of work conditions and the environment at any given time, avoiding blind spots. A questioning attitude promotes a preference for facts over assumptions and opinion.
- **Self-checking** – is a tool that helps the performer focus attention on the appropriate component, think about the intended action, understand the expected outcome before acting, and verify the results after the action. It boosts attention and thinking just before a physical action is performed.
- **Situation Awareness** - is the accuracy of a worker's current knowledge and understanding of the task at hand and related working conditions compared to actual conditions at a given time. An accurate knowledge and understanding (mental model) of relevant information from the work environment guides an individual's decisions and actions. The use of the Human Performance tools, Questioning Attitude, Stop When Unsure, Job-Site Review and Task Preview are aimed at improving an employee's situational awareness.
- **Stop When Unsure** - When confronted with confusion or uncertainty, if a worker is in unfamiliar territory they need to stop. Given that the chances for error are particularly high in such situations (1 in 2 to 1 in 10), the best course of action, when unsure, is to stop and get help from other people, such as a supervisor or senior experienced worker.
- **Task Preview** – this tool helps prepare the worker to perform a job right the first time. Before attending a Tailboard / Pre-job Brief or starting work, workers review procedures and other related documents to familiarize themselves with the scope of work, task sequences, and critical steps.
- **Three-Way Communication** - The worker originating the communication is the sender and is responsible for verifying that the receiver understands the message as intended. The receiver makes sure he or she understands what the sender is saying, and repeats back.
- **Turnover** - is the orderly transfer of work-related information, tasks, and responsibilities between individuals, one off-going and the other on-coming. A turnover provides time for the on-coming individual to establish an accurate mental model of the work activity—situation awareness—before assuming shift responsibilities or commencing work.
- **Verification Practices** - refers broadly to three tools, Concurrent Verification, Independent Verification, and Peer-Checking that involve a second person to confirm the actions and results achieved by a performer are correct. Validation is performed by a second worker.

6.4 When to Use Human Performance Tools

Tool	Prior to Start	Perform	Work
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	/ Restart	Work	Completion
Concurrent Verification		X	
Correct Component Verification	X	X	
Effective Communication	X	X	
Flagging		X	
Independent Verification		X	
Job-Site Review	X		
Peer Check		X	
Phonetic Alphabet	X	X	X
Place Keeping		X	X
Post Job Review			X
Procedure Use & Adherence	X	X	X
Questioning Attitude	X	X	X
Self-Check	X	X	X
Situation Awareness	X	X	
Stop When Unsure	X	X	X
Tailboard / Pre-Job Briefing	X		
Task Preview	X		
Three-Way Communication		X	X
Turn Over		X	
Control Room Practice	Prior to Start	Problem Solving	Task Verification
Do-Not-Disturbed		X	X

6.5 Assess Needs for Human Performance Tools

Each NB Power division will assess their needs based on their experience and implement appropriate tools as described in this H&S Standard. This assessment is completed by reviewing incidents and incident data from the previous year. The divisions will determine the most commonly experienced Error Likely Situations and Human Performance tools that could have prevented the error that resulted in incidents and accidents. Error-likely situations are predictable, manageable, and preventable.

A Core 4 will be established by each NB Power division. The Core 4 is intended to represent the human performance tools that are used regularly for any work activity, regardless of the task's risk or complexity and without prompting. Using the tools routinely ensures the behavior is embedded by the organization without thinking about it.

The Core 4 for each division will be reviewed every two years, or more frequently, if warranted by changes in the frequency of events or incidents experienced by a division. The Core 4 will be refreshed every two years as required.

