Review of Human Performance Concepts: "Work From Home Edition"

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DTS Meeting

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- Current Work From Home stance creates unique and numerous challenges to daily work

- Could lead to increase in human error

- Some Error Traps are amplified when working remotely

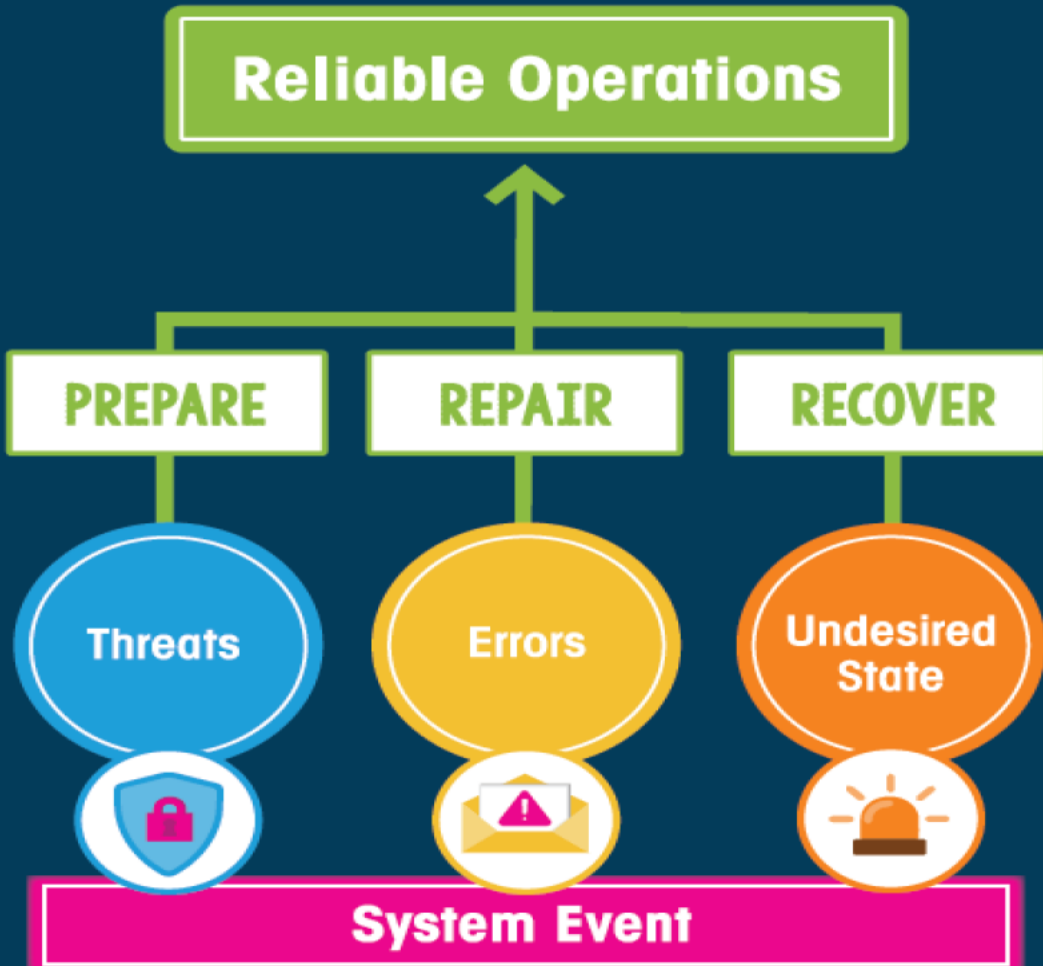- Human Performance tools can help reduce these errors

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Task Demands	Work Environment
Time pressure (in a hurry)	Distractions / Interruptions
High workload (memory requirements)	Changes / Departure from routine
Simultaneous, Multiple tasks	Confusing displays / control
Repetitive actions (monotony)	Work - arounds
Unclear goals, roles, or responsibilities	Unexpected equipment conditions
Lack of or unclear standards	Back shift or recent shift change
Complex / High information flow	
Individual Capabilities	**Human Nature**
Unfamiliarity with task (first time)	Stress
Lack of knowledge (faulty mental model)	Habit patterns
Imprecise communication habits	Assumptions
Lack of proficiency; inexperience	Complacency / over confidence
Overzealousness for safety critical task	Inaccurate risk perception
Illness or fatigue – Fitness for duty	Communication shortcuts
Lack of big picture	

Workload Management

What?

- Managing tasks being performed to prevent both complacency and overload
- Complacency is a self-satisfaction with an existing situation or condition.

Why?

- Complacency can lead to errors by causing a lack of awareness of some potential danger or defect.
- Complacency is caused by a sense of infallibility, previous success and lack of continual learning.

How?

