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MEMORANDUM OF AGREEMENT BETWEEN
ARMY COMBAT READINESS CENTER
AND
NAVAL SAFETY COMMAND
AND
HEADQUARTERS, UNITED STATES MARINE CORPS (SAFETY DIVISION)
AND
UNITED STATES COAST GUARD HEALTH AND SAFETY DIRECTORATE
AND
AIR FORCE SAFETY CENTER

Subj: POLICY ON THE COLLECTION AND ANALYSIS OF MISHAP HUMAN FACTORS DATA

Encl: (1) U. S. Department of Defense Human Factors Analysis and Classification System (DoD HFACS) Version 8.0
(2) U. S. Department of Defense Human Factors Analysis and Classification System (DoD HFACS) Handbook Version 8.0

(3) U. S. Department of Defense Human Factors Analysis and Classification System (DoD HFACS) Version 8.0 Summary of Changes

1. **Purpose.** To ensure uniform collection and analysis of human factors data resulting from military mishaps.

2. **Scope.** This policy addresses only the military service safety centers and their collection of human factors data from mishaps. It does not affect any other operation of the services.

3. Background. The services have been collecting human factors data using DoD HFACs 7.0 since 2011. The Joint Human Factors Working Group (HFWG) developed Enclosure (1) DoD HFACS Version 8.0 based on lessons learned and best practices after over a decade of using DoD HFACs 7.0. Each service will develop their service specific implementation plan with the goal of full implementation two years after signature of this MOA.

4. Policy. Enclosures (1) and (2) are the jointly created HFACS 8.0 taxonomy. The parties agree to collect and analyze mishap human factors using this taxonomy. Enclosure (3) is the summary of changes to assist stakeholders.

5. Review and distribution of policy. HFWG shall meet, discuss, and approve additions and changes to enclosure (1) on a semiannual basis during Joint Service Safety Council (JSSC) meetings. A copy of enclosure (1), with all approved changes, shall be published prominently on the Naval Safety Command website. That posting may be used as a target link from all parties' web sites.

6. Effective date, review, modification, termination, and copies of this agreement. This agreement is effective on the date of the last signature and shall remain in effect until rescinded, revised, or superseded. This agreement may be cancelled at any time by mutual agreement, by any party with at least thirty (30) days written notice, or by implementation of a permanent Department of Defense directive or instruction regarding HFACS. All parties shall review this agreement each year. This agreement may be modified, in writing, with the written agreement of all parties. A written request for modification shall be provided to all parties at least sixty (60) days prior to the proposed date of change. This agreement is executed in five separate originals, each to be held by one party (Army Combat Readiness Center (SJA), Naval Safety Command (03), Headquarters, U.S. Marine Corps, Coast Guard Health and Safety Directorate, and Air Force Safety Center (JA)).

Subj: POLICY ON THE COLLECTION AND ANALYSIS OF MISHAP HUMAN FACTORS DATA

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U.S. Department of Defense
Human Factors Analysis and Classification System (DoD HFACS) version 8.0

25 May 2022

The following revisions to the DoD HFACS tool have been agreed upon by the DoD Human Factors Working Group (HFWG) and approved by the Joint Service Safety Council (JSSC) for implementation across all DoD components.

Background/Overview:

Human error remains the leading cause of DoD mishaps. The DoD HFACS version 8.0 was designed to accommodate all occupational communities throughout the DoD and intended for use by safety personnel, data research personnel and commanders in three inter-related areas.

1. Provide a structured tool that aids safety personnel in explaining the linkage between complex layers of underlying organizational weaknesses/root causes and an individual's active failure and/or severity of damage or injury.
2. Improve mishap prevention strategies by using this tool during pre-mission planning and safety inspection as an aid to identify the underlying organizational weaknesses/root causes of hazards and hazardous conditions in order to develop more effective risk controls.
3. Provide data research personnel with a standard, data-driven approach which meets the intent of DoDI 6055.07 to "Establish procedures to provide for the cross-feed of human error data using a common human error categorization system that involves human factors taxonomy accepted among the DoD components".

On-duty mishaps and near-misses are rarely attributable to a single cause or an individual's active failure. Instead, mishaps are the end result of a series of latent failures and/or hazardous conditions influenced by flaws in the safety management system which are related to a combination of training, resource support, policy or procedures, and/or supervisory functions throughout multiple levels of an organization. These latent failures or conditions may lie dormant or undetected for days, weeks, months or years prior to their manifestation as a mishap.

Drawing upon Reason's (1990) and Wiegmann and Shappell's (2003) concept of active failures and latent failures/conditions, "active failures" are the last actions or inactions of the operator that was the immediate cause of the mishap. In contrast, "latent failures" or "latent conditions" are hazardous conditions that exist within the chain of command or elsewhere in the organization which affected the tragic sequence of events leading up to the active failure.

After a mishap, trained safety personnel are obligated to collect, sort and analyze all evidence to deduce the causal factors and determine which active and latent failures were materiel failures or human failures and if environmental conditions negatively affected the performance of the human(s) and/or materiel involved.

The latent failures associated with a class A mishap are often present in similar near-miss events. Therefore, the same rigor should be applied to the analysis of near-miss and low severity mishaps as to high-severity mishap.

Application of the DoD Human Factors Analysis and Classification System

Step 1: <u>Determine all factors that caused the mishap:</u> Investigating safety personnel must first piece together the sequence of events to determine "what happened". The next step is to identify all anomalous events and the layers of conditions which allowed each anomalous event to occur. This is achieved by applying a cause and effect mapping process to determine why each

anomalous event took place to determine the latent failures of "why the mishap occurred or why the individual failed". This process helps organizations to look beyond a single individual's actions and determine what underlying hazardous conditions related to training failures, supervisory/leader failures, resource support failures, materiel design flaws, and/or flaws in written policies or procedures influenced the mishap individual.

NOTE: When assessing human factor causes, safety personnel should answer each of following questions:

a. "What was the active failure committed by the mishap person/operator to cause the mishap?"

b. "Did the mishap person/operator have any physical or mental conditions that negatively influenced his/her performance?"

c. "Did conditions in the operating environment negatively influence the mishap person's performance?"

d. "Was there a gap in either unit or institutional training that negatively influenced the mishap person's performance?"

e. "Was the mishap person's performance influenced by one or more supervisor's/leader's decisions, directives, actions or inactions within the command?"

f. "Was there a breakdown in communication among team members that negatively influenced the mishap person's performance?"

g. "Did a lack of resource support negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

h. "Did a lack of effective written standards negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

Step 2: <u>Determine relationships between each causal factor</u>. Establish which latent failures either directly affected the individual's active failure or indirectly contributed to the failure by creating one or more hazardous conditions that negatively influenced the mishap person's performance.

NOTE: Some latent failures may not directly contribute to the mishap person's unsafe act, yet may have contributed to the severity of injury or damage to equipment/property.

Step 3: <u>Apply DoD HFACS codes to all identified active and latent failure causes</u>. Once all latent failures have been identified, the last part of mishap analysis process is assigning the most applicable codes to each identified latent failure as well as the active failure of the mishap person(s).

USEFUL TIP – this process can easily cause distractions thus creating undue doubt, debate and improper selection of codes. Therefore, the following are tips for successful application:

- <u>Determine all mishap causal factors first</u>.
- <u>Answer the HFACS questions in each category before reviewing codes</u>. The questions will guide you through choosing the most appropriate codes for the identified active and latent failures.

- Avoid rabbit holes. If a code becomes debatable, be willing to move on and come back. It is very easy to become distracted from the facts by debating whether or not a specific code applies. A best practice is to tick-mark the code in question and move on. Do not be afraid to consult with other safety personnel or Human Factors experts when you or your team feels you are confused or at an impasse about "why" something did, or did not happen.
- Be willing to review and eliminate codes. Some codes may seem similar, yet you will find that certain codes are more applicable than others. Be willing to deselect codes that are contentious. Focus on those codes that best support the identified causal factors and require recommendations for corrective actions.
- Avoid personal bias. Let the previously analyzed evidence guide you to the appropriate code. If one is attempting to be creative and make a code fit into calling a horse a zebra – then it is not applicable to explaining the cause and effect relationships within the mishap.
- There are no minimums or limitations on the number of nano-codes selected. If the code fits the identified cause factor – it fits. Do not feel pressured to select a specific number of codes. When in doubt always refer to the evidence.
- Think cause and effect. Latent failure codes (supervisory, organizational influence and/or some precondition codes) may apply directly to the individual's unsafe act/active failure or to other codes that affected the unsafe act. Without a thorough analysis of evidence, the safety investigator or Safety Investigation Board (SIB) can easily lose sight as to how a "supervisory" code or an "organizational" code is applicable to the individual's unsafe act or a precondition of the individual. One method to overcome this challenge is to ask: "Did this supervisory and/or organizational code have any influence on one or more preconditions to the unsafe act?" and/or "Did this supervisory and/or organizational code have any influence on a severity of injury or damage?" If the answer is yes – select the code best supported by the evidence.
- Every unsafe act will include at least one individual precondition. There are generally multiple reasons why an individual failed. Whether the mishap person's unsafe action was the end result of supervisory/leader and/or organizational influences or not, each individual active failure will have at least one individual precondition.
- Think about which codes best support needed corrective actions. For every code selected, the safety officer/specialist or SIB should consider the level of importance the code has in resolving organizational flaws/latent failures within the unit, command or larger organization to improve the unit versus an individual.
- When in doubt – Follow the evidence. A simple way to understand how act and precondition codes trace back to codes at the supervisory or organizational level is to ALWAYS refer back to the "cause and effect" analysis.

Step 4: **Write a supporting statement for each selected code:** Once the safety officer/specialist or SIB selects a code for each factor, an evidence based description for the code's relationship to the causal factor must be included in the mishap report. This also aids in the development of more effective recommendations.

NOTE: If you have difficulty writing a supporting statement, then the code is likely not applicable or worthy of inclusion, or you need to revisit the evidence for that area of your investigation. "

This process helps safety personnel develop more thorough recommendations for corrective actions that will help commanders improve mishap prevention strategies to enhance operational readiness and/or reduce DoD civilian workers compensation costs.

Proper application of this coding system also allows data analysts to perform more effective trend analysis to support targeted organizational improvement efforts.

DoD HFACS 8.0 Nano-Codes

Question A1: *"What did the mishap individual do or fail to do that allowed the near-miss or mishap to occur?"*

UNSAFE ACTS (ACTIVE FAILURES): Acts are factors that are "most closely tied to the mishap, and can be described as active failures or actions committed by the operator (mishap person) that result in human error or unsafe situation."

Unsafe acts of the mishap person are divided into errors and known deviations.

Question A2: *Was the unsafe act an error or known deviation?*

Errors: Are unknown and/or unintended deviations where the individual operator/aviator/worker's mental or physical activities failed to achieve their intended outcome, which resulted in the near-miss or mishap.

These unknown or unintended actions include but are not limited to: attempted a task without needed assistance, improper use of personal protective equipment (PPE) or safety devices, misjudged changes in surrounding environment; misjudged time, speed, clearance, distance, degree or angle, center of gravity, attitude; failed to effectively react to hazardous conditions, objects or a situation; etc.

Errors are classified as either Performance-Based errors, Judgment and Decision-Making errors, or both.

If an error - go to A3;

Known Deviations: Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended.

Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or may not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use required safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.

If a known deviation – go to A5;

Question A3: *Was the error a Performance Based Error? (If yes - choose the most applicable error code, then go to A4. If no- go to A5)*

PERFORMANCE/SKILL BASED ERRORS (AE100): are errors that occur when the operator's/aviator's/worker's execution of a routine or highly practiced task related to a procedure, training or proficiency was performed incorrectly and resulted in a near-miss or mishap.

PERFORMANCE/SKILL BASED ERRORS	AE100
Unintended Activation or Deactivation	AE101
Procedure or Checklist Not Followed Correctly	AE102
Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System	AE104
Breakdown in Visual Scan or Instrument Cross-check	AE105
Rushed or Delayed a Necessary Action	AE107
Misinterpreted/Misread Instrument	AE108

AE101 Unintended Activation or Deactivation: is when an individual's movements inadvertently activated or deactivated equipment, controls, switches, weapons systems, etc., when there is no intent to do so and resulted in the near-miss or mishap.

This action may be noticed or unnoticed by the individual at the time of occurrence. The error may be the result of one of more individual physical or mental conditions, crew/team influence, supervisory/leader influence, or a flaw in workspace or materiel design.

AE102 Procedure or Checklist Not Followed Correctly: is when the mishap individual did not follow correct procedure which resulted in the near-miss or mishap. (Examples include: failed to execute proper sequence, learned maneuver or proper emergency procedures; failed to follow a published checklist, Technical Manual (TM), or Standard Operating Procedure (SOP) to perform an inspection or maintenance of aircraft/vehicle/vessel/equipment, etc.) The error results from one or more preconditions, supervisory influence and/or ineffective training.

AE104 Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System: is when the mishap individual(s) inappropriately reacted to conditions by either over- or under-controlling the aircraft/vehicle/vessel/system, which resulted in the near-miss or mishap. (Examples include: applying too much or too little pressure, oversteering/understeering, improper braking, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

AE105 Breakdown in Visual Scan or Instrument Cross-check: is when the mishap individual did not effectively execute learned/practiced internal or external visual scan patterns, which resulted in the near-miss or mishap. The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

AE107 Rushed or Delayed a Necessary Action: is when the mishap individual took the correct action(s) as dictated by the situation but performed the action(s) either too quickly or too slowly, which resulted in the near-miss or mishap. (Examples include: actuated a brake or device too soon or too late, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

AE108 Misinterpreted/Misread Instrument: is when the individual misread, misinterpreted, or failed to recognize the significance of an accurate instrument reading, resulting in the near miss or mishap. This may be associated with ineffective training, supervisory influences, environmental factors, or other individual preconditions. *(Formerly PC505)*

Question A4: *Was the error a Judgment and Decision Making Error? (If yes - choose the most applicable error code, then move on to identify the associated preconditions to the individual's unsafe act. If no- go to A5)*

JUDGMENT AND DECISION-MAKING ERRORS (AE200): are when the individual pursued an inappropriate course of action after intentionally or unintentionally failing to accurately assess a situation, which resulted in a near miss or mishap.

The error is an unknown deviation of a policy or procedure during the performance of diagnostic or problem-solving tasks that require conscious effort. These may be the result of individual conditions, crew/team influence, leader/supervisor influence, ineffective training, and/or other organizational influences.

JUDGMENT & DECISION-MAKING ERRORS	AE200
Inadequate Real-Time Risk Assessment/Action	AE201
Ineffective Task Prioritization	AE202
Ignored a Caution/Warning	AE205
Misjudged/Misperceived Changing Environment:	AE207

AE201 Inadequate Real-Time Risk Assessment/Action: is when the mishap individual, through inexperience, faulty logic, poor judgment, or insufficient information, selected or proceeded with the wrong course of action based on an ineffective real-time assessment of immediate hazards during execution of a task/mission/activity, which resulted in the near-miss or mishap. (Examples include: Made an incorrect decision or action regarding immediate hazardous conditions, objects or situation; misjudged speed, distance, degree of angle or time; drove too fast for conditions, misjudged changes in surrounding environment; attempted task without needed or required assistance; omitted use of PPE or safety devices; used PPE or safety devices improperly; pulled or pushed improperly; mounted or dismounted a vehicle, equipment, obstacle or platform improperly, etc.)

This faulty reasoning or erroneous expectation is the result of any one or a combination of: physical or mental conditions of the individual, environmental conditions, crew/team influence, supervisory influence and/or ineffective training.

AE202 Ineffective Task Prioritization: is when the mishap individual did not effectively organize and accomplish the tasks required to manage a situation, which resulted in the near-miss or mishap.

AE205 Ignored a Caution/Warning: is when the mishap individual disregarded an accurately perceived and understood caution or warning in favor of addressing what they perceive to be a greater immediate threat, which resulted in the near-miss or mishap. (Examples include: a sign, signal, guard, audible alarm, flashing light, verbal communication, etc.) The error may be a result of competing inputs/priorities, preconditions of the individual, the operating environment, crew/team influence, leader/supervisor influence or ineffective training.

AE207 Misjudged/Misperceived Changing Environment: is when an individual misperceived or misjudged altitude, separation, clearance, speed, closure rate, road or sea conditions, aircraft/vehicle location within the performance envelope or other operational conditions, which resulted in a near miss or mishap. (Operating a ground motor vehicle, boat, or aircraft during day or night, etc.) This may be the result of individual conditions, environmental factors, ineffective training, and/or supervisory/leader influences. *(Formerly PC504)*

***Question A5*:** Was the act a "Known Deviation"? *(If yes - choose the most applicable code, then move onto identify the associated preconditions to the individual's unsafe act.)*

If the individual's act was determined to be a known deviation, the investigating safety person or SIB must select only one of the three codes below that best corresponds with the identified act.

KNOWN DEVIATIONS (AD000): Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended.

Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or *may* not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.

KNOWN DEVIATIONS	AD000
Performed Known Deviation (Work-Around)	AD001
Commits Widespread/Routine Known Deviation (Normalization of Deviance)	AD002
Extreme Lack of Discipline (Indiscipline)	AD003

AD001 Performed Known Deviation (Work-Around): is when the mishap individual disregarded published policy/guidance/procedure in order to pursue what he/she believed to be the best course of action based on available information to make a real-time risk decision, which resulted in the near-miss or mishap. (Examples include: chose to drive/operate outside published limits, by-pass safety procedures, not use available PPE, etc.)

These deviations may have been well intended however, they disregarded established policies and safe work practices. The "shortcut" may be due to lack of resources (funding, personnel, tools, equipment, etc.), operational tempo (OPTEMPO), a lack of knowledge, or a lack of detail in guidance from supervisors/leaders.

Work-around solutions and unofficial procedures that are accepted by leaders/supervisors within a community and considered necessary for certain operations are also captured under this code.

AD002 Commits Routine/Widespread Known Deviation (Normalization of Deviance): is when the mishap individual violated a published standard, procedure or policy based on unofficial accepted practices of the unit or community that are routine, ongoing or widespread and resulted in the near-miss or mishap.

These chronic "bending" of the rules may or may not have leadership sanction yet have not routinely resulted in disciplinary/administrative action (culturally accepted) creating a normalization of deviance.

AD003 Extreme Lack of Discipline (Indiscipline): is when an individual was trained to standard, knows the standard, but elected not to follow the standard without cause or need, which resulted in a near-miss or mishap.

Question P1: Why did the individual or team commit the unsafe act(s)?

PRECONDITIONS TO UNSAFE ACTS (ACTIVE OR LATENT FAILURES)

Preconditions are evidence supported conditions in a mishap if active and/or latent conditions of the individual, the operating environment, or team communications affected the performance or actions of the mishap individual and resulted in unsafe acts/active failures.

These preconditions stem from either individual lifestyle behaviors, supervisor/leader influences, organizational level influences in training, resource support, policy/standards or a combination thereof. Such conditions include the mishap individual's physical, mental or cognitive conditions, and his or her interactions with the technological and/or the physical environment. Therefore, **at least one precondition will accompany each unsafe act.**

Question P2: Did a mental awareness condition of the mishap individual influence the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

MENTAL AWARENESS CONDITIONS (PC100): are when the mishap individual experienced a failure in attention management which negatively affected the mishap individual's perception and/or performance and resulted in a hazardous condition or unsafe act.

MENTAL AWARENESS CONDITIONS	PC100
Inattention	PC101
Fixation (Channelized Attention)	PC102
Task Saturation	PC103
Confusion	PC104
Negative Habit Transfer	PC105
Distraction/Interruption	PC106
Geographically Lost	PC107
Change Blindness/Inaccurate Expectation	PC110

PC101 Inattention: is when the mishap individual did not maintain a state of readiness or alertness/situational awareness to properly act upon available information, resulting in a hazardous condition or unsafe act. This may have been due to boredom, self-confidence, over-reliance on automation, high experience levels, executing highly repetitive tasks where the mishap individual was on "auto-pilot", or a false sense of security or a perceived absence of threat from the environment (sheer lack of attention/awareness of risk).

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

PC102 Fixation (Channelized Attention): is when the individual focused all conscious attention on a limited number of environmental cues to the exclusion of others, which resulted in a hazardous condition or unsafe act. This may be described as a tight focus of attention that led to the exclusion of comprehensive situational information.

NOTE: If the fixation was the result of a task saturation, then use PC103.

PC103 Task Saturation: is when the quantity of information an individual was processing exceeded his or her mental resources in the amount of time available and resulted in a hazardous condition or unsafe act. In other words, there is simply too much to accomplish with not enough time or resources. The task loading could be real or imagined, but results in performance and/or judgment and decision-making errors.

PC104 Confusion: is when the mishap individual was unable to maintain a cohesive, orderly awareness of events and required actions and experienced a state characterized by a lack of

understanding, clear thinking or sometimes a misperception of the situation, which resulted in the hazardous condition or unsafe act.

PC105 Negative Habit Transfer: is when the individual reverted to a highly learned behavior used in a previous system or situation and that was inappropriate for current task demands, resulting in a hazardous condition or in unsafe act.

PC106 Distraction/Interruption: is when the individual had an interruption of attention or inappropriate redirection of attention by either an environmental cue, technology, a mental process, or other human influence, which resulted in a hazardous condition or unsafe act. This may include a momentary interruption which resulted in a subsequent failure to complete the original task or resulted in skipping steps in the original task.

PC107 Geographically Lost: is when the individual was at a different location from where the individual believed he or she was.

PC110 Change Blindness/Inaccurate Expectation: is when an individual's expectations contributed to not perceiving the change or to false interpretation of perceived stimuli. The stimulus would be easily noticed by the individual if he/she were directed to the change/reality. This is a universal limitation of human attention.

NOTE: This code should be used in place of PC101 (inattention) if the safety investigator believes the lack of attention involved a limitation on the ability to perceive the stimulus/change.

Question P3: Did the mishap person(s) state of mind influence the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

STATE OF MIND CONDITIONS (PC200): are when psychosocial problems, life stressors, personality traits, or misplaced motivation of the mishap individual created a hazardous condition or unsafe acts.