6.6 Implement Core 4

Once the Core has been established by a division, the Core 4 must be implemented. The implementation must include:

- Communication to promote awareness by employees
- Posting the Core 4 in maintenance, operations and work control areas for visibility and to prompt the use of the tools by individuals
- Utilizing the Core 4 in Tailboard / Pre-job Brief specifying their use for specific tasks
- The monitoring of Human Performance tools during job observations and provision of positive feedback or feedback for improvement
- Review of this standard and / or the Human Performance Tools routinely at Safety Meetings or morning huddles
- Continued training on the Human Performance tools selected for the Core 4.
- Establishing local or regional Human Performance Working Committees or Human Performance Champions
- Utilization of the selected Human Performance tools within the Core 4 during incident investigations.
- Consideration of the certification of local Human Performance Champions
- NBP delegates attending industry conferences on Human Performance to ensure on-going education and re-fresh of Human Performance concepts and practices
- Participation in Human Performance Peer Reviews within the Electric Utility industry, i.e. WANO, INPO or NATF

6.7 Evaluate the Effectiveness of the Core 4

Perform Field Observations to observe employees utilizing the tools correctly, identify areas of improvement or gaps in training or understanding of the tools.

- Review information in the H&S Incident (145) e-form for the leading causes of errors and incidents
- Review reported incidents for the utilization of the Core 4 to prevent potential similar errors
- Implement corrective actions from incident investigations involving the Core 4 to improve the Human Performance program
- Annually review the selected Core 4 to ensure they are correct for the errors experienced by the division
- Assess the maturity of the process via NBP process.
- Establish revised Core 4 as required based on the annual review of the Core 4.

7.0 APPENDIX

- APPENDIX A - What It Looks Like (WILL) – Turnover/Hand Off
 - APPENDIX B - What It Looks Like (WILL) - Peer-Checking
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- APPENDIX C - What It Looks Like (WILL) – Placekeeping
- APPENDIX D - What It Looks Like (WILL) - Procedure Use and Adherence
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- APPENDIX H - What It Looks Like (WILL) - Three-Way Communication
- APPENDIX I - What It Looks Like (WILL)– Tailboard / Pre-Job Brief
- APPENDIX J – Accountability Guide

DOCUMENT APPROVAL/REVISION RECORD

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1	2018/11/30	New document	Nancy Allen	Shelley Parker	Robin Condon

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APPENDIX A

What It Looks Like (WILL) – Turnover/Hand Off

Turnover is the orderly transfer of work-related information, tasks, and responsibilities between individuals, one ‘off-going’ and the other ‘on-coming’. A turnover provides time for the on-coming individual to establish an accurate mental model of the work activity before assuming shift responsibilities or commencing work.

When to Use the Tool:

- Prior to shift change
- When responsibilities are transferred between people, work groups, or departments (handoffs)
- When responsibilities for in-progress tasks/activities change
- When work extends beyond one shift.

Commonly Accepted Practice:

The tools should be used;

- Prior to shift change
- When responsibilities are transferred between people, work groups, or departments (handoffs)
- When responsibilities for in-progress tasks/activities change
- When work extends beyond one shift

The Individual responsible to brief an incoming peer has prepared;

- status of the job(s): work completed, work remaining, and equipment status, plus specific parameters and related values
- schedule requirements, changes, and parallel activities
- objectives/tasks in progress and milestones to be accomplished
- procedures being used and last step(s) completed
- problems, unusual conditions or system lineups and resolution or status
- possible error-likely situations, countermeasures, and contingencies
- availability and location of resources for planned tasks
- key contacts, support personnel, and organizational interfaces.

The above notes are reviewed and documented in logs as required by procedure.

Any questions on the part of the 'on-coming' peer are answered in full.

APPENDIX B

What It Looks Like (WILL) - Peer-Checking

Peer-checking is a series of actions by two individuals working together at the same time and place, before and during a specific action, to prevent an error by the performer.

The purpose of PC is to prevent an error by the performer. Error prevention is the principal function of the PC technique. PC augments self-checking by the performer—it does not replace it. PC involves two people (performer and peer) self-checking in parallel, agreeing together that the action is the correct action to perform on the correct

component. Similar to concurrent verification (CV) but less formal, this technique takes advantage of a fresh set of eyes not trapped by the performer's task-focused mind-set. The peer, an individual familiar with the activity, may see hazards the performer does not see.

