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INL Human Performance Improvement Guide, GDE-863

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Guide

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REVISION LOG

Rev.	Date	Affected Pages	Revision Description
0	08/15/18	All	New issue. See eCR 661190.
1	02/20/20	All	See eCR 676075.
2	03/16/20	Page 5, 7	See eCR 676866. Remove terms HPI Practitioner and Lead

CONTENTS

1. PURPOSE

Idaho National Laboratory (INL) is committed to integrating the philosophy of Human Performance Improvement (HPI) into all INL Mission Centers and organizations.

HPI Vision: Reduce Human Error, Enhance Human Ingenuity, and Create a *Capacity for Resilience*. Resilience is not the absence of mistakes, *error*s, or failures but the presence of defenses and controls.

2. SCOPE

Individuals, leaders, and organizations are encouraged to integrate HPI into their daily work activities, with a graded approach, to ultimately reduce the frequency and severity of events triggered by human error. Studies show improvement in productivity, quality, security, and safety when HPI philosophies are integrated into work. Each type of work environment has unique expectations coupled with desired outcomes. Because of the diverse work activities performed across INL, implementation plans may be customized to each organization's respective needs. For guidance on developing an Area Specific HPI Implementation Plan (Appendix A).

3. APPLICABILITY

This guide applies to all INL Mission Center and organizational activities.

4. HPI IMPLEMENTATION PROCESS OVERVIEW

4.1 Reduce human error, consequences of human error, and enhance human ingenuity by increasing knowledge and integrating the HPI philosophy and tools (Appendix B) into work practices and processes.

4.2 Create a *Capacity for Resilience*:

4.2.1 Identify *critical step*(s).

4.2.2 Determine the current level of resilience for each identified critical step using the resilience scale (Appendix C).

Note: Presume the probability of experiencing an *unwanted outcome* will be 100% for each identified critical step. If multiple critical steps are identified, evaluate each critical step independently. Critical steps may have different and/or multiple unwanted outcomes resulting from human error.

4.2.3 Determine if the current level of resilience meets the organizations accepted level of risk tolerance.

4.2.3.1 This decision should be made with the appropriate stakeholders, users, and process owners. If the current level of resilience is determined to be acceptable, then it may be decided that no further action is necessary.

4.2.4 Identify and integrate the needed tools (Appendix B), resources, and controls to ensure level of resilience is as high as reasonably achievable.

4.2.5 *Risk important steps* may also be evaluated using the Resilience Scale (Appendix C).

5. ACRONYMS

DOE U.S. Department of Energy

HPI Human Performance Improvement

INL Idaho National Laboratory

SME subject matter expert

6. DEFINITIONS

Capacity for Resilience: the ability to manage defenses and/or controls to prevent unwanted outcomes triggered by human error.

Critical Step: a procedure step or action that is within the control of the worker(s), typically irreversible, and when performed incorrectly could result in an unwanted outcome.

Error: something you didn't intend to do.

Risk Important Step: a procedure step or action that when performed incorrectly could have a negative impact on the overall success of the process.

Unwanted Outcomes: errors that result in injury, mission interruption, or damage.

7. SOURCE AND REFERENCE DOCUMENTS

HPI subject matter experts (SMEs) are available to assist/support integration efforts as requested. Each directorate is encouraged to have representation at the monthly HPI working group meetings.

HPI Company Level Courses:

- 0INL1757, Human Performance Improvement (HPI) Introduction
- 0INL1758, HPI Tool Selection and Use
- 0INL1759, Human Performance Improvement Fundamentals

DOE-HDBK-1028-2009, Standard, "Human Performance Improvement Handbook, Volume 1: Concepts and Principles," June 2009.

DOE-HDBK-1028-2009, Standard, "Human Performance Improvement Handbook, Volume 2: Human Performance Tools for Individuals, Work Teams, and Management," June 2009.

8. APPENDIXES

Appendix A, "Guidelines to Writing Area Specific HPI Implementation Plans"

Appendix B, "HPI Tool Usage Guide"

Appendix C, "Resilience Scale" EXAMPLE

Appendix A

Guidelines for Writing Area Specific HPI Implementation Plans

Integrating HPI into daily activities will ultimately be under the direction and responsibility of specific work organizations or service centers as they develop and enact their HPI Implementation Plans.

The HPI area-specific implementation plan can be a stand-alone document or can be imbedded within other documents. Each area specific plan identifies organization specific HPI goals and objectives that are actively being worked to prevent events, unwanted consequences, and/or increase ingenuity and innovation.

An HPI plan will include identification of clear actions and action owners to be accomplished by a specific date. Timely follow-up should take place to gather evidence and ensure progress is being made toward the goals (see format example below). The following elements are also helpful:

1. A designated owner who drives the plan's development, periodic revision, and execution.

2. A list of participant's roles and responsibilities, in addition to those who are already included as the area's HPI Working Group Representative.

3. The goal(s)/action(s) can include promoting one or more HPI tools, improving the engagement of workers in using HPI principles, embedding HPI tools or principles into area specific procedures, and training for selected workers. Each action will include:

    - A means to identify, measure, monitor, and evaluate goal achievement.
    - A way of communicating progress, collaborating, and coordinating efforts.

FORMAT EXAMPLE: HPI GOALS AND ACTIONS

The following suggested format can be used to help develop and document your area specific HPI Implementation Plan.