NOTE: When using PC200 codes, ensure you consult with a qualified medical professional.

STATE OF MIND CONDITIONS	PC200
Psychological Disorder	PC202
Life Stressors/Emotional State	PC203
Personality Style	PC205
Overconfidence	PC206
Pressing, Haste, Motivation	PC209

PC202 Psychological Disorder: is when the individual has met criteria for a diagnosable psychiatric disorder by a competent medical professional which, in the medical professional's opinion, resulted in a hazardous condition or unsafe act. This may or may not have been diagnosed prior to the mishap.

PC203 Life Stressors/Emotional State: is when the individual's emotional state and/or life circumstances led to burnout or otherwise degrade performance, which resulted in a hazardous condition or unsafe act. This can occur when one feels overwhelmed, emotionally drained, and/or unable to meet constant demands, which impinge on performance. (Examples include: wearying effects of work, training, relationships, economic or legal stressors, housing difficulties, upcoming/recent change of station, new baby, family or personal medical issues, or a combination of circumstances, etc.).

NOTE 1: This may be associated with PC307- Fatigue and/or other preconditions.

NOTE 2: This code rarely is selected as a stand-alone and should be paired with other precondition, supervisory or organizational code(s).

PC205 Personality Style: is when evidence strongly indicates the individual's personal interaction with other personalities created a hazardous condition or unsafe act. Examples range from over-conservative, authoritarian, overly aggressive, persuasive, impulsive, invulnerable, submissive, passive/non-assertive, or other personality traits that result in degraded performance. For this code to be selected, there must be strong evidence that the individual's personality traits are longstanding and pervasive, and fall outside of the "reasonable person" concept for similar individuals doing similar tasks/missions.

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

PC206 Overconfidence: is when the individual unreasonably overvalued or overestimated his or her own capability, the capability of others or the capability of aircraft/vehicle/vessel or equipment, which resulted in hazardous conditions or unsafe act. For this to be selected, there must be strong evidence the individual acted in a manner inconsistent with the "reasonable person concept" (this individual's overestimation is above and beyond what a reasonable person in a similar situation would have been expected to do).

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

PC209 Pressing, Haste, Motivation: is when the individual's motivation to complete a task/mission was misplaced, and/or the individual knowingly pressed him or herself and/or equipment beyond reasonable capabilities, which resulted in a hazardous condition or unsafe act. This also includes excessive or weak motivation when either the weak or excessive motivation to succeed disregarded mission needs or superseded the goals of the unit (e.g. rushed to complete a task, mission or reach a destination; or demonstrated a weak/excessive motivation that increased risk to self and/or team.). This precondition may be the result of internal or external pressures or influences on the individual. *(PC207 was combined with this code)*

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

Question P4: Did the mishap person have a physical condition that negatively affected performance and influenced the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

ADVERSE PHYSIOLOGICAL CONDITIONS (PC300): Are when an individual experienced a physiologic condition that compromised performance *and resulted in* a hazardous condition or unsafe acts.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

ADVERSE PHYSIOLOGICAL CONDITIONS	PC300
Effects of Gravitational Forces (G-LOC)	PC301
Substance Effects (supplements, medications, drugs, alcohol)	PC302
Loss of Consciousness (sudden or prolonged onset)	PC304
Physical Illness/Injury	PC305

Physical Overexertion	PC306
Fatigue	PC307
Acute Trapped Gas Disorders	PC310
Decompression Sickness (Evolved Gas Disorder)	PC311
Respiratory Physiological Event	PC312
Inadequate Adaptation to Darkness	PC314
Anthropometric/Biomechanical Limitations	PC317
Nutrition/Diet	PC319
Loss of Capacity (Surprise/Startle Response)	PC320
Spatial Disorientation	PC321

PC301 Effects of Gravitational Forces (G-LOC): Is when, in aviation, the individual experienced G-induced loss of consciousness (G-LOC), grey-out, blackout or other neuro-circulatory effects of sustained acceleration forces. *(re-instated from version 6.02)*

PC302 Substance Effects (supplements, medications, drugs, alcohol): is when the use of authorized or unauthorized substances (medications, supplements, energy enhancing products, alcohol, illegal drugs, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC304 Loss of Consciousness (sudden or prolonged onset): is when the individual experienced a loss of consciousness/functional capacity for a few seconds or prolonged and resulted in degraded performance. Causes include low oxygen atmosphere, trauma, shallow water blackout, or any other cause resulting from activities that were directed, supervised or self-initiated. (NOT GLOC - see PC301)

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC305 Physical Illness/Injury: is when pre-existing or operationally-related medical conditions (illness, injury, dehydration, motion sickness, trauma, seizure, toxic chemical exposure, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE 1: Do not use this code to capture injury or illness that does not cause a hazardous condition or an unsafe act.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC306 Physical Overexertion: is when the individual's diminished physical capability caused by overuse (time/relative load) resulted in a hazardous condition or unsafe act. The effects of prolonged physical activity, or the effects of brief but relatively extreme physical activity, either of which depletes a person's physical endurance or strength beyond the individual's normal limits and degrades performance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified medical professionals. *(re-instated from version 6.02)*

PC307 Fatigue: is when acute or chronic sleep deprivation or circadian rhythm disruption (shift work/lag, extended duty periods, jet lag, poor sleeping conditions, etc.) negatively affected physical and/or mental performance and resulted in a hazardous condition or unsafe act.

NOTE 1: Fatigue should be quantified by determining the mishap individual's number of hours awake vs sleep and activity in the past 72 hours leading up to the mishap. Also determine if the fatigue was either self-induced or operationally induced.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC310 Acute Trapped Gas Disorders: is when gasses in the middle ear, sinuses, teeth or gastrointestinal system negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE 1: If alternobaric vertigo induced spatial disorientation you must also include PC321.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC311 Decompression Sickness (Evolved Gas Disorder): is when evolved gases negatively affected performance, resulting in a hazardous condition or unsafe act. (Examples include: bends, chokes, central nervous system manifestations, paresthesia, etc.)

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC312 Respiratory Physiological Event: is when hindered/inappropriate respiration or pressure/flow/concentration of oxygen created respiratory physiological symptoms which negatively affected performance resulting in a hazardous condition or unsafe act.

This can be caused by external forces and/or internal metabolic functions. Use this code to capture symptoms developed due to hyper/hypoxia, hyper/hypoventilation, and other metabolic conditions which result in a disruption of metabolic balance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC314 Inadequate Adaptation to Darkness: is when dark-adaptation was either not fully completed or was washed out, negatively affected the individual's performance, and resulted in a hazardous condition or unsafe act.

NOTE 1: This code rarely is selected as a stand-alone and should be paired with another precondition, supervisory or organizational code(s).

NOTE 2: If the ineffective adaptation to darkness was related to lights of a vehicle/vessel/aircraft, consider applicability of PE109 in addition to this code.

PC317 Anthropometric/Biomechanical Limitations: is when the individual's size, strength, dexterity, coordination, endurance, or other physical factors negatively affected performance, which resulted in a hazardous condition or unsafe act.

PC319 Nutrition/Diet: is when evidence supports that the individual's nutritional state negatively affected performance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC320 Loss of Capacity (Surprise/Startle Response): is when uncontrollable, automatic physical response of muscle reflex, raised heart rate, suddenly dropped blood pressure, etc. was elicited by exposure to a sudden, intense event that contradicts an individual's expectations resulting in a hazardous condition or unsafe act. This response can affect the physical and mental processes normally used to effectively respond to the event/emergency. *(Formerly PC511)*

PC321 Spatial Disorientation: is when the individual failed to sense correctly a position, motion, or attitude of the aircraft or his/herself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical position (e.g. visual, vestibular, kinesthetic, or auditory/sound illusions), which resulted in a misjudgment and unsafe act. *(Formerly PC508 combined with PC501, PC502, PC503 and PC507)*

NOTE 1: This may be the result of other individual preconditions, environmental factors, ineffective training, and/or supervisory/leader influences.

NOTE 2: Do not use this code if the disorientation is the result of substance effects; use PC302.

NOTE 3: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

Question P5: Did conditions of the operational environment affect the actions of the mishap individual or team? *(If yes for go to question P6. If no, go to question P8.)*

Environmental Conditions (PExxx): Are conditions in a mishap that include both the physical and/or the technological environment where the safety investigator determined environmental conditions affected practices, conditions and/or performance of the mishap individual or team.

Question P6: Did conditions of the physical environment affect the actions of the mishap individual or team? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

PHYSICAL ENVIRONMENT (PE100): Are conditions related to the immediate physical surroundings which negatively affected individual performance, resulting in unsafe acts.

These are conditions such as terrain surfaces, physical obstructions, noise, illumination, glare, air contaminants (e.g. gases, fumes, vapors, particulates), low oxygen, vibrations, radiation, wildlife, insects, and meteorological conditions (e.g. precipitation, temperature, humidity, pressure, wind, electromagnetic effects and lightning.)

PHYSICAL ENVIRONMENT	PE100
Environmental Conditions Affected Vision	PE101

Vibration Affected Performance	PE103
Temperature Affected Performance	PE106
External Force or Object Impeded Performance	PE108
External Lighting of Vehicle/Aircraft/Vessel/Object Affected Vision	PE109
Noise Interference	PE110
Terrain Feature Affected Performance	PE112
Animal or Non-DoD affiliated human	PC113

PE101 Environmental Conditions Affected Vision: is when conditions such as lighting/illumination, physical obstructions, rain, snow, spray, fog, haze, darkness, smoke, dust, sand, other particulates, etc., impeded clear viewing/vision, negatively affected performance, and resulted in hazardous conditions or unsafe acts.

PE103 Vibration Affected Performance: is when the intensity and/or duration of vibrations from an engine, equipment, tools, airframe, rotor, and/or propeller negatively affected vision, balance, and/or performance, and resulted in hazardous conditions or unsafe acts.

PE106 Temperature Affected Performance: is when the ambient/workspace temperature negatively affected performance and resulted in hazardous conditions or unsafe act.

NOTE: If this code is selected, consider if PC305 is applicable.

PE108 External Force or Object Impeded Performance: is when accelerative forces, wind, sea-state, objects, aircraft/vehicle/vessel structures, etc. impeded individual movement and resulted in hazardous conditions or unsafe acts.

NOTE: Use PC304 to code GLOC.

PE109 External Lighting of Vehicle/Aircraft/Vessel/Object Affected Vision: is when the intensity, position, pattern, color, and/or absence of the lighting of other aircraft, vehicles, vessels, or objects negatively affected performance and resulted in hazardous conditions or unsafe acts.

NOTE: This code may be paired with either another precondition, supervisory or organizational code(s).

PE110 Noise Interference: is when an unexpected sound not directly related to information needed for a task (bang, explosion, shout, alarm, machine noise, etc.) negatively affected performance and resulted in hazardous conditions or unsafe acts.

PE112 Terrain Feature Affected Performance: is when known yet unanticipated or unseen/unknown terrain hazards were encountered, which negatively affected performance and resulted in hazardous conditions or unsafe acts. (Uneven surfaces, loose gravel or rock, sand, soft shoulders, pooled water, black-ice, pot-hole, drop-off, dense vegetation, deep mud, etc.)

PE113 Animal or Non-DoD affiliated Human: is when the actions of a non-DoD affiliated civilian or an animal resulted in a reportable/recordable DoD mishap IAW DoDI 6055.07. (Examples include: Commercial conveyance during an official duty status where DoD personnel are not in control of the operation; contractor caused mishaps that result in a DoD reportable injury or damage; motor vehicle mishaps were a non-DoD affiliated driver runs a red-light, crosses centerline or fails to brake; where an animal or human runs into the path of travel, etc.)

Question P7: Did the technological environment (workspace design) negatively affect the performance of the mishap individual or team members? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

TECHNOLOGICAL ENVIRONMENT (PE200): Is when workspace design conditions or automation affected the actions of individuals and resulted in a hazardous condition or unsafe acts. This includes ground vehicle systems, aircraft, watercraft/shipboard spaces, control stations, weapons systems, communication systems, maintenance repair systems, etc.

NOTE: This section assesses hazardous conditions of materiel components and the role a materiel design condition played in an individual's actions. If any code in this section is applicable, you must determine which "Organizational Influences" level codes under Resource Problems (OR) and Policy and Processes Issues (OP) apply for the support failures. These hazardous conditions also require reporting to the proper acquisition or materiel support agency in accordance with your respective DoD component's policies.

TECHNOLOGICAL ENVIRONMENT	PE200
Restraint System and/or Seat Problems:	PE201
Instrumentation and Warning System Issues	PE202
Workspace Visibility Restrictions (not weather related)	PE203
Controls and/or Switches	PE204
Automated System Created a Hazardous Condition	PE205
Workspace Limitations Affected Performance	PE206
Personal Equipment Interference	PE207
Communication Equipment Ineffective	PE208

PE201 Restraint System and/or Seat Problems: is when the design of a restraint system, seat, ejection system, and/or associated comfort element impeded occupant performance or failed to function as intended, which resulted in a hazardous condition or unsafe act.

PE202 Instrumentation and Warning System Issues: is when workspace/cockpit instrument or warning system elements (design, reliability, lighting/backlighting, audible cues, location, symbology, size, display, etc.) negatively affected performance, which resulted in a hazardous condition or unsafe act.

NOTE: This also includes alarm fatigue and/or habituation.

PE203 Workspace Visibility Restrictions (not weather related): is when obstructions from workspace design/layout prevented necessary visibility and negatively affected performance, resulting in a hazardous condition or unsafe act. This includes physical design, glare, reflections, etc.

NOTE: Visibility restrictions due to weather or other environmental conditions are captured under PE101.

PE204 Controls and/or Switches: is when the location, shape, size, design, reliability, or other aspect of controls and/or switches negatively affected performance and resulted in a hazardous condition or unsafe act.

PE205 Automated System Created a Hazardous Condition: is when the design, function, reliability, symbology, logic or other aspects of automated systems negatively affected performance, which resulted in a hazardous condition or unsafe act. This includes designs of tooling machines, ship or aircraft components, etc.

NOTE: Use PE202 if alarm fatigue and/or habituation was the condition.

PE206 Workspace Limitations Affected Performance: is when conditions of a workspace configuration/design negatively affected performance, which resulted in a hazardous condition or unsafe act.

PE207 Personal Equipment Interference: is when the individual's personal equipment negatively affected performance and resulted in a hazardous condition or unsafe act. This includes body armor, harness, other PPE, night vision devices (NVDs), weapons, etc.

PE208 Communication Equipment Ineffective: is when a communication system's (voice, data, multi-sensory) limitations and/or malfunctions negatively affected performance and resulted in a hazardous condition or unsafe act.

Question P8: Did communication practices, conditions, or actions of team members contribute to the individual's unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

TEAM COORDINATION/COMMUNICATION CONDITION (PP100): refers to verbal or non-verbal interactions among crews/teams involved with the preparation and/or execution of a task/mission, which resulted in hazardous conditions or unsafe acts. This includes failures with communication between members of aircraft, tactical vehicles, ground guides, boat or ship, stevedore/long shoring, or any other crew/team communication failures.

TEAM COORDINATION/COMMUNICATION CONDITIONS	PP100
Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance)	PP101
Task/Mission Planning and/or Briefing Inadequate	PP109
Task/Mission-In-Progress Re-Planning	PP111

PP101 Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance, etc.): is when crew/team members failed to actively maintain an accurate and shared understanding of the evolving task, or manage their distribution of tasks, which resulted in a hazardous condition or unsafe act. This includes communication breakdowns (e.g. standardized terms, phrases, hand signals or language/lexicon barriers), critical information not shared, rank/position intimidation, lack of assertiveness or other teamwork functions.

PP109 Task/Mission Planning and/or Briefing Inadequate: is when an individual, crew or team failed to complete all preparatory tasks associated with planning the mission and/or effective briefing the tasks, which resulted in a hazardous condition or unsafe act. Planning tasks include information collection and analysis, coordinating activities within the crew or team and with appropriate external agencies, risk assessment followed by the pre-mission/task safety briefing.

NOTE: You will need to review SP100 codes to determine if the individual's or team's failure was secondary to higher level planning and briefing flaws.

PP111 Task/Mission-In-Progress Re-Planning: is when crew or team members failed to adequately reassess changes in their dynamic environment during mission execution and change their mission plan accordingly to ensure adequate management of risk, which resulted in a hazardous condition or unsafe act.

Question P9: Was the mishap individual's action the result of being untrained, inexperienced, not current or unable to remember the process? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

TRAINING CONDITIONS (PT100): is when formal or informal instruction, skill development or knowledge limit the individual's capability, capacity or performance resulting in an unsafe act.

TRAINING CONDITIONS	PT100
Untrained Operator/Worker	PT101
Knowledge Retention	PT102
Lack of Currency	PT103
Lack of Proficiency/Experience	PT104
Lack of Job/Work Related Safety Training	PT105

PT101 Untrained Operator/Worker: is when the mishap individual did not receive adequate/sufficient training (formal, just-in-time, on the job, etc.) or received no training for a specific task, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of supervisory codes SI003, SI008, SI009, SP006, SC003 or SD003 and organizational formal training program OP004.

PT102 Knowledge Retention: is when the mishap person did not remember information from training and/or previous experience necessary to complete a task safely, which resulted in a hazardous condition or unsafe act. This may be due to flaws in local/unit training or a formal training program or the individual's capacity to learn and retain information. *(Formerly PC109)*

NOTE 1: Exposure to information at one point in the past does not imply "knowledge" of it.

NOTE 2: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.

PT103 Lack of Currency: is when an individual's familiarity with a specific task or process was either not current or was limited by infrequent or rare performance of the task to permit safe execution, which resulted in a hazardous condition or unsafe act.

NOTE 1: The mishap individual was once trained to proficiency to operate a specific system or perform a process, but has not done so in many months or years.

NOTE 2: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.

PT104 Lack of Proficiency/Experience: is when an individual's level of fluency or expertise did not match skills required for safe execution, regardless of his or her familiarity with the process, task, system or mission, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.

PT105 Lack of Job/Work Related Safety Training: is when an individual had not received required or effective safety training related to hazards associated with their daily job or a one-time task, or when there was a change in process or equipment, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.

Question S1: Did immediate or long-standing actions or inactions of a supervisor/leader influence any of the preconditions or unsafe acts or any part of the mishap?

(If yes, go to S2, if no, go to O1.)

INEFFECTIVE SUPERVISION/LEADERSHIP (Latent Failures)

This tier of latent failures encapsulates longstanding actions or inactions, methods, or directives of any supervisory/leadership personnel within the unit that created hazardous practices or conditions and resulted in unsafe acts of the mishap individual or team.

This category includes any personnel serving in a leadership/supervisory role ranging from the immediate supervisor to the commanding officer/director, each of which may have influenced subordinate actions or behaviors in the months, weeks, days and/or minutes leading up to the individual's active failure.

Latent failures to an on-duty mishap can often be traced back to a supervisor/leader failing to correct inappropriate behavior, enforce standards, emphasize correct procedures, or provide ineffective planning, risk assessments, provide effective training, guidance, oversight, work or crew pairing assignments, and/or risk decisions during mission execution to prevent individuals from committing unsafe acts.

All personnel in a supervisory and formal leadership position are responsible for ensuring that complacency or deviation from standards and controls are not allowed to threaten success of safety management system or combat readiness.

A commander and his/her subordinate supervisory/leader personnel exercise supervision to maintain situational understanding, to continuously identify and assess any new hazards, and to develop or modify controls as necessary. An extraordinary degree of discipline is needed to avoid complacency from boredom and overconfidence when personnel are performing repetitive tasks. For many reasons, individuals are inclined to neglect controls used for a prolonged period. It is critical to mission success that all personnel assigned to a supervisory or formal leadership role ensure service members/employees monitor factors such as fatigue, equipment serviceability and availability, the operating environment, and the weather.

When choosing codes applicable to these latent failures, investigating safety personnel identify where the leader errors or known deviations reside (e.g. first-line leader/supervisor, 2nd line leader/supervisor, or higher to the Battalion/Squadron/Ship/Installation Commander).

If you previously deduced that supervisory/leader failures influenced the actions or preconditions of the mishap individual and/or team, then determine which unsafe supervision/leader codes best apply to support the identified latent failures. If leadership flaws include multiple first line and/or second line supervisors and/or command leadership, ensure selected codes address each level of failure and support recommendations for corrective actions.

NOTE: 1: Some supervisory/leadership failures may be the result of organizational influences such as resource support failures, OPTEMPO or flaws in policy/standards/guidance or procedures.

NOTE 2: If a supervisor/leader was the mishap person or committed an active failure, then code the supervisor/leader as separate mishap person.

Question S2: Did supervisory/leadership attitudes, values, or beliefs contribute to creating unnecessary risk or allowed workload to overwhelm personnel and influence the mishap individual's preconditions or unsafe acts(s)? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S3.)*

INEFFECTIVE UNIT SAFETY CULTURE (SC100): occurs when the unspoken or unofficial rules, values, attitudes, beliefs, and customs of small unit leaders or their higher organization negatively affected good order and discipline in adherence to established safety standards, initiatives, and practices.

A response of "that is the way things really get done around here" is an indicator. Other issues related to culture include unit justice, psychological contracts, and esprit de corps. All these issues affect attitudes about safety and the value of a safe working environment.

Culture is influenced and different at each level of leadership from the platoon/section up to the commander. Leaders can create a culture of cohesion in which employees have a sense they belong, that they are valued, and that they commit to personal and organizational goals either in a safe manner or overly risky manner. Leaders in small units can also create a culture of high risk and distrust from overemphasis on time versus safe completion of tasks, lack of accountability, training, communication, consistent discipline, etc.

INEFFECTIVE UNIT SAFETY CULTURE	SC100
Unit Safety Culture	SC101
Pace of OPTEMPO/Workload	SC102

SC101 Unit Safety Culture: is when the explicit or implicit actions, statements, attitudes, techniques or values of supervisors/leaders facilitated an environment where demands or pressures existed that resulted in hazardous conditions or unsafe acts. (Examples include: mission or time expectations supersede mishap prevention strategies; role-modeling fosters unsafe behaviors, proactive safety initiatives receive minimal support; near-misses, mishaps or adverse events are minimized or considered non-reportable; limited positive recognition for safe performance or reporting hazardous conditions; lessons learned are not shared throughout the entire unit; etc.)