- Delegate tasks to others when feeling overwhelmed
- Ask for help
- Manage stress
- Monitor task loading
- To combat complacency, continuously learn new things, take on new challenges and surround yourself with positive influences
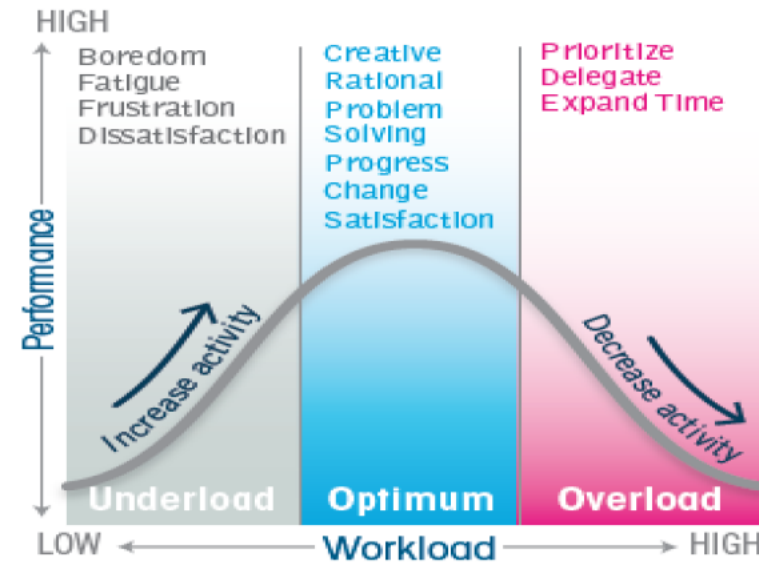
Stress Management

What?

- Stress is typically caused by uncertainty in a situation, complexity of tasks and time constraints on completing the task.
- Forms of stress include physical, physiological and emotional

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Why?

- Stress can impact our judgement and decision-making ability.
- Stress narrows our focus of attention and impacts situational awareness.
- Stress affects behavior in emergency situations.

How?

- Anticipate what might go wrong and consider contingencies
- Recognize and acknowledge changes in the situation
- Recognize stress in the crew and calm the situation
- Acknowledge confusion and realign the team

- Communicate in a calm, constructive manner
- Utilize checklists, procedures and automation to assist decision making under stress

Workload Management

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Task Loading

What?

Task loading is defined as:

> Number of tasks ÷ Available time

Why?

- More errors are likely to occur when heavily task loaded.
- Task loading can be increased by "additive conditions" such as personal issues, unexpected failures, staffing levels and management expectations.
- "Crew member factors" such as fatigue, inattention and complacency can also increase potential for error.
- Multi-tasking increases stress levels, increases likelihood of error and increases overall time to complete tasks.

How?

- Eliminate or postpone unnecessary activities
- Avoid distractions such as cell phones
- Ask for help if heavily task loaded
- Batch jobs together wherever possible
- Avoid multitasking where possible

Workload Management

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Monitor/Cross-Check

What?

Monitoring self and others to identify error traps and ensure correct performance of task steps

Why?

- Focus attention on task at hand
- Get verification from others that task was performed to standards

How?

- "Stop when unsure" — halt task to resolve uncertainty or confusion in task
- Employ peer checking and verification
- Employ self-check methods

Checking and Verification

What?

Provide an independent "peer check" of a highly critical task

Why?

- Allow for verification by a peer that the task was performed to standards

- Minimize the potential for errors
- Consider potential outcomes

How?

Peer Checking – Concurrent Verification

- 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
- **Performer** – Should be qualified and knowledgeable to perform the task
- **Peer checker** – Should also be knowledgeable about the task to be performed; must be able to detect if an error is about to be made and have the ability to intervene in time to prevent an error

Peer Checking – Independent Verification

- Independent verification requires separation in time and space between the individuals involved to ensure "freedom of thought."
- Performer and peer checker perform/verify task completion without interaction.

Monitor/Cross-Check

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Monitor/Cross-Check

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Self-Checking

What?
- A tool an individual uses to focus attention on the task at hand
- Includes distinct thoughts and actions designed to enhance an individual's attention to detail

Why?
- Ensure proper action is taken for task
- Consider potential outcomes
- Verify that expectations and results were achieved
- Minimize the potential for errors

How?
Use the STAR principle prior to performing critical steps in a process

Monitor/Cross-Check

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Communications

What?
- Utilizing effective verbal and written communication to transfer message or information from one person to another
- Listening for understanding

Why?
- Communication errors are a common human errors that can lead to operating events.
- Miscommunication can result in wrong decisions or actions in a situation.

How?
- Avoid "mitigated speech," which is downplaying or sugarcoating the meaning of the message being communicated
- Communicate with team members prior to each critical step of a process to increase team situational awareness
- Resolve any unclear terminology or acronyms
- Speak up when you have concerns or confusion in a situation
- Utilize effective listening techniques
- Utilize PJM communication protocols

Communication

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