

Human Performance

~ Preventing Unwanted Outcomes ~

<p>Key Concepts</p> <ul style="list-style-type: none"> ○ New way of thinking about errors and incidents ○ “To err is human” - cannot eliminate all human error; can never reduce errors to zero ○ Unwanted outcomes can be minimized or prevented 	<p>Context</p> <ul style="list-style-type: none"> ○ Must determine context to fully explain events ○ Context explains behaviors, it does not justify them <p>Errors</p> <ul style="list-style-type: none"> ○ Human error rate – average five (5) per hour ○ Cannot/will not recognize most of our own errors
<p>Principles of Human Performance</p> <ol style="list-style-type: none"> 1) People are fallible, and even the best make mistakes... therefore, blame fixes nothing 2) Error likely situations are predictable, manageable, and preventable 3) Individual behavior is influenced by organizational processes and values 4) People achieve high levels of performance based largely on the encouragement and reinforcement received from leaders, peers, and subordinates 5) Events can be avoided by understanding the reasons mistakes occur and applying the lessons learned from past events. 	
<p>The “ugly” truth about Human Error</p> <ul style="list-style-type: none"> ○ It thrives in every industry ○ It is a major contributor to events and unwanted outcomes ○ It is costly, adverse to safety, and hinders productivity ○ The greatest cause of human error is weaknesses in the organization, not lack of skill or knowledge ○ Error rates can never be reduced to zero ○ Consequences of errors can be eliminated 	<p>Hazardous attitudes</p> <ul style="list-style-type: none"> ○ Pride – “don’t insult my intelligences” ○ Heroic - “I’ll get it done, by hook or by crook” ○ Invulnerable – “that can’t happen to me” ○ Fatalistic – “what’s the use?” ○ Bald tire – “got 60K miles and haven’t had a flat yet” ○ Summit fever – “we’re almost done” ○ Pollyanna – “nothing bad will happen to me” and “everything is right with the world”
<p>Two types of errors</p> <ul style="list-style-type: none"> ○ Active – immediate consequences and you know who did it ○ Latent errors or conditions – delayed consequences and often you don’t know who did it ○ Impossible to totally eliminate errors – you’ll go crazy and broke 	<p>Performance modes – three (3) basic modes</p> <ul style="list-style-type: none"> ○ Skill based – high familiarity, low attention, auto pilot mode [errors due to inattention – slip, trip, lapse] 1:10,000 – 25% ○ Rule based – if, then – rules, procedures, etc. [errors due to misinterpretation] 1:1000 – 60% ○ Knowledge based – unfamiliar with [errors due to inaccurate mental picture] 1:2-10 – 15%
<p>Limitations of human nature</p> <ul style="list-style-type: none"> ○ Avoidance of mental strain ○ Inaccurate mental models ○ Limited working memory ○ Limited attention resources ○ Pollyanna effect ○ Mind set ○ Difficult seeing own errors ○ Limited perspective ○ Susceptible to emotion ○ Focus on good 	<p>Critical/Risk Important steps</p> <ul style="list-style-type: none"> ○ Those steps in the process where you cannot afford a mistake ○ A procedure, series of steps, of actions that, if performed improperly, will cause irreversible harm people, equipment, or the environment ○ You should never place yourself or the organization in a position of being one error away from a major event
<p style="text-align: center;">Key Terms</p>	
<ul style="list-style-type: none"> ○ Event – an undesirable change in from the expected ○ Unwanted outcomes - injury, mission interruption, damage ○ Error – something you didn’t intent to do ○ Error likely situations – when error precursors are present ○ Error precursors – conditions that are known to increase average error rates 	<ul style="list-style-type: none"> ○ Organization – means everybody and everything people, process, tools, etc. ○ Defense – measures taken to prevent or catch human error, protect people, planet, or property ○ Accountability – holding yourself responsible for your actions ○ Culpability – worthy of blame