This also includes ineffective facilitation of a constructive climate such as establishing and maintaining an accurate and shared understanding of the evolving task or mission on the part of all personnel.

NOTE 1: This may be localized to a team as small as a section/platoon or company to battalion/squadron or may result from larger organizational influence as defined in OC001.

NOTE 2: When using this code, consider applicability of SD002.

SC102 Pace of OPTEMPO/Workload: is when the pace of primary duties, additional duties, training, deployments, or other workload-inducing conditions of a unit created hazardous conditions or unsafe acts.

Question S3: Did a supervisor/leader knowingly deviate from a known rule, regulation, policy, etc., allowing hazardous conditions or unsafe acts to occur? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S4.)*

SUPERVISORY KNOWN DEVIATION (SD000): are factors when a supervisor/leader willfully disregarded instructions, guidance, policies, rules or standard operating procedures. This includes failing to enforce standards, allowing unwritten practices to become standard, directing individuals to violate existing rules/regulations and authorizing unqualified personnel for a task.

SUPERVISORY KNOWN DEVIATION	SD000
Failure to Enforce Published Rules/Guidance	SD001
Allowed Unwritten Practices to Become Standard (Normalization of Deviance)	SD002
Directed Individual to Circumvent Existing Regulations, Rules, or Procedures	SD003

SD001 Failure to Enforce Published Rules/Guidance: is when a supervisor/leader failed to ensure that personnel adhered to published rules/policy/guidance/procedure or knowingly allowed an untrained, inexperienced, non-proficient or non-current individual to perform a task, which resulted in a hazardous conditions or unsafe acts. (Examples include: a failure to enforce a policy, standard operating procedures or technical guidance in regards to vehicle/watercraft operation, weapons or explosives handling, use of machines or hand tools, etc.; failure to enforce use of PPE such as restraints, eye, face or head protection, hearing protection devices, etc.)

SD002 Allowed Unwritten Practices to Become Standard (Normalization of Deviance): is when a supervisor/leader chronically condoned the use of unwritten/unofficial procedures by subordinates, which resulted in hazardous conditions or unsafe acts.

SD003 Directed Individual to Circumvent Existing Regulations, Rules, or Procedures: is when a leader/supervisor directed a subordinate to circumvent existing standard operating procedures, regulations, instructions, policies, or technical guidance, which resulted in a hazardous condition or unsafe acts. This may be the result of the supervisor's personality, a faulty logic or when the consequences/risk of violating published procedures was recognized and determined by the supervisor/leader to be the best course of action.

Question S4: Did a supervisor/leader create hazardous conditions or unsafe acts by failing to provide effective oversight, training, guidance, policy, respond to critical information or inadvertently task inexperienced personnel for a task? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act.)*

INEFFECTIVE SUPERVISION (SI000): is a factor when supervisory/leadership personnel failed to properly identify and assess hazards, mitigate risks, ensure personnel are effectively trained and informed, and/or provide effective guidance and oversight, which resulted in hazardous conditions or unsafe acts.

INEFFECTIVE SUPERVISION	SI000
Ineffective Supervisory or Command Oversight	SI001
Failed to Provide Effective Training	SI003
Failed to Provide Clear Written Procedure/Guidance/Policy	SI004
Lack of Supervisory Responses to Critical Information	SI006
Failed to Identify or Correct Hazardous Practices, Conditions or Guidance	SI007
Tasked Individual(s) with Lack of Experience, Currency or Proficiency	SI008
Rank/Position Intimidation	SI009

SI001 Ineffective Supervisory or Command Oversight: is when the availability, competency, quality or timeliness of supervisor/leader oversight did not meet task or mission demands, which resulted in hazardous conditions or unsafe acts. (Examples include: failure to verify accuracy and

completeness of work, conduct pre-combat checks/pre-mission inspections, mismanagement of emerging risks during mission execution, etc.) NOTE: Inappropriate supervisory pressures are also captured under this code.

SI003 Failed to Provide Effective Training: is when supervisors/leaders failed to provide effective training to ensure competency and proficiency of their personnel for a specific task which resulted in a hazardous conditions or unsafe acts. (Examples include: technical procedures for amphibious assault/towing/convoy/flight; ground guiding, weapons handling, maintenance procedures, flight operations, working with hazardous materials, use of PPE, fall-protection, water survival, helicopter rope suspension techniques, combat tactics, techniques and procedures, fire-fighting, operation of specific variant/class of a vehicle/vessels or materiel handling equipment operation, etc.)

NOTE 1: The failure of an individual to absorb the training material in a satisfactory training program does not indicate a training problem (see PT102).

NOTE 2: The failure of an individual to recall learned information under in a high stress environment or while fatigued despite receiving adequate training does not indicate a training problem (see PC100, PC200, and/or PC300 series.)

SI004 Failed to Provide Clear Written Procedure/Guidance/Policy: is when unit level guidance or policy was ineffective, unclear, impractical, or non-existent and resulted in hazardous conditions or unsafe acts. (Examples include: standard operating procedures, job/activity hazard analysis, checklists, hazard communication plan, emergency action plan, leave or liberty/pass policies, letter of instruction, operational orders, fragmentary order (FRAGO), concept of operations, etc.)

SI006 Lack of Supervisory Responses to Critical Information: is when an individual or crew provided critical information regarding a potential safety issue of the operating environment, equipment, or personnel to supervisory/leadership personnel, who failed to act/close the loop, which resulted in a hazardous conditions or unsafe acts.

SI007 Failed to Identify or Correct Hazardous Practices, Conditions or Guidance: is when any supervisor/leader in the unit failed to identify or correct known hazardous conditions of equipment, facilities, or written procedures/guidance, or correct unsafe work practices of personnel within his/her scope, which resulted in hazardous conditions or unsafe acts.

SI008 Tasked Individual(s) with Lack of Experience, Currency or Proficiency: is when a supervisor/leader inadvertently tasked an individual or team whose fluency or expertise did not match skills required for safe execution of the task, system or mission; or whose familiarity with a task or process was either not current or limited by infrequent or rare performance, and resulted in hazardous conditions or unsafe acts. This may be due to flaws in institutional or local training or a leader's lack of knowledge of his/her personnel.

NOTE: If the supervisor was aware the individual or team's skill levels were inappropriate for the task, then refer to SD003.

SI009 Rank/Position Intimidation: is when a supervisor/leader caused the task performance capabilities to be degraded by exercising too much or too little of the authority conferred by his or her rank or position. Also, conditions where formal or informal authority gradient is too steep or too flat across a crew/team and this condition degrades collective or individual performance.

Question S5: Was any part of the deliberate risk management processes and/or planning during pre-mission/activity/event planning ineffective or not complete? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act.)*

INEFFECTIVE PLANNING AND COORDINATION (SP000): are factors when unit leadership failed to effectively utilize the troop leading procedures/risk management process to assess hazards and develop effective controls associated with an activity, event, mission or operation, which resulted in unnecessary risk.

Occasionally, the OPTEMPO or schedule is planned such that individuals are put at unacceptable risk, team/crew rest is jeopardized, and ultimately performance is adversely affected. Such planning flaws, though arguably unavoidable during emergency or combat situations, are not acceptable for readiness training or day-to-day operations.

Planning includes the entire risk management process from information collection, consideration of team member knowledge, skills and physical conditions, analysis of environmental hazards, resource support factors, equipment conditions, capabilities of external agencies, and contingency planning. Included in this category are issues of crew/team composition, pre-mission deliberate risk assessments, risk acceptance authority, information resource support, and personnel manning.

INEFFECTIVE PLANNING AND COORDINATION	SP000
Ineffective Deliberate Risk Assessment	SP006
Authorized Unnecessary Risk	SP007
Ineffective Pre-Mission Planning:	SP008
Unit Failure to Provide Sufficient Operational Information Resources	SP009
Unit Failure to Provide Sufficient Manning/Staffing	SP010
Unit Failure to Provide Sufficient Equipment or Supplies	SP011

SP006 Ineffective Deliberate Risk Assessment: is when supervision/leadership did not effectively apply DoD risk management procedures (identify hazards, assess hazards, develop controls, implement controls, supervise and evaluate/assess) during pre-mission/activity/event planning or a job hazard analysis, which resulted in hazardous conditions and/or unsafe acts. This includes assessment of all hazards including crew/team composition (Examples include: Did not have enough trained, licensed, certified or qualified personnel to safely operate the amount of vehicles or equipment available, or not enough personnel with specific occupational specialties required for the task or mission.)

SP007 Authorized Unnecessary Risk: is when a leader with risk acceptance authority unnecessarily authorized a mission, activity, or task, which resulted in hazardous conditions and/or unsafe acts.

NOTE: This code could be considered when the safety investigator concluded the residual risk was accepted at the wrong level as defined by a service's policies.

SP008 Ineffective Pre-Mission Planning: is when supervision/leadership did not conduct effective pre-mission/activity/event planning, which resulted in hazardous conditions and/or unsafe acts.

NOTE: This is outside of the formal/deliberate risk management process. If there were deficiencies in the risk management process or the deliberate risk assessment, then cite SP006.

SP009 Unit Failure to Provide Sufficient Operational Information Resources: is when unit/ship or installation level information resources (e.g. maps, graphic depictions, tables, charts, blueprints, weather data, intelligence, traffic, road or terrain conditions etc.) were not made fully available to personnel who executed the mission/task/event and resulted in hazardous conditions and/or unsafe acts.

SP010 Unit Failure to Provide Sufficient Manning/Staffing: is when unit/ship or installation planning processes failed to meet staffing demands or continuity of operations for ongoing missions and created an unnecessary workload, which resulted in hazardous conditions and/or unsafe acts. This may be the result of competencies, processes, internal policies, higher organizational manning support issues, etc. (Examples include: reduced manning for holidays, contingencies, deployment manning needs, medical asset requirements to support training or events, etc.)

SP011 Unit Failure to Provide Sufficient Equipment or Supplies: is when unit/ship or installation level leaders failed to ensure personnel executing the mission received all necessary equipment and/or supplies to effectively implement risk control measures which, resulted in hazardous conditions and/or unsafe acts. (Examples include: unnecessarily using dead-lined equipment, not providing personnel with necessary tools, communications equipment, kits, vehicles, PPE, etc.)

Question O1: Did any organizational conditions/flaws influence either leader/supervisory actions, preconditions, or the unsafe act(s)? *(If yes, go to O2, if no, you are finished.)*

ORGANIZATIONAL INFLUENCES (Latent Failures)

By affecting the practices, condition, or actions of leaders/supervisors and/or operator(s), an organization's communications, actions, omissions, and policies can lead to a mishap or near miss. These latent failures include major command, service and/or DoD level policies, oversight/governance, acquisition processes, resource management, and formal training programs that impact battalion/ship/squadron level or installation commands.

The roots to an on-duty mishap can sometimes be traced back to fallible processes of higher level organizations that directly affect unit leader/supervisory practices or conditions and actions of operators. These system inadequacies may not be known to upper level leaders.

Headquarters and supporting organizations generally include O6 and above unit level organizations that fit into each DoD component's strategic planning domains of Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P).

This tier includes readiness support organizations (Training Commands, Materiel Acquisition, Design and Maintenance Commands, Personnel Support/Human Resources Commands, Recruiting Commands, Doctrine Commands, Installation/Garrison Management Commands, etc.) as well as the direct chain of command of an installation or operating command.

A deep understanding of this relationship allows safety officers, mishap investigators and commanders to proceed beyond the superficial identification of active failures to pinpointing underlying system inadequacies. Developing recommendations that fall within the DOTMLPF-P framework that address these underlying inadequacies in the safety management system serves

the ultimate goal of periodic safety inspections and mishap investigations to adopt more effective risk management/mishap prevention/readiness strategies across the services.

Question O2: Did any organizational climate or culture issues influence unit level leader/supervisory actions or preconditions to unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O3.)*

ORGANIZATIONAL CLIMATE/CULTURE (OC000): Are latent failures where the unspoken or unofficial rules, values, attitudes, beliefs, and customs of organizational level leadership negatively affected lower-level working environment or practices resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

ORGANIZATIONAL CLIMATE/CULTURE	OC000
Organizational Culture (attitude/actions) Created Increased Risk	OC001
Organizational Perceptions of Materiel Resources (Equipment)	OC003
Mission/Aircraft/Vehicle/Ship/Equipment Change or Unit Deactivation	OC004
Organizational Structure is Unclear or Inadequate	OC005

OC001 Organizational Culture (attitude/actions) Created Increased Risk: is when explicit or implicit actions, statements, attitudes or techniques at an organizational level facilitated an environment where demands or pressures existed, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

OC003 Organizational Perceptions of Materiel Resources (Equipment): is when there was organizational over- or under-confidence in vehicle systems, vessels, aircraft, weapons systems, communication systems or any other materiel, resulting in a hazardous condition or unsafe acts throughout subordinate units or the field/fleet.

OC004 Mission/Aircraft/Vehicle/Ship/Equipment Change or Unit Deactivation: is when the process of changing missions, aircraft/vehicle/ship/equipment or an impending deactivation resulted in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

OC005 Organizational Structure is Unclear or Inadequate: is when the chain of command of subordinate commander(s) or structure of an organization was confusing, non-standard or inadequate, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

NOTE: This is applicable when subordinate leaders are receiving direction from more than one command.

Question O3: Did any organizational policies, procedures, processes or oversight influence actions of unit leaders, supervisors or individual unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O4.)*

ORGANIZATIONAL POLICY, PROCEDURES, OR PROCESS ISSUES (OP000): are latent failures whereby flaws in an organization's safety management system (standards, policies, procedural guidance, doctrine, processes, or governance/program management) negatively influenced leader/supervisory or individual performance.

ORGANIZATIONAL POLICY, PROCEDURES, OR PROCESS ISSUES	OP000
OPTEMPO/Workload	OP001
Organizational Program or Operation not Adequately Assessed	OP002

Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or *Publications*	OP003
Flawed Doctrine/Philosophy	OP005
Inadequate Program Management/Governance	OP006

OP001 OPTEMPO/Workload: is when the workload-inducing conditions on one or more subordinate units/ships created hazardous conditions for unit/ship commanders and supervisors to effectively manage risks during pre-deployment readiness activities (effects on unit level leader's ability to meet pre-deployment training and qualification requirements; family readiness, administrative, medical readiness requirements, etc.), which resulted in hazardous conditions and/or unsafe acts.

OP002 Organizational Program or Operation not Adequately Assessed: is when the potential risks of large programs, contract management, acquisition programs or operations were not assessed adequately, and this inadequacy impacted subordinate level actions.

OP003 Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or Publications: is when written standards (policies, directives, procedural guidance/standard operating procedures, technical manuals, checklists, or publications) for normal or abnormal/emergency conditions are impractical, too vague/unclear, incorrect or ineffectively disseminated for safe operations throughout the organization or within a subordinate unit, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

NOTE: Not following a written document that is available, correct and simple to understand is a supervisory or individual level factor and does not apply to this code.

OP005 Flawed Doctrine/Philosophy: is when the doctrine, philosophy or concept of operations in an organization is flawed or accepts unnecessary risk, which leads to unmitigated hazardous conditions and/or unsafe acts throughout subordinate units or the field/fleet.

OP006 Inadequate Program Management/Governance: is when formal programs (e.g., a Program of Record) are implemented without sufficient planning, oversight, or support and creates hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This includes such programs ranging from a specific Occupational Health program to inadequate quality control, original manufacture and rebuild, packaging, assembly of materiel, or the entire safety management system.

NOTE: This code may be a root cause to conditions of the "Technological Environment".

Question O4: Did any flaws in the type, amount, capabilities, or condition of the organizational support influence unit mission essential resources, leader/supervisory actions or preconditions to unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O5.)*

RESOURCE SUPPORT PROBLEMS (OR000): are latent failures when resource support or system safety inadequacies resulted in ineffective risk management or created hazardous conditions for leaders/supervisors and/or the operator/aviator/worker.

Resource support problems exist when the type, amount, capabilities, or condition of the resource support is not sufficient to correctly perform a mission. Resources include: personnel, equipment, materiel, supplies, services, and/or facilities.

This category refers to the management, allocation, and maintenance of organizational resources (human, fiscal, and materiel/equipment/facilities). The term "human" refers to the management

of military, federal civilian and contractor personnel. Issues that directly influence safety include selection (e.g. background checks), training, and staffing/manning. "Fiscal" issues refer to the management of monetary resources (e.g. excessive cost cutting and/or lack of funding for needed equipment had adverse effects on subordinate commander risk decisions, operator performance and the overall safety management system). Finally, "Materiel" refers to issues related to availability of needed infrastructure, equipment design including the purchasing of unsuitable equipment, inadequate design of workspaces, and failures to correct known design flaws. Headquarters leaders should ensure that human-factors engineering principles are known and utilized and that existing specifications for equipment and workspace design are identified and met.

RESOURCE SUPPORT PROBLEMS	OR000
Command and Control (C2) Resources are Deficient	OR001
Inadequate Infrastructure	OR003
Purchasing or Providing Poorly Designed or Unsuitable Equipment	OR004
Failure to Remove Inadequate/Worn-Out Equipment in a Timely Manner	OR005
Personnel Accession/Selection Policies or Processes	OR006
Failure to Provide Adequate Personnel/Staffing Resources	OR007
Failure to Provide Adequate Information Resources	OR008
Failure to Provide Adequate Funding	OR009

OR001 Command and Control (C2) Resources are Deficient: is when installation or resources of command staff, maritime or airfield services, communications/IT support, etc. are unavailable or inadequate for safe operations, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (e.g., Joint force or individual component C2, battlegroup management).

OR003 Inadequate Infrastructure: is when the support, maintenance and/or space provided by installations or industrial facilities supporting military operations or military production programs become inadequate, degraded or non-available, resulting in hazardous conditions or unsafe acts. This includes those facilities or services dedicated to deployment, reception, staging, movement, integration and sustainment, airfield services, dining, physical fitness, living quarters, recreation areas, petroleum, oil and lubricant (POL) services, housing, medical clinics/hospitals, weather services, storage areas, maintenance facilities, property disposal, hobby shops, road maintenance, traffic management.

NOTE: Traffic management includes road signs or overt identification of hazardous areas due to maintenance or environmental issues, etc.

OR004 Purchasing or Providing Poorly Designed or Unsuitable Equipment: Is when there are inadequacies in the acquisition and/or fielding of warfighting or commercial materiel, resulting in hazardous conditions or fallible decisions throughout subordinate units or the field/fleet. (Examples include: failure to field needed equipment/materiel in a timely manner, failure of installation, inspection, quality control, or depot level maintenance services in a timely manner. This also includes a breakdown in capability-based assessments, DOTMLPF-P change recommendations (DCRs), capability development documents (CDDs) or capability production documents (CPDs)). (Formerly OP007)

NOTE: This code is likely a latent failure to "Technological Environment" findings.

OR005 Failure to Remove Inadequate/Worn-Out Equipment in a Timely Manner: is when the process through which equipment is removed from service is inadequate, resulting in

hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (Examples include: tactical vehicle systems or components, shipboard systems or components, aircraft, etc.)

NOTE: This code is likely a latent failure to "Technological Environment" findings.

OR006 Personnel Accession/Selection Policies or Processes: is when the process through which individuals are recruited, screened, brought into the service or placed into occupational specialties is ineffective, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This occurs prior to occupational specialty training and includes screening processes for disqualifying conditions such as a physical, psychological or behavioral disorders, aptitude, or history of any condition that may reasonably be expected to interfere with the successful performance of duty or training or limit geographical assignment. *(Formerly OS001)*

OR007 Failure to Provide Adequate Personnel/Staffing Resources: is when the process through which personnel resource allocations, staffing or personnel placement processes are inadequate for mission demands, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. *(Formerly OS002)*

OR008 Failure to Provide Adequate Information Resources: is when weather, intelligence, operational planning material or other information necessary for safe operations planning are too complex, too vague, incorrect or not available throughout the organization, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This also includes knowledge management tools or data collection and analysis tools to support large safety management system programs such as materiel management, systems safety, hazard inspections and assessments, risk management, etc.

OR009 Failure to Provide Adequate Funding: is when subordinate organizations or an operation does not receive the financial resources to complete its assigned mission/task, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: To compensate for a lack of funding, leaders/supervisors are forced to find creative means to accomplish the mission, which may create high risk conditions related to readiness training and/or use of materiel/equipment. Leaders may be forced to accept a higher level of risk in a specific area due to lack of funding for materiel, supplies, or personnel.)

Question O5: Did any flaws in the type, amount, capabilities, or condition of the organizational support influence unit mission essential resources, leader/supervisory actions or preconditions to unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, you are finished.)*

TRAINING PROGRAMS (OT000): are when a training and/or educational program of instruction designed to improve technical, tactical, critical thinking or leadership skills is incorrect, incomplete or insufficient for performance to standard, which negatively influenced supervisor/leader and/or individual performance.

Selection of these codes means there is evidence of either inadequate formal school training or inadequate program of instruction support for institutional training.

By identifying the need for changes in tactics, techniques, and procedures, improvements can be made to improve technical and/ critical thinking skills at all levels. This includes, but is not limited to interactive resident or virtual simulations to enhance technical skills in aviation, ground operational, maritime and industrial communities; increased use of tactical exercises

without troops; small unit Leadership courses such as integrated training targeted at O1/2 and O3 or O1/2 and E6-E8, etc.

Observations of training vulnerabilities also help mature the ideas in an approved concept, or support development of a new or revised concept by identifying and analyzing trends, best practices, and insights derived from multiple combatant commanders.

Combatant commanders (CCDRs) may adopt these changes to prepare the force to respond more effectively to strategic and operational requirements and to execute assigned or anticipated missions. Concept developers may engage and support exercise planners to incorporate appropriate aspects of the future security environment into scenarios, educate the training audience on the concept and required capabilities, and observe event execution.