When to Use the Tool:
Work activities involving tasks or situations such as the following could benefit from the use of Peer-Checking: <ul style="list-style-type: none">• irreversible or otherwise unwanted actions• comparisons of test data with acceptance criteria• start or stop of major components• return to or removal from service• identification of correct parts or correct component before maintenance• during installation of similar components or parts that could be interchanged or installed incorrectly• error-likely situations related to important actions.
Commonly Accepted Practice:
<ul style="list-style-type: none">• The performer self-checks the correct component.• The peer self-checks the correct component.• The performer and the peer agree on the action to take and on which component.• The peer observes the performer before and during execution, to confirm the performer takes the correct action on the correct component.• The performer executes the intended action on the correct component.• If the performer's action is inconsistent with the intended action, the peer stops the performer.• If the performer's action is consistent with the intended action, the peer informs the performer that the action taken is correct.

APPENDIX C

What It Looks Like (WILL) - Placekeeping

Placekeeping involves physically marking steps in a procedure or other guiding document that have been completed or that are not applicable. Effective placekeeping prevents omitting or duplicating steps by maintaining a positive record of steps completed and those not yet performed. Navigating a procedure especially a detailed technical procedure with frequent branching and multiple decision points, can place the physical equipment in jeopardy if the user inadvertently omits a step or performs a series of steps in an incorrect sequence. A worker's attention constantly

shifts from the procedure to the controls, to indicators, to physical equipment, to other people, and so on. Therefore, placekeeping becomes an important error prevention technique for important activities.

When to Use the Tool:

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| <ul style="list-style-type: none">• When using a procedure or work instruction. |
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Commonly Accepted Practice:

Examples of good industry techniques include one or more of the following:
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| <ul style="list-style-type: none">• Using circle-slash, the step in progress is circled; once the step is complete it is slashed over.• Blacking out procedure steps that are “not applicable” or highlighting procedure steps that are “applicable”.• Performing two step placekeeping.• Rereading and verifying completion of the previous two or three steps performed if distracted or interrupted.• Annotating completion of a page in the margin of the procedure.• Identifying the last page in the procedure by conspicuously writing “LAST PAGE” somewhere on the page.• As per Procedure Use and Adherence, read and understand each step before performing the step. It is recognized that some procedures may have a different placekeeping standard; the expectation is to perform two step placekeeping such as Circle/Slash. |
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APPENDIX D

What It Looks Like (WILL) - Procedure Use and Adherence

Procedure *use* denotes the frequency or degree of reference by the user versus dependence on the user’s memory and recall. The level of use of a procedure can be denoted e.g. ‘Continuous Use’. Regardless of the level of use, the user follows the procedure consciously and mindfully to achieve safe results.

Procedure *adherence* means understanding the procedure’s intent and purpose and following its direction. The user performs all actions as written in the sequence specified by the document usage classification if it is stated. However, if it cannot be used as written, then the activity is stopped, and the procedure is corrected before

continuing. Following the procedure without question does not guarantee safety because procedures sometimes contain hidden flaws. But, understanding the overall purpose and strategy of the procedure promotes safer outcomes.

When you must have the procedure with you:- for complex or infrequent work activities for which consequences of an improper action could have immediate, possibly irreversible impact on safety, production, or reliability:

- Read and understand each step before performing the step.
- Complete each step before starting the next step.
- Complete the steps as written in the sequence specified.
- Use a placekeeping method.
- Keep the document in your presence continuously.

When you don't need to have the procedure with you:-for activities, usually administrative in nature, that do not involve direct contact with equipment, have no immediate consequences if performed improperly, are performed frequently, and are within the knowledge and skills of experienced individuals:

- Activity can be performed from memory.
- Review the procedure before using, if not done recently.
- Document is available and referenced for review as needed.

When to Use the Tool:

- When manipulating, altering, monitoring, or analyzing equipment.
 - When a procedure exists for a work activity.
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What It Looks Like (WILL) - Procedure Use and Adherence (continued)

Commonly Accepted Practice:

Caution: If visual or physical contact with the object is lost, then self-check again the proper component to be manipulated.