Goals and Actions for FY-20XX

Action Item Number	Description	Owner(s)/ Actionee(s)	Evidence	Due Date
Example: 1	20 individuals complete HPI Refresher course	Org Manger / Local HPI WG rep	TRAIN course completion roster.	Jan. 15, 2020
Example: 2	Emphasize Peer Check, Speaking Up	Specific work org or group	Share success stories in staff meetings.	July 10, 2021

Appendix B

HPI Tool Usage Guide

When to use HPI Tools

(DOE-HDBK-1028-2009, Volume 2, pages 3–4)

Location	In the Field (i.e., Operations, Maintenance, Field Support, and Researchers)			In the Office (i.e., Engineering, Science, Technology Support, and Researchers)		
HPI Tool	Prior to Start/ Re-Start	Perform Work	Complete Work	Prior to Start/ Re-Start	Problem Solving	Task Verification
Task Preview	X					
Job-Site Review	X					
Questioning Attitude	X	X	X	X	X	X
Stop When Unsure	X	X	X	X	X	X
Self-Checking	X	X	X	X	X	X
Procedure Use & Adherence	X	X	X	X	X	X
Validate Assumptions				X	X	X
Signature						X
Three-Way Communication		X	X			
Phonetic Alphabet		X	X			
Place-Keeping		X	X			X
Do Not Disturb Sign					X	X
Pre-Job Briefing	X			X Technical		
Peer-Checking		X				
Concurrent Verification		X				
Independent Verification		X				
Peer Review						X
Flagging		X				
Turnover		X			X	
Post-Job Review			X			X Technical
Project Planning	X			X		
Problem Solving (PACTS)					X	
Decision-Making					X	
Project Review Meeting						X
Vendor Oversight	X	X	X	X	X	X

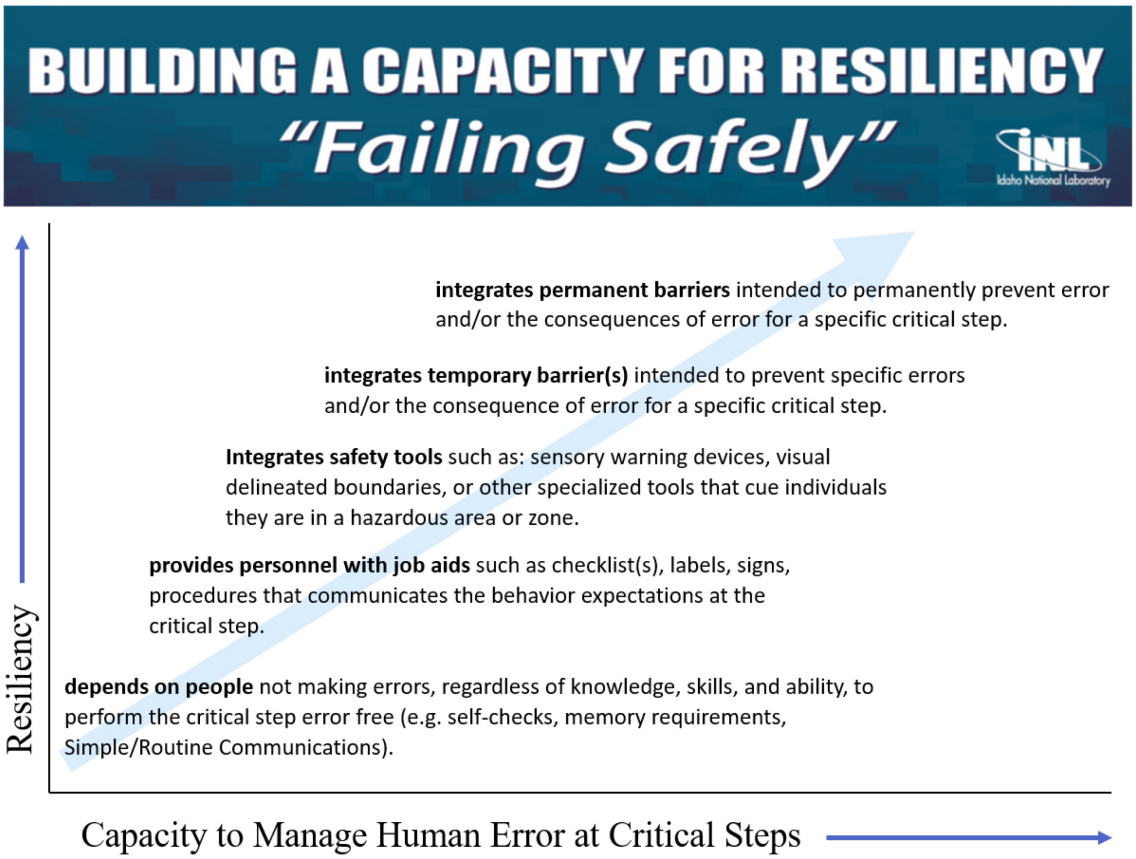
Appendix C

Resilience Scale

EXAMPLE

This scale is to be used when evaluating a critical step to assist in determining the organization's level of dependency on humans to manage the capacity for resilience to manage unwanted outcomes.

Note: *This can be used when evaluating resilience at risk important steps as well.*



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