NOTE 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

TRAINING PROGRAM PROBLEMS	OT000
Resident Formal School Training Program is Ineffective or Unavailable	OT001
Distance Learning Training is Ineffective or Unavailable	OT002

OT001 Resident Formal School Training Program is Ineffective or Unavailable: is when resident based formal school training conducted by a formal schoolhouse under TECOM, TRADOC, NETC, AETC, or USCG-FORCECOM is either incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: programs that produce officer and enlisted core skills, Military Occupational Specialty, civilian career programs, train-the-trainer programs, operational planning/risk management training, military leadership development, civilian employee supervisor development, staff development, one-time, upgrade or transition programs, combat readiness, etc.) *(Formerly OP004)*

NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

OT002 Distance Learning Training is Ineffective or Unavailable: is when distance learning programs provided by either military service component or contracted organizations is incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (e.g., simulations, professional military training, career enhancement skills, etc.)

NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

ORGANIZATIONAL INFLUENCES 8.0 *"Headquarters and/or Support Command level that impact battalion/ship/squadron level or installation commands."* *NOTE: The proposed organizational bins better supports DOTMLPF-P domains*			
Climate/Culture Influences	Policy, Procedures, or Process Issues	Resource Support Problems	Training Program Issues
OC001 Organizational Culture (attitude/actions) Created Increased Risk OC003 Organizational Perceptions of Materiel Resources (Equipment) OC004 Mission/Aircraft/ Vehicle/Ship/Equipment Change or Deactivation OC005 Organizational Structure is Unclear or Inadequate	OP001 OPTEMPO/ Workload OP002 Organizational Program or Operation not Adequately Assessed OP003 Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or Publications OP005 Flawed Doctrine/Philosophy OP006 Inadequate Program Management/Governance	OR001 Command & Control (C2) Resources are Deficient OR003 Inadequate Infrastructure OR004 Purchasing or Providing Poorly Designed or Unsuitable Equipment *(was OP007)* OR005 Failure to Remove Inadequate/ Worn-out Equipment in Timely Manner OR006 Personnel Accession/Selection Policies or Processes *(was OS001)* OR007 Failure to Provide Adequate Personnel/Staffing Resources *(was OS002)* OR008 Failure to Provide Adequate Information Resources OR009 Failure to Provide Adequate Funding	OT001 Resident Formal School Training Program is Ineffective or Unavailable OT002 Distance Learning Training Program is Ineffective or Unavailable

SUPERVISION/LEADERSHIP 8.0 *"Supervisory Chain of Command (1st Line supervisor to the Commanding Officer)"*			
Unit Safety Culture	Supervisory Known Deviations	Ineffective Supervision	Ineffective Planning and Coordination
SC101 Unit Safety Culture SC102 Pace of OPTEMPO/Workload	SD001 Failure to Enforce Published Rules/Guidance SD002 Allowed Unwritten Practices to Become Standard (Normalization of Deviance): SD003 Directed Individual to Circumvent Existing Regulations, Rules, or Procedures	SI001 Ineffective Supervisory or Command Oversight SI003 Failed to Provide Effective Training SI004 Failed to Provide Clear Written Procedure/Guidance /Policy SI006 Lack of Supervisory Responses to Critical Information SI007 Failed to Identify or Correct Hazardous Practices, Conditions or Guidance SI008 Tasked Individual(s) with Lack of Experience, Currency or Proficiency	SP006 ineffective Deliberate Risk Assessment SP007 Authorized Unnecessary Risk SP008 Ineffective Pre-Mission Planning SP009 Unit Failure to Provide Sufficient Operational Information Resources SP010 Unit Failure to Provide Sufficient Manning/Staffing SP011 Unit Failure to Provide Sufficient Equipment or Supplies

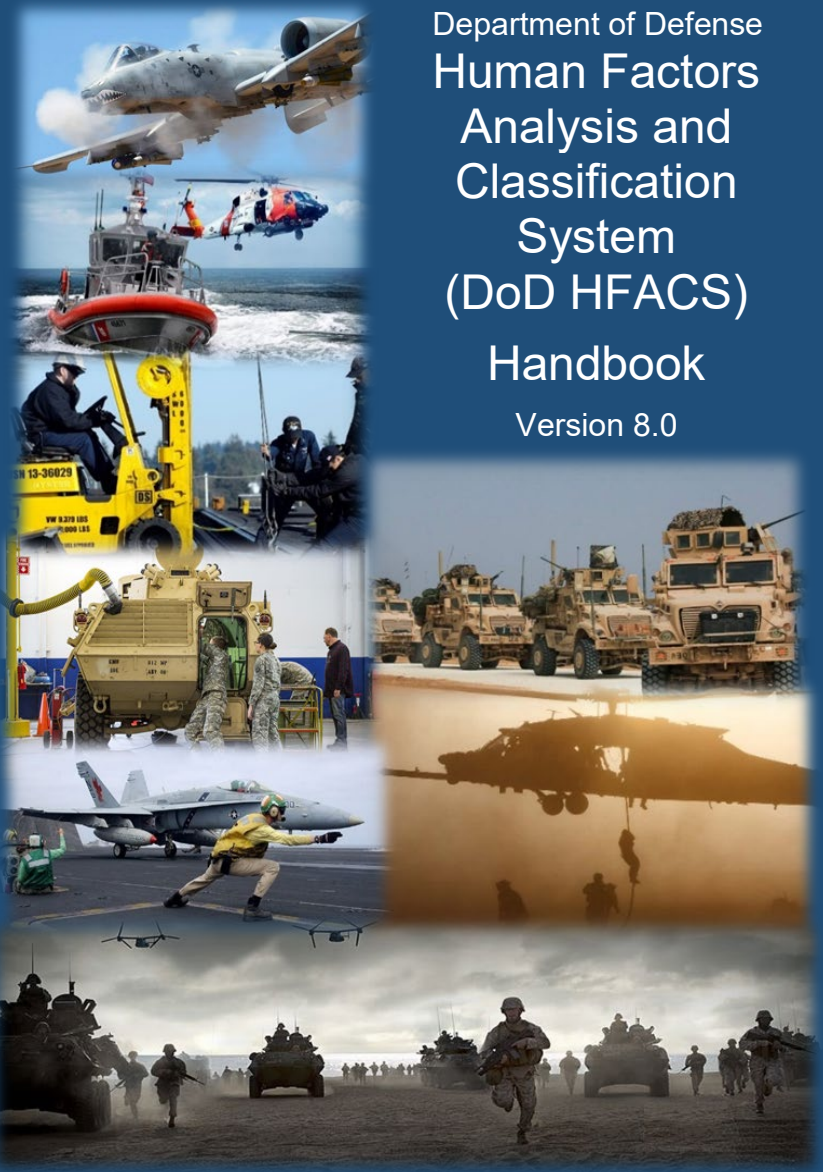
		SI009 Rank/Position Intimidation	

PRECONDITIONS 8.0 *"Active and/or Latent failures or conditions"*		
Conditions of Individuals		
Mental Awareness Conditions	State of Mind Conditions	Adverse Physiological Conditions
PC101 Inattention PC102 Fixation (Channelized Attention) PC103 Task Saturation PC104 Confusion PC105 Negative Habit Transfer PC106 Distraction/Interruption PC107 Geographically Lost PC110 Change Blindness/Inaccurate Expectation	PC202 Psychological Disorder PC203 Life Stressors/Emotional State PC205 Personality Style PC206 Overconfidence PC209 Misplaced Motivation (Pressing/Haste)	PC301 Effects of Gravitational Forces (G-LOC) PC302 Substance Effects (supplements, medications, drugs, alcohol) PC304 Loss of consciousness (sudden or prolonged onset) PC305 Physical Illness/Injury PC306 Physical Overexertion PC307 Fatigue PC310 Acute Trapped Gas Disorders PC311 Decompression Sickness (Evolved Gas Disorder) PC312 Respiratory Physiological Event PC314 Inadequate Adaptation to Darkness PC317 Anthropometric/Biomechanical Limitations PC319 Nutrition/Diet PC320 Loss of Capacity (Startle Response) PC321 Spatial Disorientation

Environmental Conditions		**Team Coordination/Communication Factors**	**Training Conditions**
Physical Environment	**Technological Environment**		
PE101 Environmental Conditions Affected Vision PE103 Vibration Affected Performance PE106 Temperature Affected Performance PE108 External Force or Object Impeded Performance PE109 External lighting of Vehicle/Aircraft/Vessel /Object Affected Vision PE110 Noise Interference PE112 Terrain Feature Affected Performance PE113 Animal or Non-DoD affiliated human	PE201 Restraint System and/or Seat Problems PE202 Instrumentation & Warning System Issues PE203 Workspace Visibility Restrictions (not weather related) PE204 Controls and/or Switches PE205 Automated System Created a Hazardous Condition PE206 Workspace Limitations Affected Performance PE207 Personal Equipment Interference PE208 Communication Equipment Ineffective	PP101 Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance) PP109 Task/Mission Planning and/or Briefing Inadequate PP111 Task/Mission-In-Progress Re-Planning	PT101 Untrained Operator/Worker PT102 Knowledge Retention*(Moved from PC109)* PT103 Lack of Currency PT104 Lack of Proficiency/Experience PT105 Lack of Job/Work Related Safety Training

UNSAFE ACTS 8.0 *"Active Failures or Actions"* Those factors that are *most closely tied to the mishap*, and can be described as active failures or *actions committed by the operator* that result in human error or unsafe situation.		
Errors		**Known Deviations**
Performance/Skill Based Errors	Judgement & Decision Making Errors	
AE101 Unintended Activation or Deactivation AE102 Procedure or Checklist Not Followed Correctly AE104 Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System AE105 Breakdown in Visual Scan or Instrument Cross-check	AE201 Inadequate Real-Time Risk Assessment/Action AE202 Ineffective Task Prioritization AE205 Ignored a Caution/Warning	AD001 Performed Known Deviation (Work-Around) AD002 Commits Widespread/Routine Known Deviation (Normalization of

AE107 Rushed or Delayed a Necessary Action AE108 Misinterpreted/Misread Instrument	AE 207 Misjudged/Misperceived Changing Environment	Deviance) AD003 Extreme Lack of Discipline (Indiscipline)



Department of Defense

Human Factors Analysis and Classification System (DoD HFACS) Handbook

Version 8.0

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Introduction

Human error remains the leading cause of DoD mishaps. The DoD HFACS version 8.0 was designed to accommodate all occupational communities throughout the DoD and intended for use by safety personnel, data research personnel and commanders in three inter-related areas.

1. Provide a structured tool that aids safety personnel in explaining the linkage between complex layers of underlying organizational weaknesses/root causes and an individual's active failure and/or severity of damage or injury.
2. Improve mishap prevention strategies by using this tool during pre-mission planning and safety inspection as an aid to identify the underlying organizational weaknesses/root causes of hazards and hazardous conditions in order to develop more effective risk controls.
3. Provide data research personnel with a standard, data-driven approach which meets the intent of DoDI 6055.07 to "Establish procedures to provide for the cross-feed of human error data using a common human error categorization system that involves human factors taxonomy accepted among the DoD components".

On-duty mishaps and near-misses are rarely attributable to a single cause or an individual's active failure. Instead, mishaps are the end result of a series of latent failures and/or hazardous conditions influenced by flaws in the safety management system which are related to a combination of training, resource support, policy or procedures, and/or supervisory functions throughout multiple levels of an organization. These latent failures or conditions may lie dormant or undetected for days, weeks, months or years prior to their manifestation as a mishap.

Drawing upon Reason's (1990) and Wiegmann and Shappell's (2003) concept of active failures and latent failures/conditions, "active failures" are the last actions or inactions of the operator that was the immediate cause of the mishap. In contrast, "latent failures" or "latent conditions" are hazardous conditions that exist within the chain of command or elsewhere in the organization which affected the tragic sequence of events leading up to the active failure. (See figure 1)

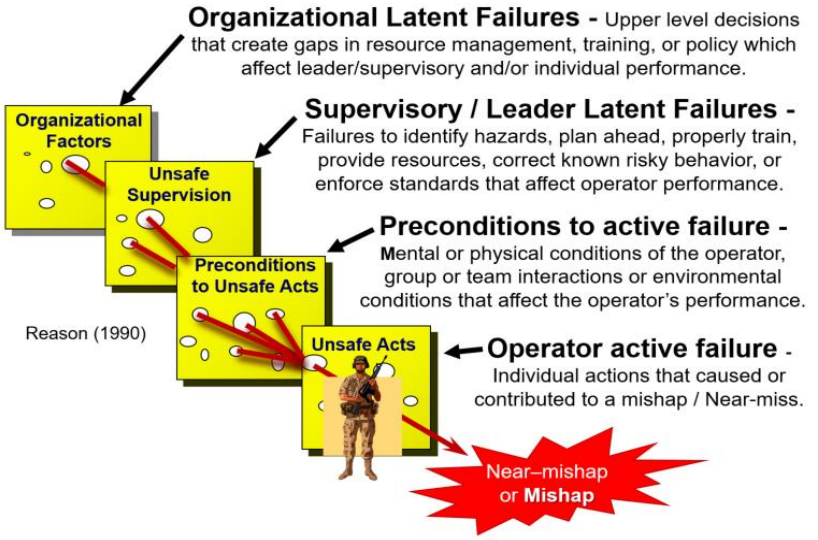


Figure 1

After a mishap, trained safety personnel are obligated to collect, sort and analyze all evidence to deduce the causal factors and determine which active and latent failures were materiel failures or human failures and if environmental conditions negatively affected the performance of the human(s) and/or materiel involved.

The latent failures associated with a class A mishap are often present in similar near-miss events. Therefore, the same rigor should be applied to the analysis of near-miss and low severity mishaps as to high-severity mishap.

How to use the DoD HFACS tool

Step 1: <u>Determine all factors that caused the mishap:</u>
Investigating safety personnel must first piece together the sequence of events to determine "what happened". The next step is to identify all anomalous events and the layers of conditions which allowed each anomalous event to occur. This is achieved by applying a cause-and-effect mapping process to determine why each anomalous event took place to determine the latent failures of "why the mishap occurred or why the individual failed". This process helps organizations to look beyond a single individual's actions and determine what underlying hazardous conditions related to training failures, supervisory / leader failures, resource support failures, materiel design flaws, and/or flaws in written policies or procedures influenced the mishap individual.

NOTE: When assessing human factor causes, safety personnel should answer each of following questions:

a. "What was the active failure committed by the mishap person/operator to cause the mishap?"

b. "Did the mishap person/operator have any physical or mental conditions that negatively influenced his/her performance?"

c. "Did conditions in the operating environment negatively influence the mishap person's performance?"

d. "Was there a gap in either unit or institutional training that negatively influenced the mishap person's performance?"

e. "Was the mishap person's performance influenced by one or more supervisor's/leader's decisions, directives, actions or inactions within the command?"

f. "Was there a breakdown in communication among team members that negatively influenced the mishap person's performance?"

g. "Did a lack of resource support negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

h. "Did a lack of effective written standards negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

Step 2: Determine relationships between each causal factor. Establish which latent failures either directly affected the individual's active failure or indirectly contributed to the failure by creating one or more hazardous conditions that negatively influenced the mishap person's performance.

NOTE: Some latent failures may not directly contribute to the mishap person's unsafe act, yet may have contributed to the severity of injury or damage to equipment/property.

Step 3: Apply DoD HFACS codes to all identified active and latent failure causes. Once all latent failures have been identified, the last part of mishap analysis process is assigning the most applicable codes to each identified latent failure as well as the active failure of the mishap person(s).

USEFUL TIP – this process can easily cause distractions thus creating undue doubt, debate and improper selection of codes. Therefore, the following are tips for successful application:

- Determine all mishap causal factors first.
- Answer the HFACS questions in each category before reviewing codes. The questions will guide you through choosing the most appropriate codes for the identified active and latent failures.
- Avoid rabbit holes. If a code becomes debatable, be willing to move on and come back. It is very easy to become distracted from the facts by debating whether or not a specific code applies. A best practice is to tick-mark the code in question and move on. Do not be afraid to consult with other safety personnel or Human Factors experts when you or your team feels you are confused or at an impasse about "why" something did, or did not happen.
- Be willing to review and eliminate codes. Some codes may seem similar, yet you will find that certain codes are more applicable than others. Be willing to deselect codes that are contentious. Focus on those codes that best support the identified causal factors and require recommendations for corrective actions.
- Avoid personal bias. Let the previously analyzed evidence guide you to the appropriate code. If one is attempting to be creative and make a code fit into calling a horse a zebra – then it is not applicable to explaining the cause-and-effect relationships within the mishap.

Step 3 (cont.):

- There are no minimums or limitations on the number of nano-codes selected. If the code fits the identified cause factor – it fits. Do not feel pressured to select a specific number of codes. When in doubt always refer to the evidence.
- Think cause and effect. Latent failure codes (supervisory, organizational influence and/or some precondition codes) may apply directly to the individual's unsafe act/active failure or to other codes that affected the unsafe act. Without a thorough analysis of evidence, the safety investigator or Safety Investigation Board (SIB) can easily lose sight as to how a "supervisory" code or an "organizational" code is applicable to the individual's unsafe act or a precondition of the individual. One method to overcome this challenge is to ask: "Did this supervisory and/or organizational code have any influence on one or more preconditions to the unsafe act?" and/or "Did this supervisory and/or organizational code have any influence on a severity of injury or damage?" If the answer is yes – select the code best supported by the evidence.
- Every unsafe act will include at least one individual precondition. There are generally multiple reasons why an individual failed. Whether the mishap person's unsafe action was the end result of supervisory/leader and/or organizational influences or not, each individual active failure will have at least one individual precondition.
- Think about which codes best support needed corrective actions. For every code selected, the safety officer/specialist or SIB should consider the level of importance the code has in resolving organizational flaws/latent failures within the unit, command or larger organization to improve the unit versus an individual.
- When in doubt – Follow the evidence. A simple way to understand how act and precondition codes trace back to codes at the supervisory or organizational level is to ALWAYS refer back to the "cause and effect" analysis.

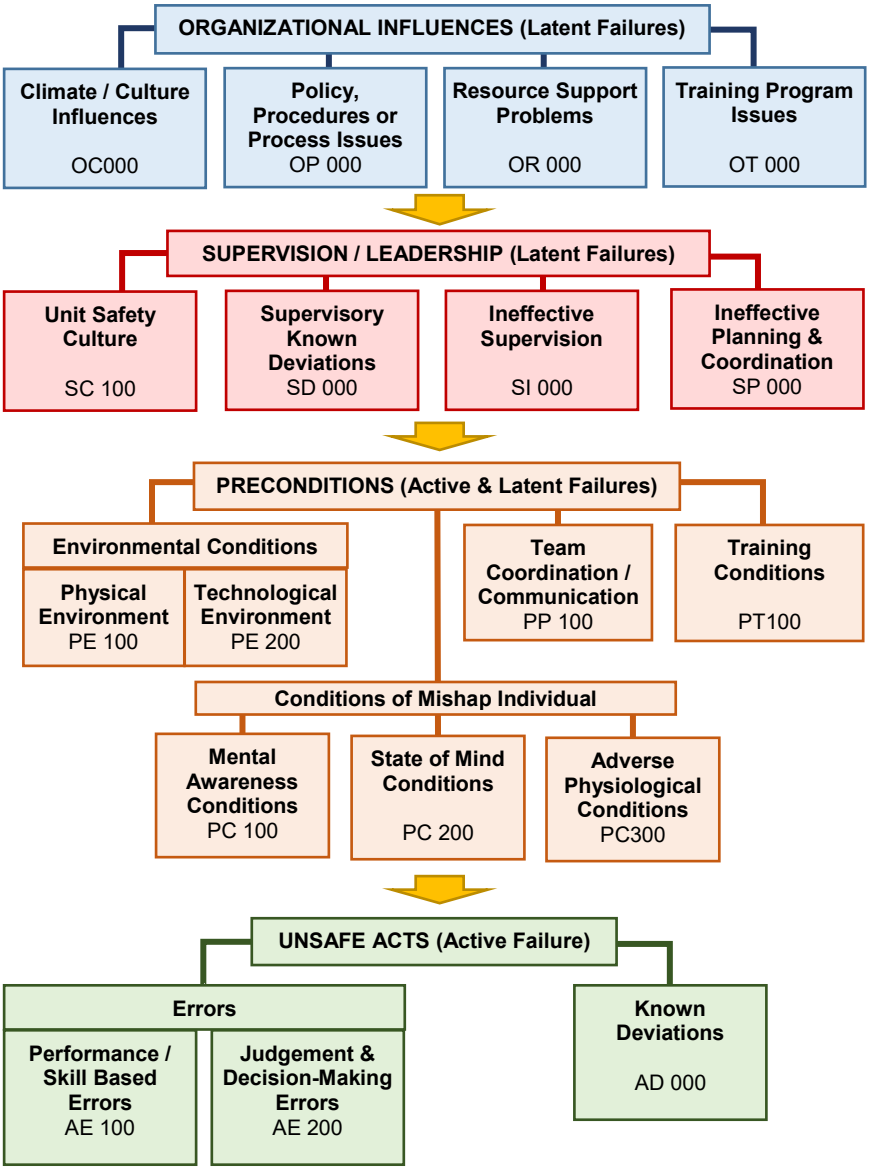
Step 4: **Write a supporting statement for each selected code:** Once the safety officer/specialist or SIB selects a code for each factor, an evidence-based description for the code's relationship to the causal factor must be included in the mishap report. This also aids in the development of more effective recommendations.

NOTE: If you have difficulty writing a supporting statement, then the code is likely not applicable or worthy of inclusion, or you need to revisit the evidence for that area of your investigation. "

This process helps safety personnel develop more thorough recommendations for corrective actions that will help commanders improve mishap prevention strategies to enhance operational readiness and/or reduce DoD civilian workers compensation costs.

Proper application of this coding system also allows data analysts to perform more effective trend analysis to support targeted organizational improvement efforts.

DoD HFACS 8.0 Tiers of System Inadequacies



Question A1: **"What did the mishap individual do or fail to do that allowed the near-miss or mishap to occur?"**

Unsafe Acts (Active Failures)

Acts are factors that are "most closely tied to the mishap, and can be described as active failures or actions committed by the operator (mishap person) that result in human error or unsafe situation."

Unsafe acts of the mishap person are divided into errors and known deviations.