1. **Compare** the working copy to the controlled copy to verify it is the most recent revision.
 2. **Provide** a working copy of the procedure at each work location for jobs involving people at more than one location at one time, designating the lead person and controlling document.
 3. **Review** all prerequisites, limits and precautions, initial conditions, and instructions before starting work, confirming understanding of the procedure's overall purpose and verifying it is appropriate for the system or equipment condition.
 4. **Use** the procedure according to its designated level of use or as directed by management.
 5. **Follow** the procedure as written without deviating from its intent, aware of the potential impact the action can have on equipment.
 6. **Avoid** writing "N/A" (not applicable) while in the field, unless allowed by the procedure or approved by management.
 7. **STOP** the task, place the equipment or system in a safe condition, and contact a supervisor if any of the following situations exist:
 - The step cannot be performed as written.
 - Injury or damage to equipment will occur if used as is.
 - Use of the procedure will result in incorrect or unsafe equipment configuration.
 - The procedure is technically incorrect.
 - Unexpected results are achieved after performing the step.
 - The procedure conflicts with another procedure.
 - The procedure is otherwise unsafe.
 8. **Report** procedure problems, and correct important deficiencies before using the procedure.
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APPENDIX E

What It Looks Like (WILL) - Questioning Attitude

A questioning attitude fosters situational awareness, encouraging thought about safety before action is taken. Being mindful of the work situation helps a person maintain an accurate understanding of work conditions at any given time, avoiding blind spots. This tool alerts people to imminent hazards, warning signs, and uncertainties in the work environment or with the work plan and, encourages the user to stop and resolve those hazards, warnings, or uncertainties before proceeding with the job. Doubt must be followed up with the discovery of facts, not assumptions, to reveal more knowledge about the situation, which eliminates the doubt.

When to Use the Tool:

The following warning signals flag the opportunity to resolve uncertainty before proceeding with a task:

- During self-checking (Think step of STAR).
- Before performing a risk-important step or phase of an activity.
- When making a decision about a risk-important activity.
- When experiencing uncertainty, confusion, or doubt.
- When experiencing a “gut feeling” that “something is not right”.
- When encountering unanticipated changes in conditions.
- When conflicts or inconsistencies exist between plans, procedures and actual conditions.
- After encountering unexpected results.
- After discovering missing information or resources.
- Upon hearing danger words: “I assume,” “probably,” “I think,” “maybe,” “should be,” “not sure,” “might,” “we’ve always ...,” and so forth.

Commonly Accepted Practice:

1. **Stop, Look, and Listen** – Proactively search for work situations that flag uncertainty (see When to Use the Tool).
 - Periodically pause—timeout—to check the work situation.
 - Pause when a flag is recognized.
 - Identify inconsistencies, confusion, uncertainties, and doubts.
 - State or verbalize the uneasiness or question in clear terms.
2. **Ask questions** – Gather relevant information.
 - What are the “knowns” and “unknowns”.
 - Use independent, accurate, and reliable information sources, especially other knowledgeable persons.
 - Compare the current situation (knowns) with independent sources of information.
 - Consider “what if ...?” and/or use a “devil’s advocate” or “black hat” approach in a spirit of helpfulness.
 - Identify persistent inconsistencies, confusion, uncertainties, and doubts.
3. **Proceed if sure** – Continue the activity if the uncertainty has been resolved with facts. Otherwise, do not



proceed in the face of uncertainty!

4. **Know when to stop** – If inconsistencies, confusion, uncertainties, or doubts still exist, do the following:
- Stop the activity.
 - Place equipment and the job site in a safe condition.
 - Notify your immediate supervisor.

APPENDIX F

What It Looks Like (WILL) - Self-Checking (S.T.A.R.)

Attention varies. Human error is a specific action, and specific actions are required to avoid it. Self-checking is particularly effective for skill-based, repetitive tasks, which people can usually perform without a lot of conscious thought. But, attention must peak when the risk is greatest—when altering a component's status. Consequently, rigor and care when using self-checking are essential.

However, this technique also helps prevent errors when noting, recording, or entering data and performing calculations.

When to Use the Tool:

- When manipulating or altering equipment or controls.
- When entering data into a computer or recording it on a form.
- When performing a calculation.
- When revising drawings or procedures using cut-and-paste on a computer or by making handwritten annotations.
- Prior to and during an impending change in equipment status.
- When assembling components that contain similar parts that potentially could be interchanged.

Commonly Accepted Practice:

Caution: If visual or physical contact with the object is lost, then self-check again the proper component to be manipulated.