Question A2: **Was the unsafe act an error or known deviation?**

Errors: Are unknown and/or unintended deviations where the individual operator/aviator/worker's mental or physical activities failed to achieve their intended outcome, which resulted in the near-miss or mishap.

These unknown or unintended actions include but are not limited to: attempted a task without needed assistance, improper use of personal protective equipment (PPE) or safety devices, misjudged changes in surrounding environment; misjudged time, speed, clearance, distance, degree or angle, center of gravity, attitude; failed to effectively react to hazardous conditions, objects or a situation; etc.

Errors are classified as either Performance-Based errors, Judgment and Decision-Making errors, or both.

If an error - go to A3;

Known Deviations: Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended.

Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or may not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use required safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.

if a known deviation – go to A5;

Question A3: **Was the Error a Performance Based Error?**

(If yes - choose the most applicable error code, then go to A4. If no- go to A5)

***Performance/Skill Based Errors (AE100)*:** are errors that occur when the operator's/aviator's/worker's execution of a routine or highly practiced task related to a procedure, training or proficiency was performed incorrectly and resulted in a near-miss or mishap.

Unintended Activation or Deactivation: is when an individual's movements inadvertently activated or deactivated equipment, controls, switches, weapons systems, etc., when there is no intent to do so and resulted in the near-miss or mishap. This action may be noticed or unnoticed by the individual at the time of occurrence. The error may be the result of one of more individual physical or mental conditions, crew/team influence, supervisory/leader influence, or a flaw in workspace or materiel design.	**AE 101**

Procedure or Checklist Not Followed Correctly: is when the mishap individual did not follow correct procedure which resulted in the near-miss or mishap. (Examples include: failed to execute proper sequence, learned maneuver or proper emergency procedures; failed to follow a published checklist, Technical Manual (TM), or Standard Operating Procedure (SOP) to perform an inspection or maintenance of aircraft/vehicle/vessel/equipment, etc.) The error results from one or more preconditions, supervisory influence and/or ineffective training.	**AE 102**
Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System: is when the mishap individual(s) inappropriately reacted to conditions by either over- or under-controlling the aircraft/vehicle/vessel/system, which resulted in the near-miss or mishap. (Examples include: applying too much or too little pressure, oversteering/understeering, improper braking, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.	**AE 104**
Breakdown in Visual Scan or Instrument Cross-check: is when the mishap individual did not effectively execute learned/practiced internal or external visual scan patterns, which resulted in the near-miss or mishap. The error results from one or more preconditions and/or supervisory influence and/or ineffective training.	**AE 105**
Rushed or Delayed a Necessary Action: is when the mishap individual took the correct action(s) as dictated by the situation but performed the action(s) either too quickly or too slowly, which resulted in the near-miss or mishap. (Examples include: actuated a brake or device too soon or too late, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.	**AE 107**
Misinterpreted/Misread Instrument: is when the individual misread, misinterpreted, or failed to recognize the significance of an accurate instrument reading, resulting in the near miss or mishap. This may be associated with ineffective training, supervisory influences, environmental factors, or other individual preconditions. *(Formerly PC505)*	**AE 108**
Question A4: **Was the Error a Judgment and Decision-Making Error?** (If yes - choose the most applicable error code, then move onto identify the associated preconditions to the individual failure. If no- go to A5)	
Judgment and Decision-Making Errors (AE200): are when the individual pursued an inappropriate course of action after intentionally or unintentionally failing to accurately assess a situation, which resulted in a near miss or mishap. The error is an unknown deviation of a policy or procedure during the performance of diagnostic or problem-solving tasks that require conscious effort. These may be the result of individual conditions, crew/team influence, leader/supervisor influence, ineffective training, and/or other organizational influences.	
Inadequate Real-Time Risk Assessment/Action: is when the mishap individual, through inexperience, faulty logic, poor judgment, or insufficient information, selected or proceeded with the wrong course of action based on an ineffective real-time assessment of immediate hazards during execution of a task/mission/activity, which resulted in the near-miss or mishap. (Examples include: Made an incorrect decision or action regarding immediate hazardous conditions, objects or situation; misjudged speed, distance, degree of angle or time; drove too fast for conditions, misjudged changes in surrounding environment; attempted task without needed or required assistance; omitted use of PPE or safety devices; used PPE or safety devices improperly; pulled or	**AE 201**

pushed improperly; mounted or dismounted a vehicle, equipment, obstacle or platform improperly, etc.) This faulty reasoning or erroneous expectation is the result of any one or a combination of: physical or mental conditions of the individual, environmental conditions, crew/team influence, supervisory influence and/or ineffective training.	
Ineffective Task Prioritization: is when the mishap individual did not effectively organize and accomplish the tasks required to manage a situation, which resulted in the near-miss or mishap.	**AE 202**
Ignored a Caution/Warning: is when the mishap individual disregarded an accurately perceived and understood caution or warning in favor of addressing what they perceive to be a greater immediate threat, which resulted in the near-miss or mishap. (Examples include: a sign, signal, guard, audible alarm, flashing light, verbal communication, etc.) The error may be a result of competing inputs/priorities, preconditions of the individual, the operating environment, crew/team influence, leader/supervisor influence or ineffective training.	**AE 205**
Misjudged/Misperceived Changing Environment: is when an individual misperceived or misjudged altitude, separation, clearance, speed, closure rate, road or sea conditions, aircraft/vehicle location within the performance envelope or other operational conditions, which resulted in a near miss or mishap. (Operating a ground motor vehicle, boat, or aircraft during day or night, etc.) This may be the result of individual conditions, environmental factors, ineffective training, and/or supervisory/leader influences. *(Formerly PC504)*	**AE 207**
Question A5: **Was the act a "Known Deviation"?** (If yes - choose the most applicable code, then move onto identify the associated preconditions to the individual's unsafe act.) *If the individual's act was determined to be a known deviation, the investigating safety person or SIB must <u>select only one</u> of the three codes below that best corresponds with the identified act.*	
Known Deviations (AD000): Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended. Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or *may* not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.	
Performed Known Deviation (Work-Around): is when the mishap individual disregarded published policy/guidance/procedure in order to pursue what he/she believed to be the best course of action based on available information to make a real-time risk decision, which resulted in the near-miss or mishap. (Examples include: chose to drive/operate outside published limits, by-pass safety procedures, not use available PPE, etc.) These deviations may have been well intended however, they disregarded established policies and safe work practices. The "shortcut" may be due to lack of resources (funding, personnel, tools, equipment, etc.), operational tempo	**AD 001**

(OPTEMPO), a lack of knowledge, or a lack of detail in guidance from supervisors/leaders. Work-around solutions and unofficial procedures that are accepted by leaders/supervisors within a community and considered necessary for certain operations are also captured under this code.	
Commits Routine/Widespread Known Deviation (Normalization of Deviance): is when the mishap individual violated a published standard, procedure or policy based on unofficial accepted practices of the unit or community that are routine, ongoing or widespread and resulted in the near-miss or mishap. These chronic "bending" of the rules may or may not have leadership sanction yet have not routinely resulted in disciplinary/administrative action (culturally accepted) creating a normalization of deviance.	**AD 002**
Extreme Lack of Discipline (Indiscipline): is when an individual was trained to standard, knows the standard, but elected not to follow the standard without cause or need, which resulted in a near-miss or mishap.	**AD 003**
Question P1: **Why did the individual or team commit the unsafe act(s)?**	
Preconditions are evidence supported conditions in a mishap if active and/or latent conditions of the individual, the operating environment, or team communications affected the performance or actions of the mishap individual and resulted in unsafe acts/active failures. These preconditions stem from either individual lifestyle behaviors, supervisor/leader influences, organizational level influences in training, resource support, policy/standards or a combination thereof. Such conditions include the mishap individual's physical, mental or cognitive conditions, and his or her interactions with the technological and/or the physical environment. Therefore, **<u>at least one precondition will accompany each unsafe act.</u>**	
Question P2: **Did a mental awareness condition of the mishap individual influence the unsafe act?** (If yes, determine which code(s) is/are the most appropriate to support the unsafe act. If no, skip to P3)	
MENTAL AWARENESS CONDITIONS (PC100): are when the mishap individual experienced a failure in attention management which negatively affected the mishap individual's perception and/or performance and resulted in a hazardous condition or unsafe act.	
Inattention: is when the mishap individual did not maintain a state of readiness or alertness/situational awareness to properly act upon available information, resulting in a hazardous condition or unsafe act. This may have been due to boredom, self-confidence, over-reliance on automation, high experience levels, executing highly repetitive tasks where the mishap individual was on "auto-pilot", or a false sense of security or a perceived absence of threat from the environment (sheer lack of attention/awareness of risk). NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).	**PC 101**
Fixation (Channelized Attention): is when the individual focused all conscious attention on a limited number of environmental cues to the exclusion of others, which resulted in a hazardous condition or unsafe act. This may be	**PC 102**

described as a tight focus of attention that led to the exclusion of comprehensive situational information. NOTE: If the fixation was the result of a task saturation, then use PC103.	
Task Saturation: is when the quantity of information an individual was processing exceeded his or her mental resources in the amount of time available and resulted in a hazardous condition or unsafe act. In other words, there is simply too much to accomplish with not enough time or resources. The task loading could be real or imagined, but results in performance and/or judgment and decision-making errors.	**PC 103**
Confusion: is when the mishap individual was unable to maintain a cohesive, orderly awareness of events and required actions and experienced a state characterized by a lack of understanding, clear thinking or sometimes a misperception of the situation, which resulted in the hazardous condition or unsafe act.	**PC 104**
Negative Habit Transfer: is when the individual reverted to a highly learned behavior used in a previous system or situation and that was inappropriate for current task demands, resulting in a hazardous condition or in unsafe act.	**PC 105**
Distraction/Interruption: is when the individual had an interruption of attention or inappropriate redirection of attention by either an environmental cue, technology, a mental process, or other human influence, which resulted in a hazardous condition or unsafe act. This may include a momentary interruption which resulted in a subsequent failure to complete the original task or resulted in skipping steps in the original task.	**PC 106**
Geographically Lost: is when the individual was at a different location from where the individual believed he or she was.	**PC 107**
Change Blindness/Inaccurate Expectation: is when an individual's expectations contributed to not perceiving the change or to false interpretation of perceived stimuli. The stimulus would be easily noticed by the individual if he/she were directed to the change/reality. This is a universal limitation of human attention. NOTE: This code should be used in place of PC101 (inattention) if the safety investigator believes the lack of attention involved a limitation on the ability to perceive the stimulus/change.	**PC 110**
Question P3: **Did the mishap person(s) state of mind influence the unsafe act?** (If yes, determine which code(s) is/are the most appropriate to support the unsafe act. If no, skip to P4.)	
State of Mind Conditions (PC200): are when psychosocial problems, life stressors, personality traits, or misplaced motivation of the mishap individual created a hazardous condition or unsafe acts. *NOTE: When using PC200 codes, ensure you consult with a qualified medical professional.*	
Psychological Disorder: is when the individual has met criteria for a diagnosable psychiatric disorder by a competent medical professional which, in the medical professional's opinion, resulted in a hazardous condition or unsafe act. This may or may not have been diagnosed prior to the mishap.	**PC 202**

Life Stressors/Emotional State: is when the individual's emotional state and/or life circumstances led to burnout or otherwise degrade performance, which resulted in a hazardous condition or unsafe act. This can occur when one feels overwhelmed, emotionally drained, and/or unable to meet constant demands, which impinge on performance. (Examples include: wearying effects of work, training, relationships, economic or legal stressors, housing difficulties, upcoming/recent change of station, new baby, family or personal medical issues, or a combination of circumstances, etc.). NOTE 1: This may be associated with PC307- Fatigue and/or other preconditions. NOTE 2: This code rarely is selected as a stand-alone and should be paired with other precondition, supervisory or organizational code(s).	**PC 203**
Personality Style: is when evidence strongly indicates the individual's personal interaction with other personalities created a hazardous condition or unsafe act. Examples range from over-conservative, authoritarian, overly aggressive, persuasive, impulsive, invulnerable, submissive, passive/non-assertive, or other personality traits that result in degraded performance. For this code to be selected, there must be strong evidence that the individual's personality traits are longstanding and pervasive, and fall outside of the "reasonable person" concept for similar individuals doing similar tasks/missions. NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).	**PC 205**
Overconfidence: is when the individual unreasonably overvalued or overestimated his or her own capability, the capability of others or the capability of aircraft/vehicle/vessel or equipment, which resulted in hazardous conditions or unsafe act. For this to be selected, there must be strong evidence the individual acted in a manner inconsistent with the "reasonable person concept" (this individual's overestimation is above and beyond what a reasonable person in a similar situation would have been expected to do). NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).	**PC 206**
Pressing, Haste, Motivation: is when the individual's motivation to complete a task/mission was misplaced, and/or the individual knowingly pressed him or herself and/or equipment beyond reasonable capabilities, which resulted in a hazardous condition or unsafe act. This also includes excessive or weak motivation when either the weak or excessive motivation to succeed disregarded mission needs or superseded the goals of the unit (e.g., rushed to complete a task, mission or reach a destination; or demonstrated a weak/excessive motivation that increased risk to self and/or team.). This precondition may be the result of internal or external pressures or influences on the individual. *(PC207 was combined with this code)* NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).	**PC 209**
Question P4: **Did the mishap person have a physical condition that negatively affected performance and influenced the unsafe act?** (If yes, determine which code(s) is/are the most appropriate to support the unsafe act. If no, skip to P5.)	

Adverse Physiological Conditions (PC300): Are when an individual experienced a physiologic condition that compromised performance *and resulted in* a hazardous condition or unsafe acts. NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	
Effects of Gravitational Forces (G-LOC): is when, in aviation, the individual experienced G-induced loss of consciousness (G-LOC), grey-out, blackout or other neuro-circulatory effects of sustained acceleration forces. *(re-instated from version 6.02)*	**PC 301**
Substance Effects (supplements, medications, drugs, alcohol): is when the use of authorized or unauthorized substances (medications, supplements, energy enhancing products, alcohol, illegal drugs, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act. NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 302**
Loss of Consciousness (sudden or prolonged onset): is when the individual experienced a loss of consciousness/functional capacity for a few seconds or prolonged and resulted in degraded performance. Causes include low oxygen atmosphere, trauma, shallow water blackout, or any other cause resulting from activities that were directed, supervised or self-initiated. (NOT GLOC - see PC301) NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 304**
Physical Illness/Injury: is when pre-existing or operationally-related medical conditions (illness, injury, dehydration, motion sickness, trauma, seizure, toxic chemical exposure, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act. NOTE 1: Do not use this code to capture injury or illness that does not cause a hazardous condition or an unsafe act. NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 305**
Physical Overexertion: is when the individual's diminished physical capability caused by overuse (time/relative load) resulted in a hazardous condition or unsafe act. The effects of prolonged physical activity, or the effects of brief but relatively extreme physical activity, either of which depletes a person's physical endurance or strength beyond the individual's normal limits and degrades performance. NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified medical professionals. *(re-instated from version 6.02)*	**PC 306**

Fatigue: is when acute or chronic sleep deprivation or circadian rhythm disruption (shift work/lag, extended duty periods, jet lag, poor sleeping conditions, etc.) negatively affected physical and/or mental performance and resulted in a hazardous condition or unsafe act. NOTE 1: Fatigue should be quantified by determining the mishap individual's number of hours awake vs sleep and activity in the past 72 hours leading up to the mishap. Also determine if the fatigue was either self-induced or operationally induced. NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 307**
Acute Trapped Gas Disorders: is when gasses in the middle ear, sinuses, teeth or gastrointestinal system negatively affected performance and resulted in a hazardous condition or unsafe act. NOTE 1: If alternobaric vertigo induced spatial disorientation you must also include PC321. NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 310**
Decompression Sickness (Evolved Gas Disorder): is when evolved gases negatively affected performance, resulting in a hazardous condition or unsafe act. (Examples include: bends, chokes, central nervous system manifestations, paresthesia, etc.) NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 311**
Respiratory Physiological Event: is when hindered/inappropriate respiration or pressure/flow/concentration of oxygen created respiratory physiological symptoms which negatively affected performance resulting in a hazardous condition or unsafe act. This can be caused by external forces and/or internal metabolic functions. Use this code to capture symptoms developed due to hyper/hypoxia, hyper/hypoventilation, and other metabolic conditions which result in a disruption of metabolic balance. NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 312**
Inadequate Adaptation to Darkness: is when dark-adaptation was either not fully completed or was washed out, negatively affected the individual's performance, and resulted in a hazardous condition or unsafe act. NOTE 1: This code rarely is selected as a stand-alone and should be paired with another precondition, supervisory or organizational code(s). NOTE 2: If the ineffective adaptation to darkness was related to lights of a vehicle/vessel/aircraft, consider applicability of PE109 in addition to this code.	**PC 314**

Anthropometric/Biomechanical Limitations: is when the individual's size, strength, dexterity, coordination, endurance, or other physical factors negatively affected performance, which resulted in a hazardous condition or unsafe act.	**PC 317**
Nutrition/Diet: is when evidence supports that the individual's nutritional state negatively affected performance. NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 319**
Loss of Capacity (Surprise/Startle Response): is when uncontrollable, automatic physical response of muscle reflex, raised heart rate, suddenly dropped blood pressure, etc. was elicited by exposure to a sudden, intense event that contradicts an individual's expectations resulting in a hazardous condition or unsafe act. This response can affect the physical and mental processes normally used to effectively respond to the event/emergency. *(Formerly PC511)*	**PC 320**
Spatial Disorientation: is when the individual failed to sense correctly a position, motion, or attitude of the aircraft or his/herself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical position (e.g., visual, vestibular, kinesthetic, or auditory/sound illusions), which resulted in a misjudgment and unsafe act. *(Formerly PC508 combined with PC501, PC502, PC503 and PC507)* NOTE 1: This may be the result of other individual preconditions, environmental factors, ineffective training, and/or supervisory/leader influences. NOTE 2: Do not use this code if the disorientation is the result of substance effects; use PC302. NOTE 3: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.	**PC 321**
Question P5: **Did conditions of the operational environment affect the actions of the mishap individual or team?** (If yes to, go to question P6. If no, go to question P8.)	
Environmental Conditions (PExxx): Are conditions in a mishap that include both the physical and/or the technological environment where the safety investigator determined environmental conditions affected practices, conditions and/or performance of the mishap individual or team.	
Question P6: **Did conditions of the physical environment affect the actions of the mishap individual or team?** (If yes, determine which code(s) is/are the most appropriate to support the unsafe act. If no, go to P7.)	
Physical Environment (PE100): Are conditions related to the immediate physical surroundings which negatively affected individual performance, resulting in unsafe acts. These are conditions such as terrain surfaces, physical obstructions, noise, illumination, glare, air contaminants (e.g., gases, fumes, vapors, particulates), low oxygen, vibrations, radiation, wildlife, insects, and meteorological conditions (e.g., precipitation, temperature, humidity, pressure, wind, electromagnetic effects and lightning.)	
Environmental Conditions Affected Vision: is when conditions such as lighting/illumination, physical obstructions, rain, snow, spray, fog, haze,	**PE 101**

darkness, smoke, dust, sand, other particulates, etc., impeded clear viewing/vision, negatively affected performance, and resulted in hazardous conditions or unsafe acts.	
Vibration Affected Performance: is when the intensity and/or duration of vibrations from an engine, equipment, tools, airframe, rotor, and/or propeller negatively affected vision, balance, and/or performance, and resulted in hazardous conditions or unsafe acts.	**PE 103**
Temperature Affected Performance: is when the ambient/workspace temperature negatively affected performance and resulted in hazardous conditions or unsafe act. NOTE: If this code is selected, consider if PC305 is applicable.	**PE 106**
External Force or Object Impeded Performance: is when accelerative forces, wind, sea-state, objects, aircraft/vehicle/vessel structures, etc. impeded individual movement and resulted in hazardous conditions or unsafe acts. NOTE: Use PC304 to code GLOC.	**PE 108**
External Lighting of Vehicle/Aircraft/Vessel/Object Affected Vision: is when the intensity, position, pattern, color, and/or absence of the lighting of other aircraft, vehicles, vessels, or objects negatively affected performance and resulted in hazardous conditions or unsafe acts. NOTE: This code may be paired with either another precondition, supervisory or organizational code(s).	**PE 109**
Noise Interference: is when an unexpected sound not directly related to information needed for a task (bang, explosion, shout, alarm, machine noise, etc.) negatively affected performance and resulted in hazardous conditions or unsafe acts.	**PE 110**
Terrain Feature Affected Performance: is when known yet unanticipated or unseen/unknown terrain hazards were encountered, which negatively affected performance and resulted in hazardous conditions or unsafe acts. (Uneven surfaces, loose gravel or rock, sand, soft shoulders, pooled water, black-ice, pot-hole, drop-off, dense vegetation, deep mud, etc.)	**PE 112**
Animal or Non-DoD affiliated human: is when the actions of a non-DoD affiliated civilian or an animal resulted in a reportable/recordable DoD mishap IAW DoDI 6055.07. (Examples include: Commercial conveyance during an official duty status where DoD personnel are not in control of the operation; contractor caused mishaps that result in a DoD reportable injury or damage; motor vehicle mishaps were a non-DoD affiliated driver runs a red-light, crosses centerline or fails to brake; where an animal or human runs into the path of travel, etc.)	**PE 113**
Question P7: **Did the technological environment (workspace design) negatively affect the performance of the mishap individual or team members?** **(**If yes, determine which code(s) is/are the most appropriate to support the unsafe act. If no, go to P8.)	
Technological Environment (PE200): Is when workspace design conditions or automation affected the actions of individuals and resulted in a hazardous condition or unsafe acts. This includes ground vehicle systems, aircraft, watercraft/shipboard	

spaces, control stations, weapons systems, communication systems, maintenance repair systems, etc. NOTE: This section assesses hazardous conditions of materiel components and the role a materiel design condition played in an individual's actions. If any code in this section is applicable, you must determine which "Organizational Influences" level codes under Resource Problems (OR) and Policy and Processes Issues (OP) apply for the support failures. These hazardous conditions also require reporting to the proper acquisition or materiel support agency in accordance with your respective DoD component's policies.	
Restraint System and/or Seat Problems: is when the design of a restraint system, seat, ejection system, and/or associated comfort element impeded occupant performance or failed to function as intended, which resulted in a hazardous condition or unsafe act.	**PE 201**
Instrumentation and Warning System Issues: is when workspace/cockpit instrument or warning system elements (design, reliability, lighting/backlighting, audible cues, location, symbology, size, display, etc.) negatively affected performance, which resulted in a hazardous condition or unsafe act. NOTE: This also includes alarm fatigue and/or habituation.	**PE 202**
Workspace Visibility Restrictions (not weather related): is when obstructions from workspace design/layout prevented necessary visibility and negatively affected performance, resulting in a hazardous condition or unsafe act. This includes physical design, glare, reflections, etc. NOTE: Visibility restrictions due to weather or other environmental conditions are captured under PE101.	**PE 203**
Controls and/or Switches: is when the location, shape, size, design, reliability, or other aspect of controls and/or switches negatively affected performance and resulted in a hazardous condition or unsafe act.	**PE 204**
Automated System Created a Hazardous Condition: is when the design, function, reliability, symbology, logic or other aspects of automated systems negatively affected performance, which resulted in a hazardous condition or unsafe act. This includes designs of tooling machines, ship or aircraft components, etc. NOTE: Use PE202 if alarm fatigue and/or habituation was the condition.	**PE 205**
Workspace Limitations Affected Performance: is when conditions of a workspace configuration/design negatively affected performance, which resulted in a hazardous condition or unsafe act.	**PE 206**
Personal Equipment Interference: is when the individual's personal equipment negatively affected performance and resulted in a hazardous condition or unsafe act. This includes body armor, harness, other PPE, night vision devices (NVDs), weapons, etc.	**PE 207**
Communication Equipment Ineffective: is when a communication system's (voice, data, multi-sensory) limitations and/or malfunctions negatively affected performance and resulted in a hazardous condition or unsafe act.	**PE 208**
Question P8: **Did communication practices, conditions, or actions of team members contribute to the individual's unsafe act?** (If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)	
Team Coordination/Communication Conditions (PP100): refers to verbal or non-verbal interactions among crews/teams involved with the preparation and/or	

execution of a task/mission, which resulted in hazardous conditions or unsafe acts. This includes failures with communication between members of aircraft, tactical vehicles, ground guides, boat or ship, stevedore/long shoring, or any other crew/team communication failures.	
Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance, etc.): is when crew/team members failed to actively maintain an accurate and shared understanding of the evolving task, or manage their distribution of tasks, which resulted in a hazardous condition or unsafe act. This includes communication breakdowns (e.g., standardized terms, phrases, hand signals or language/lexicon barriers), critical information not shared, rank/position intimidation, lack of assertiveness or other teamwork functions.	**PP 101**
Task/Mission Planning and/or Briefing Inadequate: is when an individual, crew or team failed to complete all preparatory tasks associated with planning the mission and/or effective briefing the tasks, which resulted in a hazardous condition or unsafe act. Planning tasks include information collection and analysis, coordinating activities within the crew or team and with appropriate external agencies, risk assessment followed by the pre-mission/task safety briefing. NOTE: You will need to review SP100 codes to determine if the individual's or team's failure was secondary to higher level planning and briefing flaws.	**PP 109**
Task/Mission-In-Progress Re-Planning: is when crew or team members failed to adequately reassess changes in their dynamic environment during mission execution and change their mission plan accordingly to ensure adequate management of risk, which resulted in a hazardous condition or unsafe act.	**PP 111**
Question P9: **Was the mishap individual's action the result of being untrained, inexperienced, not current or unable to remember the process?** **(**If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)	
TRAINING (PT100): is when formal or informal instruction, skill development or knowledge limit the individual's capability, capacity or performance resulting in an unsafe act.	
Untrained Operator/Worker: is when the mishap individual did not receive adequate/sufficient training (formal, just-in-time, on the job, etc.) or received no training for a specific task, which resulted in a hazardous condition or unsafe act. NOTE: Selection of this code requires assessment of supervisory codes SI003, SI008, SI009, SP006, SC003 or SD003 and organizational formal training program OP004.	**PT 101**
Knowledge Retention: is when the mishap person did not remember information from training and/or previous experience necessary to complete a task safely, which resulted in a hazardous condition or unsafe act. This may be due to flaws in local/unit training or a formal training program or the individual's capacity to learn and retain information. *(Formerly PC109)* NOTE 1: Exposure to information at one point in the past does not imply "knowledge" of it. NOTE 2: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.	**PT 102**

Lack of Currency: is when an individual's familiarity with a specific task or process was either not current or was limited by infrequent or rare performance of the task to permit safe execution, which resulted in a hazardous condition or unsafe act. NOTE 1: The mishap individual was once trained to proficiency to operate a specific system or perform a process, but has not done so in many months or years. NOTE 2: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.	**PT 103**
Lack of Proficiency/Experience: is when an individual's level of fluency or expertise did not match skills required for safe execution, regardless of his or her familiarity with the process, task, system or mission, which resulted in a hazardous condition or unsafe act. NOTE: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.	**PT 104**
Lack of Job/Work Related Safety Training: is when an individual had not received required or effective safety training related to hazards associated with their daily job or a one-time task, or when there was a change in process or equipment, which resulted in a hazardous condition or unsafe act. NOTE: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.	**PT 105**

Question S1: **Did immediate or long-standing actions or inactions of a supervisor/leader influence any of the preconditions or unsafe acts or any part of the mishap?** (If yes, go to S2, if no, go to O1.)

Ineffective Supervision/Leadership (Latent Failures)

This tier of latent failures encapsulates longstanding actions or inactions, methods, or directives of any supervisory/leadership personnel within the unit that created hazardous practices or conditions and resulted in unsafe acts of the mishap individual or team.

This category includes any personnel serving in a leadership/supervisory role ranging from the immediate supervisor to the commanding officer/director, each of which may have influenced subordinate actions or behaviors in the months, weeks, days and/or minutes leading up to the individual's active failure.

Latent failures to an on-duty mishap can often be traced back to a supervisor/leader failing to correct inappropriate behavior, enforce standards, emphasize correct procedures, or provide ineffective planning, risk assessments, provide effective training, guidance, oversight, work or crew pairing assignments, and/or risk decisions during mission execution to prevent individuals from committing unsafe acts.

All personnel in a supervisory and formal leadership position are responsible for ensuring that complacency or deviation from standards and controls are not allowed to threaten success of safety management system or combat readiness.

A commander and his/her subordinate supervisory/leader personnel exercise supervision to maintain situational understanding, to continuously identify and assess any new hazards, and to develop or modify controls as necessary. An extraordinary degree of discipline is needed to avoid complacency from boredom and overconfidence when personnel are performing repetitive tasks. For many reasons, individuals are inclined to neglect controls used for a prolonged period. It is critical to mission success that all personnel assigned to a supervisory or formal leadership role ensure service

members/employees monitor factors such as fatigue, equipment serviceability and availability, the operating environment, and the weather.

When choosing codes applicable to these latent failures, investigating safety personnel identify where the leader errors or known deviations reside (e.g., first-line leader/supervisor, 2nd line leader/supervisor, or higher to the Battalion/Squadron/Ship/Installation Commander).

If you previously deduced that supervisory/leader failures influenced the actions or preconditions of the mishap individual and/or team, then determine which unsafe supervision/leader codes best apply to support the identified latent failures. If leadership flaws include multiple first line and/or second line supervisors and/or command leadership, ensure selected codes address each level of failure and support recommendations for corrective actions.

NOTE: 1: Some supervisory/leadership failures may be the result of organizational influences such as resource support failures, OPTEMPO or flaws in policy/standards/guidance or procedures.

NOTE 2: If a supervisor/leader was the mishap person or committed an active failure, then code the supervisor/leader as separate mishap person.

Question S2: **Did supervisory/leader attitudes, values, or beliefs contribute to creating unnecessary risk or allowed workload to overwhelm personnel and influence the mishap individual's preconditions or unsafe acts(s)?**
(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S2.)

Ineffective Unit Safety Culture (SC100): occurs when the unspoken or unofficial rules, values, attitudes, beliefs, and customs of small unit leaders or their higher organization negatively affected good order and discipline in adherence to established safety standards, initiatives, and practices.

A response of "that is the way things really get done around here" is an indicator. Other issues related to culture include unit justice, psychological contracts, and esprit de corps. All these issues affect attitudes about safety and the value of a safe working environment.

Culture is influenced and different at each level of leadership from the platoon/section up to the commander. Leaders can create a culture of cohesion in which employees have a sense they belong, that they are valued, and that they commit to personal and organizational goals either in a safe manner or overly risky manner. Leaders in small units can also create a culture of high risk and distrust from overemphasis on time versus safe completion of tasks, lack of accountability, training, communication, consistent discipline, etc.

Unit Safety Culture: is when the explicit or implicit actions, statements, attitudes, techniques or values of supervisors/leaders facilitated an environment where demands or pressures existed that resulted in hazardous conditions or unsafe acts. (Examples include: mission or time expectations supersede mishap prevention strategies; role-modeling fosters unsafe behaviors, proactive safety initiatives receive minimal support; near-misses, mishaps or adverse events are minimized or considered non-reportable; limited positive recognition for safe performance or reporting hazardous conditions; lessons learned are not shared throughout the entire unit; etc.)	**SC 101**

This also includes ineffective facilitation of a constructive climate such as establishing and maintaining an accurate and shared understanding of the evolving task or mission on the part of all personnel. NOTE 1: This may be localized to a team as small as a section/platoon or company to battalion/squadron or may result from larger organizational influence as defined in OC001. NOTE 2: When using this code, consider applicability of SD002.	
Pace of OPTEMPO/Workload: is when the pace of primary duties, additional duties, training, deployments, or other workload-inducing conditions of a unit created hazardous conditions or unsafe acts.	**SC 102**
Question S3: **Did a supervisor/leader knowingly deviate from a known rule, regulation, policy, etc. allowing hazardous conditions or unsafe acts to occur?** (If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act? If no, go to S4.)	
Supervisory Known Deviation (SD000): are factors when a supervisor/leader willfully disregarded instructions, guidance, policies, rules or standard operating procedures. This includes failing to enforce standards, allowing unwritten practices to become standard, directing individuals to violate existing rules/regulations and authorizing unqualified personnel for a task.	
Failure to Enforce Published Rules/Guidance: is when a supervisor/leader failed to ensure that personnel adhered to published rules/policy/guidance/procedure or knowingly allowed an untrained, inexperienced, non-proficient or non-current individual to perform a task, which resulted in a hazardous conditions or unsafe acts. (Examples include: a failure to enforce a policy, standard operating procedures or technical guidance in regards to vehicle/watercraft operation, weapons or explosives handling, use of machines or hand tools, etc.; failure to enforce use of PPE such as restraints, eye, face or head protection, hearing protection devices, etc.)	**SD 001**
Allowed Unwritten Practices to Become Standard (Normalization of Deviance): is when a supervisor/leader chronically condoned the use of unwritten/unofficial procedures by subordinates, which resulted in hazardous conditions or unsafe acts.	**SD 002**
Directed Individual to Violate Existing Regulations, Rules, or Procedures: is when a leader/supervisor directed a subordinate to circumvent existing standard operating procedures, regulations, instructions, policies, or technical guidance, which resulted in a hazardous condition or unsafe acts. This may be the result of the supervisor's personality, a faulty logic or when the consequences/risk of violating published procedures was recognized and determined by the supervisor/leader to be the best course of action.	**SD 003**
Question S4: **Did a supervisor/leader create hazardous conditions or unsafe acts by failing to provide effective oversight, training, guidance, policy, respond to critical information or inadvertently task inexperienced personnel for a task?** (If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S5.)	
Ineffective Supervision (SI000): is a factor when supervisory/leadership personnel failed to properly identify and assess hazards, mitigate risks, ensure personnel are	

effectively trained and informed, and/or provide effective guidance and oversight, which resulted in hazardous conditions or unsafe acts.	
Ineffective Supervisory or Command Oversight: is when the availability, competency, quality or timeliness of supervisor/leader oversight did not meet task or mission demands, which resulted in hazardous conditions or unsafe acts. (Examples include: failure to verify accuracy and completeness of work, conduct pre-combat checks/pre-mission inspections, mismanagement of emerging risks during mission execution, etc.) NOTE: Inappropriate supervisory pressures are also captured under this code.	**SI 001**
Failed to Provide Effective Training: is when supervisors/leaders failed to provide effective training to ensure competency and proficiency of their personnel for a specific task which resulted in a hazardous conditions or unsafe acts. (Examples include: technical procedures for amphibious assault/towing/convoy/flight; ground guiding, weapons handling, maintenance procedures, flight operations, working with hazardous materials, use of PPE, fall-protection, water survival, helicopter rope suspension techniques, combat tactics, techniques and procedures, fire-fighting, operation of specific variant/class of a vehicle/vessels or materiel handling equipment operation, etc.) NOTE 1: The failure of an individual to absorb the training material in a satisfactory training program does not indicate a training problem (see PT102). NOTE 2: The failure of an individual to recall learned information under in a high stress environment or while fatigued despite receiving adequate training does not indicate a training problem (see PC100, PC200, and/or PC300 series.)	**SI 003**
Failed to Provide Clear Written Procedure/Guidance/Policy: is when unit level guidance or policy was ineffective, unclear, impractical, or non-existent and resulted in hazardous conditions or unsafe acts. (Examples include: standard operating procedures, job/activity hazard analysis, checklists, hazard communication plan, emergency action plan, leave or liberty/pass policies, letter of instruction, operational orders, fragmentary order (FRAGO), concept of operations, etc.)	**SI 004**
Lack of Supervisory Responses to Critical Information: is when an individual or crew provided critical information regarding a potential safety issue of the operating environment, equipment, or personnel to supervisory/leadership personnel, who failed to act/close the loop, which resulted in a hazardous conditions or unsafe acts.	**SI 006**
Failed to Identify or Correct Hazardous Practices, Conditions or Guidance: is when any supervisor/leader in the unit failed to identify or correct known hazardous conditions of equipment, facilities, or written procedures/guidance, or correct unsafe work practices of personnel within his/her scope, which resulted in hazardous conditions or unsafe acts.	**SI 007**
Tasked Individual(s) with Lack of Experience, Currency or Proficiency: is when a supervisor/leader inadvertently tasked an individual or team whose fluency or expertise did not match skills required for safe execution of the task, system or mission; or whose familiarity with a task or process was either not current or limited by infrequent or rare performance, and resulted in hazardous conditions or unsafe acts. This may be due to flaws in institutional or local training or a leader's lack of knowledge of his/her personnel.	**SI 008**

NOTE: If the supervisor was aware the individual or team's skill levels were inappropriate for the task, then refer to SD003.	
Rank/Position Intimidation: is when a supervisor/leader caused the task performance capabilities to be degraded by exercising too much or too little of the authority conferred by his or her rank or position. Also, conditions where formal or informal authority gradient is too steep or too flat across a crew/team and this condition degrades collective or individual performance.	**SI 009**
Question S5: **Was any part of the deliberate risk management processes during pre-mission/activity/event planning ineffective or not complete?** *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, finished with supervision/leadership.)*	
Ineffective Planning and Coordination (SP000): are factors when unit leadership failed to effectively utilize the troop leading procedures/risk management process to assess hazards and develop effective controls associated with an activity, event, mission or operation, which resulted in unnecessary risk. Occasionally, the OPTEMPO or schedule is planned such that individuals are put at unacceptable risk, team/crew rest is jeopardized, and ultimately performance is adversely affected. Such planning flaws, though arguably unavoidable during emergency or combat situations, are not acceptable for readiness training or day-to-day operations. Planning includes the entire risk management process from information collection, consideration of team member knowledge, skills and physical conditions, analysis of environmental hazards, resource support factors, equipment conditions, capabilities of external agencies, and contingency planning. Included in this category are issues of crew/team composition, pre-mission deliberate risk assessments, risk acceptance authority, information resource support, and personnel manning.	
Ineffective Deliberate Risk Assessment: is when supervision/leadership did not effectively apply DoD risk management procedures (identify hazards, assess hazards, develop controls, implement controls, supervise and evaluate/assess) during pre-mission/activity/event planning or a job hazard analysis, which resulted in hazardous conditions and/or unsafe acts. This includes assessment of all hazards including crew/team composition (Examples include: Did not have enough trained, licensed, certified or qualified personnel to safely operate the amount of vehicles or equipment available, or not enough personnel with specific occupational specialties required for the task or mission.)	**SP 006**
Authorized Unnecessary Risk: is when a leader with risk acceptance authority unnecessarily authorized a mission, activity, or task, which resulted in hazardous conditions and/or unsafe acts. NOTE: This code could be considered when the safety investigator concluded the residual risk was accepted at the wrong level as defined by a service's policies.	**SP 007**
Ineffective Pre-Mission Planning: is when supervision/leadership did not conduct effective pre-mission/activity/event planning, which resulted in hazardous conditions and/or unsafe acts. NOTE: This is outside of the formal/deliberate risk management process. If there were deficiencies in the risk management process or the deliberate risk assessment, then cite SP006.	**SP 008**

Unit Failure to Provide Sufficient Operational Information Resources: is when unit/ship or installation level information resources (e.g., maps, graphic depictions, tables, charts, blueprints, weather data, intelligence, traffic, road or terrain conditions etc.) were not made fully available to personnel who executed the mission/task/event and resulted in hazardous conditions and/or unsafe acts.	**SP 009**
Unit Failure to Provide Sufficient Manning/Staffing: is when unit/ship or installation planning processes failed to meet staffing demands or continuity of operations for ongoing missions and created an unnecessary workload, which resulted in hazardous conditions and/or unsafe acts. This may be the result of competencies, processes, internal policies, higher organizational manning support issues, etc. (Examples include: reduced manning for holidays, contingencies, deployment manning needs, medical asset requirements to support training or events, etc.)	**SP 010**
Unit Failure to Provide Sufficient Equipment or Supplies: is when unit/ship or installation level leaders failed to ensure personnel executing the mission received all necessary equipment and/or supplies to effectively implement risk control measures which, resulted in hazardous conditions and/or unsafe acts. (Examples include: unnecessarily using dead-lined equipment, not providing personnel with necessary tools, communications equipment, kits, vehicles, PPE, etc.)	**SP 011**

Question O1: **Did any organizational conditions/flaws influence either leader/supervisory actions or preconditions or the unsafe act(s)?** *(If yes, go to O2, if no, you are finished.)*

Organizational Influences (Latent Failures)

By affecting the practices, condition, or actions of leaders/supervisors and/or operator(s), an organization's communications, actions, omissions, and policies can lead to a mishap or near miss. These latent failures include major command, service and/or DoD level policies, oversight/governance, acquisition processes, resource management, and formal training programs that impact battalion/ship/squadron level or installation commands.

The roots to an on-duty mishap can sometimes be traced back to fallible processes of higher-level organizations that directly affect unit leader/supervisory practices or conditions and actions of operators. These system inadequacies may not be known to upper-level leaders.

Headquarters and supporting organizations generally include O6 and above unit level organizations that fit into each DoD component's strategic planning domains of Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P).

This tier includes readiness support organizations (Training Commands, Materiel Acquisition, Design and Maintenance Commands, Personnel Support/Human Resources Commands, Recruiting Commands, Doctrine Commands, Installation/Garrison Management Commands, etc.) as well as the direct chain of command of an installation or operating command.

A deep understanding of this relationship allows safety officers, mishap investigators and commanders to proceed beyond the superficial identification of active failures to pinpointing underlying system inadequacies. Developing recommendations that fall within the DOTMLPF-P framework that address these underlying inadequacies in the safety management system serves the ultimate goal of periodic safety inspections and mishap investigations to adopt more effective risk management/mishap prevention/readiness strategies across the services.