1. **Stop** - Pause
 - Focus attention on the task's immediate objective.
 - Eliminate distractions.
2. **Think** – Understand what will happen when correct action is taken on the correct component.
 - Verify the action is appropriate, given the equipment status. **This includes saying (verbalize) the identifiers on the procedure and the equipment out loud, in turn.**
 - Understand the expected result(s) of the action.
 - Consider a contingency if an unexpected result occurs.
 - If uncertain, use the questioning-attitude tool.
3. **Act** – Perform the correct action on the correct component.
 - Without losing eye contact, read and touch the component label.
 - Compare the component label with the guiding document.
 - Without losing physical contact, perform the action.
4. **Review** – Verify anticipated result obtained.
 - Perform the contingency, if the expected result does not occur.
 - Notify supervisor, as needed.

APPENDIX G

What It Looks Like (WILL) - Stop When Unsure

When confronted with confusion or uncertainty, a person is in unfamiliar territory. Given that the chances for error are particularly high in such situations, the best course of action, when unsure, is to stop and get help from other people.

Essentially, “Stop When Unsure” is a communication technique. It prompts performers to gain more accurate information about the work situation from other knowledgeable persons before proceeding with the activity.

It involves a brief stoppage of work to allow workers, their supervisor, or other knowledgeable persons to discuss and resolve the issue before resuming the task.

When to Use the Tool:
<ol style="list-style-type: none">1. When uncertainty, doubt, confusion, or questions exist.2. If working ? outside of conditions assumed by a technical procedure.3. When encountering conditions inconsistent with the procedure.4. When working ? outside the bounds of key parameters.5. If work extends beyond the scope of the plan or process.6. When feeling distrustful of another individual’s judgement.7. When unexpected results or unfamiliar situations are encountered.8. When something expected does not happen. When something unexpected happens?9. When uncertain regarding compliance with expectations or procedures.10. When unfamiliar with an important work situation.11. When inexperienced or lacking knowledge with a task.12. When someone else expresses doubt or concern.
Commonly Accepted Practice:
<ol style="list-style-type: none">1. Stop the Activity.2. Place the equipment and the job in a safe condition.3. Notify your immediate supervisor.

APPENDIX H

What It Looks Like (WILL) - Three-Way Communication

Communication of changes to physical plant equipment during work activities via; face-to-face, telephone, cell phone or radio requires three verbal exchanges between a sender and a receiver to ensure a reliable transfer of - information and understanding.

The person originating the communication is the sender and is responsible for verifying that the receiver understands the message as intended.

When to Use the Tool:
Consider using three-way communication in verbal conversations involving: <ul style="list-style-type: none">• the operation or alteration of plant equipment• the condition of plant equipment or the value of an important parameter• the performance of steps or actions using an approved procedure• task assignments that impact plant equipment or plant activities• the safety of personnel, the environment, or the plant.
Commonly Accepted Practice:
<ol style="list-style-type: none">1. Sender states the message.<ul style="list-style-type: none">• If practical, the sender positions himself or herself in front of the intended receiver (preferably face to face).• The sender gets the attention of the receiver, such as using first names.• Sender states the message clearly and concisely.2. Receiver acknowledges the sender.<ul style="list-style-type: none">• The receiver paraphrases the message in his or her own words.• Equipment designators and nomenclature as stated by the sender are repeated word for word.• The receiver asks questions to verify his or her understanding of the message.3. Sender acknowledges the receiver's reply.<ul style="list-style-type: none">• If the receiver understands the message, then the sender responds with "That is correct" (or similar affirmation).• If the receiver does not understand the message, the sender responds with "That is wrong" (or words to that effect) and restates the original message.4. If corrected...<ul style="list-style-type: none">• Receiver acknowledges the corrected message, again paraphrasing the message in his or her own words.

APPENDIX I

What It Looks Like (WILL) – Tailboard / Pre-Job Brief

A tailboard / Pre-Job Brief is a meeting of workers and supervisors conducted before a job to discuss the tasks involved, roles and responsibilities, risk assessment, hazards identification and controls, risk-important steps and what HU tools are being used during these steps to mitigate or eliminate the risks / hazards identified, error precursors, special requirements and technical aspects.