Question O2: **Did any organizational climate or culture issues influence unit level leader/supervisory actions or preconditions to unsafe acts?** *(If yes, determine which code(s) is/are the most appropriate to support supervisory actions, individual preconditions, or the unsafe act. If no, go to O3.)*	
Organizational Climate/Culture Influences (OC000): Are latent failures where the unspoken or unofficial rules, values, attitudes, beliefs, and customs of organizational level leadership negatively affected lower-level working environment or practices resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.	
Organizational Culture (attitude/actions) Created Increased Risk: is when explicit or implicit actions, statements, attitudes or techniques at an organizational level facilitated an environment where demands or pressures existed, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.	**OC 001**
Organizational Perceptions of Materiel Resources (Equipment): is when there was organizational over- or under-confidence in vehicle systems, vessels, aircraft, weapons systems, communication systems or any other materiel, resulting in a hazardous condition or unsafe acts throughout subordinate units or the field/fleet.	**OC 003**
Mission/Aircraft/Vehicle/Ship/Equipment Change or Unit Deactivation: is when the process of changing missions, aircraft/vehicle/ship/equipment or an impending deactivation resulted in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.	**OC 004**
Organizational Structure is Unclear or Inadequate: is when the chain of command of subordinate commander(s) or structure of an organization was confusing, non-standard or inadequate, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. NOTE: This is applicable when subordinate leaders are receiving direction from more than one command.	**OC 005**
Question O3: **Did any organizational policies, procedures, processes or oversight influence actions of unit leaders, supervisors or individual unsafe acts?** *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O4.)*	
Organizational Policy, Procedures, or Processes Issues (OP000): are latent failures whereby flaws in an organization's safety management system (standards, policies, procedural guidance, doctrine, processes, or governance/program management) negatively influenced leader/supervisory or individual performance.	
OPTEMPO/Workload: is when the workload-inducing conditions on one or more subordinate units/ships created hazardous conditions for unit/ship commanders and supervisors to effectively manage risks during pre-deployment readiness activities (effects on unit level leader's ability to meet pre-deployment training and qualification requirements; family readiness, administrative, medical readiness requirements, etc.), which resulted in hazardous conditions and/or unsafe acts.	**OP 001**
Organizational Program or Operation not Adequately Assessed: is when the potential risks of large programs, contract management, acquisition	**OP 002**

programs or operations were not assessed adequately, and this inadequacy impacted subordinate level actions.	
Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or Publications: is when written standards (policies, directives, procedural guidance/standard operating procedures, technical manuals, checklists, or publications) for normal or abnormal/emergency conditions are impractical, too vague/unclear, incorrect or ineffectively disseminated for safe operations throughout the organization or within a subordinate unit, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. NOTE: Not following a written document that is available, correct and simple to understand is a supervisory or individual level factor and does not apply to this code.	**OP 003**
Flawed Doctrine/Philosophy: is when the doctrine, philosophy or concept of operations in an organization is flawed or accepts unnecessary risk, which leads to unmitigated hazardous conditions and/or unsafe acts throughout subordinate units or the field/fleet.	**OP 005**
Inadequate Program Management/Governance: is when formal programs (e.g., a Program of Record) are implemented without sufficient planning, oversight, or support and creates hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This includes such programs ranging from a specific Occupational Health program to inadequate quality control, original manufacture and rebuild, packaging, assembly of materiel, or the entire safety management system. NOTE: This code may be a root cause to conditions of the "Technological Environment".	**OP 006**
Question O4: **Did any flaws in the type, amount, capabilities, or condition of the organizational support influence unit mission essential resources, leader/supervisory actions or preconditions to unsafe acts?** *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O5.)*	
Resource Support Problems (OR000): are latent failures when resource support or system safety inadequacies resulted in ineffective risk management or created hazardous conditions for leaders/supervisors and/or the operator/aviator/worker. Resource support problems exist when the type, amount, capabilities, or condition of the resource support is not sufficient to correctly perform a mission. Resources include: personnel, equipment, materiel, supplies, services, and/or facilities. This category refers to the management, allocation, and maintenance of organizational resources (human, fiscal, and materiel/equipment/facilities). The term "human" refers to the management of military, federal civilian and contractor personnel. Issues that directly influence safety include selection (e.g., background checks), training, and staffing/manning. "Fiscal" issues refer to the management of monetary resources (e.g., excessive cost cutting and/or lack of funding for needed equipment had adverse effects on subordinate commander risk decisions, operator performance and the overall safety management system). Finally, "Materiel" refers to issues related to availability of needed infrastructure, equipment design including the purchasing of unsuitable equipment, inadequate design of workspaces, and failures to correct known design flaws. Headquarters leaders should ensure that human-factors engineering principles	

are known and utilized and that existing specifications for equipment and workspace design are identified and met.	
Command and Control (C2) Resources are Deficient: is when installation or resources of command staff, maritime or airfield services, communications/IT support, etc. are unavailable or inadequate for safe operations, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (e.g., Joint force or individual component C2, battlegroup management).	**OR 001**
Inadequate Infrastructure: is when the support, maintenance and/or space provided by installations or industrial facilities supporting military operations or military production programs become inadequate, degraded or non-available, resulting in hazardous conditions or unsafe acts. This includes those facilities or services dedicated to deployment, reception, staging, movement, integration and sustainment, airfield services, dining, physical fitness, living quarters, recreation areas, petroleum, oil and lubricant (POL) services, housing, medical clinics/hospitals, weather services, storage areas, maintenance facilities, property disposal, hobby shops, road maintenance, traffic management. NOTE: Traffic management includes road signs or overt identification of hazardous areas due to maintenance or environmental issues, etc.	**OR 003**
Purchasing or Providing Poorly Designed or Unsuitable Equipment: Is when there are inadequacies in the acquisition and/or fielding of warfighting or commercial materiel, resulting in hazardous conditions or fallible decisions throughout subordinate units or the field/fleet. (Examples include: failure to field needed equipment/materiel in a timely manner, failure of installation, inspection, quality control, or depot level maintenance services in a timely manner. This also includes a breakdown in capability-based assessments, DOTMLPF-P change recommendations (DCRs), capability development documents (CDDs) or capability production documents (CPDs)). (Formerly OP007) NOTE: This code is likely a latent failure to "Technological Environment" findings.	**OR 004**
Failure to Remove Inadequate/Worn-Out Equipment in a Timely Manner: is when the process through which equipment is removed from service is inadequate, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (Examples include: tactical vehicle systems or components, shipboard systems or components, aircraft, etc.) NOTE: This code is likely a latent failure to "Technological Environment" findings.	**OR 005**
Personnel Accession/Selection Policies or Processes: is when the process through which individuals are recruited, screened, brought into the service or placed into occupational specialties is ineffective, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This occurs prior to occupational specialty training and includes screening processes for disqualifying conditions such as a physical, psychological or behavioral disorders, aptitude, or history of any condition that may reasonably be expected to interfere with the successful performance of duty or training or limit geographical assignment. *(Formerly OS001)*	**OR 006**

Failure to Provide Adequate Personnel/Staffing Resources: is when the process through which personnel resource allocations, staffing or personnel placement processes are inadequate for mission demands, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. *(Formerly OS002)*	**OR 007**
Failure to Provide Adequate Information Resources: is when weather, intelligence, operational planning material or other information necessary for safe operations planning are too complex, too vague, incorrect or not available throughout the organization, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This also includes knowledge management tools or data collection and analysis tools to support large safety management system programs such as materiel management, systems safety, hazard inspections and assessments, risk management, etc.	**OR 008**
Failure to Provide Adequate Funding: is when subordinate organizations or an operation does not receive the financial resources to complete its assigned mission/task, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: To compensate for a lack of funding, leaders/supervisors are forced to find creative means to accomplish the mission, which may create high risk conditions related to readiness training and/or use of materiel/equipment. Leaders may be forced to accept a higher level of risk in a specific area due to lack of funding for materiel, supplies, or personnel.)	**OR 009**

Question O5: **Did any flaws in the type, amount, capabilities, or condition of the organizational support influence unit mission essential resources, leader/supervisory actions or preconditions to unsafe acts?** *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, you are finished.)*

TRAINING PROGRAMS (OT000): are when a training and/or educational program of instruction designed to improve technical, tactical, critical thinking or leadership skills is incorrect, incomplete or insufficient for performance to standard, which negatively influenced supervisor/leader and/or individual performance.

Selection of these codes means there is evidence of either inadequate formal school training or inadequate program of instruction support for institutional training.

By identifying the need for changes in tactics, techniques, and procedures, improvements can be made to improve technical and/ critical thinking skills at all levels. This includes, but is not limited to interactive resident or virtual simulations to enhance technical skills in aviation, ground operational, maritime and industrial communities; increased use of tactical exercises without troops; small unit Leadership courses such as integrated training targeted at O1/2 and O3 or O1/2 and E6-E8, etc.

Observations of training vulnerabilities also help mature the ideas in an approved concept, or support development of a new or revised concept by identifying and analyzing trends, best practices, and insights derived from multiple combatant commanders.

Combatant commanders (CCDRs) may adopt these changes to prepare the force to respond more effectively to strategic and operational requirements and to execute assigned or anticipated missions. Concept developers may engage and support exercise planners to incorporate appropriate aspects of the future security environment into scenarios, educate the training audience on the concept and required capabilities, and observe event execution.

NOTE 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier) NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem. NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.	
Resident Formal School Training Program is Ineffective or Unavailable: is when resident based formal school training conducted by a formal schoolhouse under TECOM, TRADOC, NETC, AETC, or USCG-FORCECOM is either incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: programs that produce officer and enlisted core skills, Military Occupational Specialty, civilian career programs, train-the-trainer programs, operational planning/risk management training, military leadership development, civilian employee supervisor development, staff development, one-time, upgrade or transition programs, combat readiness, etc.) *(Formerly OP004)* NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier) NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem. NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.	**OT 001**
Distance Learning Training is Ineffective or Unavailable: is when distance learning programs provided by either military service component or contracted organizations is incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (e.g., simulations, professional military training, career enhancement skills, etc.) NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier) NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem. NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.	**OT 002**

Summary of Changes to U.S. Department of Defense
Human Factors Analysis and Classification System (DoD HFACS) version 8.0

23 May 2022

The following revisions to the DoD HFACS tool have been agreed upon by the DoD Human Factors Working Group (HFWG) and approved by the Joint Service Safety Council (JSSC) for implementation across all DoD components.

This document is specifically intended for use by data analysts and developers of service specific mishap reporting and data collection applications to accomplish the following:

1. Modify the codes, "tag-lines/short-titles" and definitions in each service's mishap reporting applications (E.g., AFSAS, ASMIS and RMI)
2. Make appropriate changes to all micro-strategy or business intelligence tools.

Background/Overview:

Human error remains the leading cause of DoD mishaps. The DoD HFACS version 8.0 was designed to accommodate all occupational communities throughout the DoD and intended for use by safety personnel, data research personnel and commanders in three inter-related areas.

1. Provide a structured tool that aids safety personnel in explaining the linkage between complex layers of underlying organizational weaknesses/root causes and an individual's active failure and/or severity of damage or injury.
2. Improve mishap prevention strategies by using this tool during pre-mission planning and safety inspection as an aid to identify the underlying organizational weaknesses/root causes of hazards and hazardous conditions in order to develop more effective risk controls.
3. Provide data research personnel with a standard, data-driven approach which meets the intent of DoDI 6055.07 to "Establish procedures to provide for the cross-feed of human error data using a common human error categorization system that involves human factors taxonomy accepted among the DoD components".

On-duty mishaps and near-misses are rarely attributable to a single cause or an individual's active failure. Instead, mishaps are the end result of a series of latent failures and/or hazardous conditions influenced by flaws in the safety management system which are related to a combination of training, resource support, policy or procedures, and/or supervisory functions throughout multiple levels of an organization. These latent failures or conditions may lie dormant or undetected for days, weeks, months or years prior to their manifestation as a mishap.

Drawing upon Reason's (1990) and Wiegmann and Shappell's (2003) concept of active failures and latent failures/conditions, "active failures" are the last actions or inactions of the operator that was the immediate cause of the mishap. In contrast, "latent failures" or "latent conditions" are hazardous conditions that exist within the chain of command or elsewhere in the organization which affected the tragic sequence of events leading up to the active failure.

After a mishap, trained safety personnel are obligated to collect, sort and analyze all evidence to deduce the causal factors and determine which active and latent failures were materiel failures or human failures and if environmental conditions negatively affected the performance of the human(s) and/or materiel involved.

The latent failures associated with a class A mishap are often present in similar near-miss events. Therefore, the same rigor should be applied to the analysis of near-miss and low severity mishaps as to high-severity mishap.

Application of the DoD Human Factors Analysis and Classification System

Step 1: Determine all factors that caused the mishap: Investigating safety personnel must first piece together the sequence of events to determine "what happened". The next step is to identify all anomalous events and the layers of conditions which allowed each anomalous event to occur. This is achieved by applying a cause-and-effect mapping process to determine why each anomalous event took place to determine the latent failures of "why the mishap occurred or why the individual failed". This process helps organizations to look beyond a single individual's actions and determine what underlying hazardous conditions related to training failures, supervisory/leader failures, resource support failures, materiel design flaws, and/or flaws in written policies or procedures influenced the mishap individual.

NOTE: When assessing human factor causes, safety personnel should answer each of following questions:

a. "What was the active failure committed by the mishap person/operator to cause the mishap?"

b. "Did the mishap person/operator have any physical or mental conditions that negatively influenced his/her performance?"

c. "Did conditions in the operating environment negatively influence the mishap person's performance?"

d. "Was there a gap in either unit or institutional training that negatively influenced the mishap person's performance?"

e. "Was the mishap person's performance influenced by one or more supervisor's/leader's decisions, directives, actions or inactions within the command?"

f. "Was there a breakdown in communication among team members that negatively influenced the mishap person's performance?"

g. "Did a lack of resource support negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

h. "Did a lack of effective written standards negatively influence decisions or actions of the mishap person's supervisory chain and the mishap person's performance?"

Step 2: Determine relationships between each causal factor. Establish which latent failures either directly affected the individual's active failure or indirectly contributed to the failure by creating one or more hazardous conditions that negatively influenced the mishap person's performance.

NOTE: Some latent failures may not directly contribute to the mishap person's unsafe act, yet may have contributed to the severity of injury or damage to equipment/property.

Step 3: Apply DoD HFACS codes to all identified active and latent failure causes. Once all latent failures have been identified, the last part of mishap analysis process is assigning the most applicable codes to each identified latent failure as well as the active failure of the mishap person(s).

USEFUL TIP – this process can easily cause distractions thus creating undue doubt, debate and improper selection of codes. Therefore, the following are tips for successful application:

- Determine all mishap causal factors first.
- Answer the HFACS questions in each category before reviewing codes. The questions will guide you through choosing the most appropriate codes for the identified active and latent failures.
- Avoid rabbit holes. If a code becomes debatable, be willing to move on and come back. It is very easy to become distracted from the facts by debating whether or not a specific code applies. A best practice is to tick-mark the code in question and move on. Do not be afraid to consult with other safety personnel or Human Factors experts when you or your team feels you are confused or at an impasse about "why" something did, or did not happen.
- Be willing to review and eliminate codes. Some codes may seem similar, yet you will find that certain codes are more applicable than others. Be willing to deselect codes that are contentious. Focus on those codes that best support the identified causal factors and require recommendations for corrective actions.
- Avoid personal bias. Let the previously analyzed evidence guide you to the appropriate code. If one is attempting to be creative and make a code fit into calling a horse a zebra – then it is not applicable to explaining the cause-and-effect relationships within the mishap.
- There are no minimums or limitations on the number of nano-codes selected. If the code fits the identified cause factor – it fits. Do not feel pressured to select a specific number of codes. When in doubt always refer to the evidence.
- Think cause and effect. Latent failure codes (supervisory, organizational influence and/or some precondition codes) may apply directly to the individual's unsafe act/active failure or to other codes that affected the unsafe act. Without a thorough analysis of evidence, the safety investigator or Safety Investigation Board (SIB) can easily lose sight as to how a "supervisory" code or an "organizational" code is applicable to the individual's unsafe act or a precondition of the individual. One method to overcome this challenge is to ask: "Did this supervisory and/or organizational code have any influence on one or more preconditions to the unsafe act?" and/or "Did this supervisory and/or organizational code have any influence on a severity of injury or damage?" If the answer is yes – select the code best supported by the evidence.
- Every unsafe act will include at least one individual precondition. There are generally multiple reasons why an individual failed. Whether the mishap person's unsafe action was the end result of supervisory/leader and/or organizational influences or not, each individual active failure will have at least one individual precondition.

- Think about which codes best support needed corrective actions. For every code selected, the safety officer/specialist or SIB should consider the level of importance the code has in resolving organizational flaws/latent failures within the unit, command or larger organization to improve the unit versus an individual.
- When in doubt – Follow the evidence. A simple way to understand how act and precondition codes trace back to codes at the supervisory or organizational level is to ALWAYS refer back to the "cause and effect" analysis.
- **Step 4**: **Write a supporting statement for each selected code:** Once the safety officer/specialist or SIB selects a code for each factor, an evidence-based description for the code's relationship to the causal factor must be included in the mishap report. This also aids in the development of more effective recommendations.
- NOTE: If you have difficulty writing a supporting statement, then the code is likely not applicable or worthy of inclusion, or you need to revisit the evidence for that area of your investigation. "
- This process helps safety personnel develop more thorough recommendations for corrective actions that will help commanders improve mishap prevention strategies to enhance operational readiness and/or reduce DoD civilian workers compensation costs.
- Proper application of this coding system also allows data analysts to perform more effective trend analysis to support targeted organizational improvement efforts.

DoD HFACS 8.0 Nano-Codes

*Question **A1**: "What did the mishap individual do or fail to do that allowed the near-miss or mishap to occur?"*

UNSAFE ACTS (ACTIVE FAILURES): Acts are factors that are "most closely tied to the mishap, and can be described as active failures or actions committed by the operator (mishap person) that result in human error or unsafe situation."

Unsafe acts of the mishap person are divided into errors and known deviations.

*Question **A2:** Was the unsafe act an error or known deviation?*

Errors: Are unknown and/or unintended deviations where the individual operator/aviator/worker's mental or physical activities failed to achieve their intended outcome, which resulted in the near-miss or mishap.

These unknown or unintended actions include but are not limited to: attempted a task without needed assistance, improper use of personal protective equipment (PPE) or safety devices, misjudged changes in surrounding environment; misjudged time, speed, clearance, distance, degree or angle, center of gravity, attitude; failed to effectively react to hazardous conditions, objects or a situation; etc.

Errors are classified as either Performance-Based errors, Judgment and Decision-Making errors, or both.

If an error - go to A3;

Known Deviations: Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended.

Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or may not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use required safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.

If a known deviation – go to A5;

Question A3*: Was the error a Performance Based Error? (If yes - choose the most applicable error code, then go to A4. If no- go to A5)*

PERFORMANCE/SKILL BASED ERRORS (AE100): are errors that occur when the operator's/aviator's/worker's execution of a routine or highly practiced task related to a procedure, training or proficiency was performed incorrectly and resulted in a near-miss or mishap.

PERFORMANCE/SKILL BASED ERRORS *(changed – was "Performance-Based Errors")*	AE100 (Bin)
Unintended Activation or Deactivation *(changed "of Equipment" to "or Deactivation")*	AE101
Procedure or Checklist Not Followed Correctly *(added "Procedure or" to tag-line)*	AE102
~~*Procedure Not Followed Correctly*~~ *Combined with AE102*	~~AE103~~
Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System *(added "/Vessel or System" to tag-line)*	AE104
Breakdown in Visual Scan or Instrument Cross-check *(added "or Instrument Cross-check" to tag-line)*	AE105
Rushed or Delayed a Necessary Action *(no change)*	AE107
Misinterpreted/Misread Instrument *(new code – formerly PC505)*	AE108

AE101 Unintended Activation or Deactivation: is when an individual's movements inadvertently activated or deactivated equipment, controls, switches, weapons systems, etc., when there is no intent to do so and resulted in the near-miss or mishap.

This action may be noticed or unnoticed by the individual at the time of occurrence. The error may be the result of one of more individual physical or mental conditions, crew/team influence, supervisory/leader influence, or a flaw in workspace or materiel design.

AE102 Procedure or Checklist Not Followed Correctly: is when the mishap individual did not follow correct procedure which resulted in the near-miss or mishap. (Examples include: failed to execute proper sequence, learned maneuver or proper emergency procedures; failed to follow a published checklist, Technical Manual (TM), or Standard Operating Procedure (SOP) to perform an inspection or maintenance of aircraft/vehicle/vessel/equipment, etc.) The error results from one or more preconditions, supervisory influence and/or ineffective training.

AE104 Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System: is when the mishap individual(s) inappropriately reacted to conditions by either over- or under-controlling the aircraft/vehicle/vessel/system, which resulted in the near-miss or mishap. (Examples include: applying too much or too little pressure, oversteering/understeering, improper braking, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

AE105 Breakdown in Visual Scan or Instrument Cross-check: is when the mishap individual did not effectively execute learned/practiced internal or external visual scan patterns, which resulted in the near-miss or mishap. The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

AE107 Rushed or Delayed a Necessary Action: is when the mishap individual took the correct action(s) as dictated by the situation but performed the action(s) either too quickly or too slowly, which resulted in the near-miss or mishap. (Examples include: actuated a brake or device too soon or too late, etc.) The error results from one or more preconditions and/or supervisory influence and/or ineffective training.

~~**AE103 Procedure Not Followed Correctly**~~ (Combined with AE102 and archived. *(The HFWG elected to combine this with AE102 since a checklist is a documented procedure.)*

NEW CODE - AE108 Misinterpreted/Misread Instrument: is when the individual misread, misinterpreted, or failed to recognize the significance of an accurate instrument reading, resulting in the near miss or mishap. This may be associated with ineffective training, supervisory influences, environmental factors, or other individual preconditions. *(Formerly PC505)*

Question A4: *Was the error a Judgment and Decision-Making Error? (If yes - choose the most applicable error code, then move on to identify the associated preconditions to the individual's unsafe act. If no- go to A5)*

JUDGMENT AND DECISION-MAKING ERRORS (AE200): are when the individual pursued an inappropriate course of action after intentionally or unintentionally failing to accurately assess a situation, which resulted in a near miss or mishap.

The error is an unknown deviation of a policy or procedure during the performance of diagnostic or problem-solving tasks that require conscious effort. These may be the result of individual conditions, crew/team influence, leader/supervisor influence, ineffective training, and/or other organizational influences.

JUDGMENT & DECISION-MAKING ERRORS *(no change)*		AE200 (Bin)
Inadequate Real-Time Risk Assessment/Action	*(added "/Action")*	AE201
Ineffective Task Prioritization	*(changed – was "Failure to Prioritize Tasks Adequately")*	AE202
Ignored a Caution/Warning	*(no change)*	AE205
~~Wrong Choice of Action During an Operation~~	*(combined with AE201)*	~~AE206~~
Misjudged/Misperceived Changing Environment	*(new code – formerly PC504)*	AE207

AE201 Inadequate Real-Time Risk Assessment/Action: is when the mishap individual, through inexperience, faulty logic, poor judgment, or insufficient information, selected or proceeded with the wrong course of action based on an ineffective real-time assessment of immediate hazards during execution of a task/mission/activity, which resulted in the near-miss or mishap. (Examples include: Made an incorrect decision or action regarding immediate hazardous conditions, objects or situation; misjudged speed, distance, degree of angle or time; drove too fast for conditions, misjudged changes in surrounding environment; attempted task without needed or required assistance; omitted use of PPE or safety devices; used PPE or safety devices improperly; pulled or pushed improperly; mounted or dismounted a vehicle, equipment, obstacle or platform improperly, etc.)

This faulty reasoning or erroneous expectation is the result of any one or a combination of: physical or mental conditions of the individual, environmental conditions, crew/team influence, supervisory influence and/or ineffective training.

AE202 Ineffective Task Prioritization: is when the mishap individual did not effectively organize and accomplish the tasks required to manage a situation, which resulted in the near-miss or mishap.

AE205 Ignored a Caution/Warning: is when the mishap individual disregarded an accurately perceived and understood caution or warning in favor of addressing what they perceive to be a greater immediate threat, which resulted in the near-miss or mishap. (Examples include: a sign, signal, guard, audible alarm, flashing light, verbal communication, etc.) The error may be a result of competing inputs/priorities, preconditions of the individual, the operating environment, crew/team influence, leader/supervisor influence or ineffective training.