When to Use the Tool:

Use the tailboard conference:

- prior to beginning work
- the operation or alteration of plant equipment to better understand what to accomplish, what to avoid and how
- to help participants avoid surprises in the field and reinforce that there are no “routine” activities
- the performance of steps or actions using an approved procedure
- task assignments that impact equipment
- the safety of personnel, the environment, or the plant/equipment.

Commonly Accepted Practice:

The “SAFE” format is used for all tailboard conferences.

S - Summarize the task and any risk-important steps

A - Anticipate Traps and Error Precursors

F - Foresee probable and worst-case consequences of an error at those risk-important steps.

NOTE: The potential consequences for each of the following areas should be considered: Electrical Safety, Generation Safety, Environmental Protection, Personnel Safety, and Fire Safety.

E - Evaluate effective defenses (work practices / methods, procedures, HU tools, physical barriers, PPE) to prevent errors and minimize unintended consequences.

At NB Power the supervisor or delegate also known as the ‘Employee in Charge’. Delegation must be assigned based on delegate’s experience, knowledge, degree of competency and skill or expertise and job complexity) must participate in the tailboard conference either by leading the briefing or by participating in a reverse tailboard conference if that is the technique chosen for the briefing.

APPENDIX J

Accountability Guide

Accountability Guide - to assist in assessing behavior type during incident investigation			
	HUMAN ERROR	AT-RISK BEHAVIOUR	RECKLESS BEHAVIOUR
DEFINITION	<p>An action that unintentionally departs from an expected behavior...either a</p> <ul style="list-style-type: none"> • Slip, • Lapse or • Mistake <p>Can be Skill-based, Rule-based or Knowledge-based.</p>	<p>An intentional behaviour that increases risk where the risk is not recognized or mistakenly believed to be justified.</p> <p>This is a deviation from the standards or processes but the deviation has been accepted by the organization. When this occurs, the individual does not feel like they are breaking the rules.</p>	<p>A conscious choice to disregard a substantial and unjustified risk. An overt decision not to follow expectations.</p> <p>Examples include such things as negligence, malicious intent, or intentional disregard for a clear station expectation.</p>
EXAMPLE	<p><i>"I operated the wrong switch."</i></p> <p><i>"I missed a step in a procedure."</i></p> <p><i>"Holy \$#@!, I can't believe I just did that."</i></p>	<p><i>"Everyone does it this way around here."</i></p> <p><i>"We can't follow the procedures but got the job done."</i></p> <p><i>"I thought it was better for the company to do the job that way."</i></p>	<p><i>"It was better for me to do the job this way."</i></p> <p><i>"Screw you, I meant to do it this way."</i></p> <p><i>"That doesn't make sense, this is better."</i></p> <p><i>"I don't want to."</i></p>
MANAGE THROUGH THE FOLLOWING ACTIONS	<p>Improve some or all of the following defenses:</p> <ul style="list-style-type: none"> • Error Prevention tool use • processes • procedures • training • work environment • Oversight 	<ul style="list-style-type: none"> • Remove incentives for at-risk behaviour • Set clear expectations for behaviour <p>Make changes to/or reinforce existing</p> <ul style="list-style-type: none"> • processes • procedures • training • culture 	<p>Follow positive discipline process</p> <ul style="list-style-type: none"> • Verbal warning • Written warning • Decision-making leave • Termination
REPETITIVE BEHAVIOUR	<p>Consider the use of remediation and address any underlying 'At-Risk' behaviours i.e. inconsistent Hu Tool use.</p>	<p>Determine whether the person requires further education, coaching or possibly move to the positive discipline process if same 'at risk' behaviour.</p>	<p>Move to the next step in the positive discipline process.</p>
LESSONS LEARNED	<p>Document how the use of an Error Prevention Tool or some other defense should have prevented the error.</p> <p>Identify any actions that will improve a failed defense.</p>	<p>Document how the 'At-Risk' behaviour contributed to the event and why it is so important to follow the expectations as written.</p>	<p>This is an individual issue and we will not paint the team with the same brush. Positive Discipline needs to be in confidence.</p>