~~**AE206 Wrong Choice of Action During an Operation:**~~ (Combined with AE201 and archived*) (The HFWG elected to combine this code with AE201 as these two codes often create confusion and spirited debate with SIBs, SMEs and students. By combining these two codes, it benefits both the end user and inter-rater reliability.)*

NEW CODE - AE207 Misjudged/Misperceived Changing Environment: is when an individual misperceived or misjudged altitude, separation, clearance, speed, closure rate, road or sea conditions, aircraft/vehicle location within the performance envelope or other operational conditions, which resulted in a near miss or mishap. (Operating a ground motor vehicle, boat, or aircraft during day or night, etc.) This may be the result of individual conditions, environmental factors, ineffective training, and/or supervisory/leader influences. *(Formerly PC504)*

***Question A5*:** Was the act a "Known Deviation"? *(If yes - choose the most applicable code, then move onto identify the associated preconditions to the individual's unsafe act.)*

If the individual's act was determined to be a known deviation, the investigating safety person or SIB must select only one of the three codes below that best corresponds with the identified act.

KNOWN DEVIATIONS (AD000): Are known, intended and deliberate deviations from known standards, rules, regulations, instructions, or procedures by the mishap operator/aviator/worker. These codes only apply when the negative outcome (near-miss or mishap) was unintended.

Known deviations may be the result of faulty logic in assessing risk, systemic undisciplined behavior that may or *may* not be condoned by supervisors/leaders or solely individual indiscipline. These conscious deviations include but are not limited to: knowingly taking shortcuts, operating beyond established speeds and/or safe distances, choosing to not use safety devices/PPE/restraints, operating beyond a safe degree of angle, center of gravity or attitude, etc.

KNOWN DEVIATIONS *(changed – was "Violations". Also changed code from AV to AD)*	AD000 (Bin)
Performed Known Deviation (Work-Around) *(changed – was "Performs Work-Around Violation")*	AD001
Commits Widespread/Routine Known Deviation (Normalization of Deviance) *(changed - was "Commits Widespread/Routine Violation")*	AD002
Extreme Lack of Discipline (Indiscipline) *(changed - was "Extreme Violation – Lack of Discipline")*	AD003

AD001 Performed Known Deviation (Work-Around): is when the mishap individual disregarded published policy/guidance/procedure in order to pursue what he/she believed to be the best course of action based on available information to make a real-time risk decision, which resulted in the near-miss or mishap. (Examples include: chose to drive/operate outside published limits, by-pass safety procedures, not use available PPE, etc.)

These deviations may have been well intended however, they disregarded established policies and safe work practices. The "shortcut" may be due to lack of resources (funding, personnel, tools, equipment, etc.), operational tempo (OPTEMPO), a lack of knowledge, or a lack of detail in guidance from supervisors/leaders.

Work-around solutions and unofficial procedures that are accepted by leaders/supervisors within a community and considered necessary for certain operations are also captured under this code.

AD002 Commits Routine/Widespread Known Deviation (Normalization of Deviance): is when the mishap individual violated a published standard, procedure or policy based on unofficial accepted practices of the unit or community that are routine, ongoing or widespread and resulted in the near-miss or mishap.

These chronic "bending" of the rules may or may not have leadership sanction yet have not routinely resulted in disciplinary/administrative action (culturally accepted) creating a normalization of deviance.

AD003 Extreme Lack of Discipline (Indiscipline): is when an individual was trained to standard, knows the standard, but elected not to follow the standard without cause or need, which resulted in a near-miss or mishap.

Question P1: Why did the individual or team commit the unsafe act(s)?

PRECONDITIONS TO UNSAFE ACTS (ACTIVE OR LATENT FAILURES)

Preconditions are evidence supported conditions in a mishap if active and/or latent conditions of the individual, the operating environment, or team communications affected the performance or actions of the mishap individual and resulted in unsafe acts/active failures.

These preconditions stem from either individual lifestyle behaviors, supervisor/leader influences, organizational level influences in training, resource support, policy/standards or a combination thereof. Such conditions include the mishap individual's physical, mental or cognitive conditions, and his or her interactions with the technological and/or the physical environment. Therefore, **at least one precondition will accompany each unsafe act.**

Question P2: Did a mental awareness condition of the mishap individual influence the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

MENTAL AWARENESS CONDITIONS (PC100): are when the mishap individual experienced a failure in attention management which negatively affected the mishap individual's perception and/or performance and resulted in a hazardous condition or unsafe act.

MENTAL AWARENESS CONDITIONS *"CONDITIONS")*	*(added*	PC100 (Bin)
Inattention	*(changed – was "Not Paying attention")*	PC101
Fixation (Channelized Attention)	*(changed – added "Channelized Attention")*	PC102

Task Saturation	*(changed – was "Task over-saturation/under-saturation")*	PC103
Confusion	*(no change)*	PC104
Negative Habit Transfer	*(no change)*	PC105
Distraction/Interruption	*(changed – added "Interruption")*	PC106
Geographically Lost	*(changed – added "Channelized Attention")*	PC107
~~*Interference/Interruption*~~	*(combined with PC106)*	~~PC108~~
	Moved to new bin for "Training Preconditions" and recoded as PT102	~~PC109~~
Change Blindness/Inaccurate Expectation	*(changed – was "Inaccurate Expectation")*	PC110

PC101 Inattention: is when the mishap individual did not maintain a state of readiness or alertness/situational awareness to properly act upon available information, resulting in a hazardous condition or unsafe act. This may have been due to boredom, self-confidence, over-reliance on automation, high experience levels, executing highly repetitive tasks where the mishap individual was on "auto-pilot", or a false sense of security or a perceived absence of threat from the environment (sheer lack of attention/awareness of risk).

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

PC102 Fixation (Channelized Attention): is when the individual focused all conscious attention on a limited number of environmental cues to the exclusion of others, which resulted in a hazardous condition or unsafe act. This may be described as a tight focus of attention that led to the exclusion of comprehensive situational information.

NOTE: If the fixation was the result of a task saturation, then use PC103.

PC103 Task Saturation: is when the quantity of information an individual was processing exceeded his or her mental resources in the amount of time available and resulted in a hazardous condition or unsafe act. In other words, there is simply too much to accomplish with not enough time or resources. The task loading could be real or imagined, but results in performance and/or judgment and decision-making errors.

PC104 Confusion: is when the mishap individual was unable to maintain a cohesive, orderly awareness of events and required actions and experienced a state characterized by a lack of understanding, clear thinking or sometimes a misperception of the situation, which resulted in the hazardous condition or unsafe act.

PC105 Negative Habit Transfer: is when the individual reverted to a highly learned behavior used in a previous system or situation and that was inappropriate for current task demands, resulting in a hazardous condition or in unsafe act.

PC106 Distraction/Interruption: is when the individual had an interruption of attention or inappropriate redirection of attention by either an environmental cue, technology, a mental process, or other human influence, which resulted in a hazardous condition or unsafe act. This may include a momentary interruption which resulted in a subsequent failure to complete the original task or resulted in skipping steps in the original task.

PC107 Geographically Lost: is when the individual was at a different location from where the individual believed he or she was.

~~**PC108 Interference/Interruption**~~ (Combined with PC106 and archived) *(The HFWG combined this with PC106 as both definitions referred to "distraction".)*

~~**PC109 Technical or Procedural Knowledge Not Retained after Training:**~~ *(Moved to new bin created for "Training Preconditions" and recoded as PT102)*

PC110 Change Blindness/Inaccurate Expectation: is when an individual's expectations contributed to not perceiving the change or to false interpretation of perceived stimuli. The stimulus would be easily noticed by the individual if he/she were directed to the change/reality. This is a universal limitation of human attention.

NOTE: This code should be used in place of PC101 (inattention) if the safety investigator believes the lack of attention involved a limitation on the ability to perceive the stimulus/change.

Question P3: Did the mishap person(s) state of mind influence the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

STATE OF MIND CONDITIONS (PC200): are when psychosocial problems, life stressors, personality traits, or misplaced motivation of the mishap individual created a hazardous condition or unsafe acts.

NOTE: When using PC200 codes, ensure you consult with a qualified medical professional.

STATE OF MIND CONDITIONS *(added "CONDITIONS")*		PC200 (Bin)
Psychological Disorder	*(changed – was "Psychological Problem")*	PC202
Life Stressors/Emotional State	*(changed – added "Emotional State")*	PC203
~~Emotional State~~	combined with PC203	~~PC204~~
Personality Style	*(no change)*	PC205
Overconfidence	*(no change)*	PC206
~~Pressing~~	combined with PC209	~~PC207~~
~~Complacency~~	combined with PC101	~~PC208~~
Pressing, Haste, Motivation	*(changed – was "Motivation")*	PC209
~~Mentally Exhausted (Burnout):~~	combined with PC203	~~PC215~~

PC202 Psychological Disorder: is when the individual has met criteria for a diagnosable psychiatric disorder by a competent medical professional which, in the medical professional's opinion, resulted in a hazardous condition or unsafe act. This may or may not have been diagnosed prior to the mishap.

PC203 Life Stressors/Emotional State: is when the individual's emotional state and/or life circumstances led to burnout or otherwise degrade performance, which resulted in a hazardous condition or unsafe act. This can occur when one feels overwhelmed, emotionally drained, and/or unable to meet constant demands, which impinge on performance. (Examples include: wearying effects of work, training, relationships, economic or legal stressors, housing difficulties, upcoming/recent change of station, new baby, family or personal medical issues, or a combination of circumstances, etc.).

NOTE 1: This may be associated with PC307- Fatigue and/or other preconditions.

NOTE 2: This code rarely is selected as a stand-alone and should be paired with other precondition, supervisory or organizational code(s).

~~**PC204 Emotional State:**~~ (Combined with PC203 and archived) *(Based on feedback from Psychologists, the HFWG elected to combine this with PC203 as there are similarities to "life stressors")*

PC205 Personality Style: is when evidence strongly indicates the individual's personal interaction with other personalities created a hazardous condition or unsafe act. Examples range from over-conservative, authoritarian, overly aggressive, persuasive, impulsive, invulnerable, submissive, passive/non-assertive, or other personality traits that result in degraded performance. For this code to be selected, there must be strong evidence that the individual's personality traits are longstanding and pervasive, and fall outside of the "reasonable person" concept for similar individuals doing similar tasks/missions.

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

PC206 Overconfidence: is when the individual unreasonably overvalued or overestimated his or her own capability, the capability of others or the capability of aircraft/vehicle/vessel or equipment, which resulted in hazardous conditions or unsafe act. For this to be selected, there must be strong evidence the individual acted in a manner inconsistent with the "reasonable person concept" (this individual's overestimation is above and beyond what a reasonable person in a similar situation would have been expected to do).

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

~~**PC207 Pressing**~~ (combined with PC209 and archived) *(The 7.0 HFWG combined PC209, PC210, PC211 and PC212 from 6.02 to create this code in February 2014. This HFWG combined this code with PC209 as the two are closely related.)*

~~**PC208 Complacency:**~~ (combined with PC101 and archived) *(This HFWG combined this code with PC101 as the two are closely related.)*

PC209 Pressing, Haste, Motivation: is when the individual's motivation to complete a task/mission was misplaced, and/or the individual knowingly pressed him or herself and/or equipment beyond reasonable capabilities, which resulted in a hazardous condition or unsafe act. This also includes excessive or weak motivation when either the weak or excessive motivation to succeed disregarded mission needs or superseded the goals of the unit (e.g., rushed to complete a task, mission or reach a destination; or demonstrated a weak/excessive motivation that increased risk to self and/or team.). This precondition may be the result of internal or external pressures or influences on the individual. *(PC207 was combined with this code)*

NOTE: This code rarely is selected as a stand-alone and should be paired with either another precondition, supervisory or organizational code(s).

~~**PC215 Mentally Exhausted (Burnout):**~~ (combined with PC203 and archived) *(Based on feedback from Psychologists, the HFWG elected to combine this with PC203 as there are similarities to "life stressors")*

Question P4: Did the mishap person have a physical condition that negatively affected performance and influenced the unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

ADVERSE PHYSIOLOGICAL CONDITIONS (PC300): Are when an individual experienced a physiologic condition that compromised performance *and resulted in* a hazardous condition or unsafe acts.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

ADVERSE PHYSIOLOGICAL CONDITIONS *(changed – was "PHYSICAL AND MENTAL STATE")*		PC300 (bin)
Effects of Gravitational Forces (G-LOC)	*(Code re-instated from v6.02)*	PC301
Substance Effects (supplements, medications, drugs, alcohol)	*(no change)*	PC302
Loss of Consciousness (sudden or prolonged onset)	*(no change)*	PC304
Physical Illness/Injury	*(no change)*	PC305
Physical Overexertion	*(Code re-instated from v6.02)*	PC306
Fatigue	*(no change)*	PC307
Acute Trapped Gas Disorders	*(changed – added "Acute")*	PC310
Decompression Sickness (Evolved Gas Disorder)	*(changed – was "Evolved Gas Disorder")*	PC311
Respiratory Physiological Event	*(changed tagline and definition - yet same meaning)*	PC312
Inadequate Adaptation to Darkness	*(no change)*	PC314
~~Dehydration~~	combined with PC305	~~PC315~~
Anthropometric/Biomechanical Limitations	*(changed – was "Body Size/Movement Limitations")*	PC317
~~Physical Strength & Coordination (inappropriate for task demands):~~	combined with PC317	~~PC318~~
Nutrition/Diet	*(no change)*	PC319
Loss of Capacity (Surprise/Startle Response)	*(New Code)*	PC320
Spatial Disorientation	*(New Code)*	PC321

Re-Instated CODE - PC301 Effects of Gravitational Forces (G-LOC): Is when, in aviation, the individual experienced G-induced loss of consciousness (G-LOC), grey-out, blackout or other neuro-circulatory effects of sustained acceleration forces. *(re-instated from version 6.02)*

PC302 Substance Effects (supplements, medications, drugs, alcohol): is when the use of authorized or unauthorized substances (medications, supplements, energy enhancing products, alcohol, illegal drugs, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC304 Loss of Consciousness (sudden or prolonged onset): is when the individual experienced a loss of consciousness/functional capacity for a few seconds or prolonged and resulted in degraded performance. Causes include low oxygen atmosphere, trauma, shallow water blackout, or any other cause resulting from activities that were directed, supervised or self-initiated. (NOT GLOC - see PC301)

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC305 Physical Illness/Injury: is when pre-existing or operationally-related medical conditions (illness, injury, dehydration, motion sickness, trauma, seizure, toxic chemical exposure, etc.) negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE 1: Do not use this code to capture injury or illness that does not cause a hazardous condition or an unsafe act.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

Re-Instated CODE - PC306 Physical Overexertion: is when the individual's diminished physical capability caused by overuse (time/relative load) resulted in a hazardous condition or unsafe act. The effects of prolonged physical activity, or the effects of brief but relatively extreme physical activity, either of which depletes a person's physical endurance or strength beyond the individual's normal limits and degrades performance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified medical professionals. *(re-instated from version 6.02)*

PC307 Fatigue: is when acute or chronic sleep deprivation or circadian rhythm disruption (shift work/lag, extended duty periods, jet lag, poor sleeping conditions, etc.) negatively affected physical and/or mental performance and resulted in a hazardous condition or unsafe act.

NOTE 1: Fatigue should be quantified by determining the mishap individual's number of hours awake vs sleep and activity in the past 72 hours leading up to the mishap. Also determine if the fatigue was either self-induced or operationally induced.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC310 Acute Trapped Gas Disorders: is when gasses in the middle ear, sinuses, teeth or gastrointestinal system negatively affected performance and resulted in a hazardous condition or unsafe act.

NOTE 1: If alternobaric vertigo induced spatial disorientation you must also include PC321.

NOTE 2: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC311 Decompression Sickness (Evolved Gas Disorder): is when evolved gases negatively affected performance, resulting in a hazardous condition or unsafe act. (Examples include: bends, chokes, central nervous system manifestations, paresthesia, etc.)

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC312 Respiratory Physiological Event: is when hindered/inappropriate respiration or pressure/flow/concentration of oxygen created respiratory physiological symptoms which negatively affected performance resulting in a hazardous condition or unsafe act.

This can be caused by external forces and/or internal metabolic functions. Use this code to capture symptoms developed due to hyper/hypoxia, hyper/hypoventilation, and other metabolic conditions which result in a disruption of metabolic balance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

PC314 Inadequate Adaptation to Darkness: is when dark-adaptation was either not fully completed or was washed out, negatively affected the individual's performance, and resulted in a hazardous condition or unsafe act.

NOTE 1: This code rarely is selected as a stand-alone and should be paired with another precondition, supervisory or organizational code(s).

NOTE 2: If the ineffective adaptation to darkness was related to lights of a vehicle/vessel/aircraft, consider applicability of PE109 in addition to this code.

~~**PC315 Dehydration:**~~ (combined with PC305 and archived) *(Based on feedback from Physiologists, the HFWG elected to combine this with PC305 as this is strongly related to "Physical Illness/Injury")*

PC317 Anthropometric/Biomechanical Limitations: is when the individual's size, strength, dexterity, coordination, endurance, or other physical factors negatively affected performance, which resulted in a hazardous condition or unsafe act.

~~**PC318 Physical Strength & Coordination (inappropriate for task demands):**~~ (combined with PC317 and archived) *(Based on feedback from Physiologists, the HFWG elected to combine this with PC317 as this is strongly related to "Anthropometric/Biomechanical Limitations")*

PC319 Nutrition/Diet: is when evidence supports that the individual's nutritional state negatively affected performance.

NOTE: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

NEW CODE- PC320 Loss of Capacity (Surprise/Startle Response): is when uncontrollable, automatic physical response of muscle reflex, raised heart rate, suddenly dropped blood pressure, etc. was elicited by exposure to a sudden, intense event that contradicts an individual's expectations resulting in a hazardous condition or unsafe act. This response can affect the physical and mental processes normally used to effectively respond to the event/emergency. *(Formerly PC511)*

NEW CODE- PC321 Spatial Disorientation: is when the individual failed to sense correctly a position, motion, or attitude of the aircraft or his/herself within the fixed coordinate system provided by the surface of the earth and the gravitational vertical position (e.g., visual, vestibular, kinesthetic, or auditory/sound illusions), which resulted in a misjudgment and unsafe act. *(Formerly PC508 combined with PC501, PC502, PC503 and PC507)*

NOTE 1: This may be the result of other individual preconditions, environmental factors, ineffective training, and/or supervisory/leader influences.

NOTE 2: Do not use this code if the disorientation is the result of substance effects; use PC302.

NOTE 3: When using any of the PC300 codes, ensure you give strong consideration to consulting with qualified professionals who specialize in the areas of physiology, as defined by your service.

SENSORY MISPERCEPTION CONDITIONS (PC500): This bin has been archived as all codes have been consolidated into other codes or moved to other bins.

SENSORY MISPERCEPTION CONDITIONS *(changed – added "CONDITIONS")*		PC500 (bin)
~~*Motion Illusion*~~	*(combined with PC508 and recoded as PC321)*	~~PC501~~
~~*Turning/Balance Illusion*~~	*(combined with PC508 and recoded as PC321)*	~~PC502~~
~~*Visual Illusion*~~	*(combined with PC508 and recoded as PC321)*	~~PC503~~
~~*Misperception of Changing Environment*~~	*(moved and recoded as AE207)*	~~PC504~~
~~*Misinterpreted/Misread Instrument:*~~	*(moved and recoded as AE108)*	~~PC505~~
~~*Misinterpretation of Auditory/Sound Cues*~~	*(combined with PC508 and recoded as PC321)*	~~PC507~~
Spatial Disorientation	*(moved and recoded as PC321)*	~~PC508~~
~~*Temporal/Time Distortion*~~	*(moved and recoded as PC320)*	~~PC511~~

~~**PC501 Motion Illusion:**~~ (combined with PC508 and recoded as PC321)

~~**PC502 Turning/Balance Illusion – Vestibular:**~~ (combined with PC508 and recoded as PC321)

~~**PC503 Visual Illusion:**~~ (combined with PC508 and recoded as PC321)

~~**PC504 Misperception of Changing Environment:**~~ (Moved to Unsafe Acts and recoded as AE207)

~~**PC505 Misinterpreted/Misread Instrument**~~**:** (Moved to Unsafe Acts and recoded as AE108)

~~**PC507 Misinterpretation of Auditory/Sound Cues:**~~ (combined with PC508 and recoded as PC321)

~~**PC508 Spatial Disorientation:**~~ (Moved and recoded as PC321)

~~**PC511 Temporal/Time Distortion:**~~ (Moved and recoded as PC320)

Question P5: Did conditions of the operational environment affect the actions of the mishap individual or team? *(If yes for go to question P6. If no, go to question P8.)*

Environmental Conditions (PExxx): Are conditions in a mishap that include both the physical and/or the technological environment where the safety investigator determined environmental conditions affected practices, conditions and/or performance of the mishap individual or team.

Question P6: Did conditions of the physical environment affect the actions of the mishap individual or team? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

PHYSICAL ENVIRONMENT (PE100): Are conditions related to the immediate physical surroundings which negatively affected individual performance, resulting in unsafe acts.

These are conditions such as terrain surfaces, physical obstructions, noise, illumination, glare, air contaminants (e.g., gases, fumes, vapors, particulates), low oxygen, vibrations, radiation, wildlife, insects, and meteorological conditions (e.g., precipitation, temperature, humidity, pressure, wind, electromagnetic effects and lightning.)

PHYSICAL ENVIRONMENT *(no change)*	PE100 (bin)
Environmental Conditions Affected Vision *(no change)*	PE101
Vibration Affected Performance *(changed – was "Vibration Affects Vision or Balance")*	PE103
Temperature Affected Performance *(changed – was "Heat/Cold Stress Impairs Performance")*	PE106
External Force or Object Impeded Performance *(changed – replaced "individual's movement" with "performance")*	PE108
External Lighting of Vehicle/Aircraft/Vessel/Object Affected Vision *(changed – was "Lights of Other Vehicle/Vessel/Aircraft Affected Vision")*	PE109
Noise Interference *(no change)*	PE110
Terrain Feature Affected Performance *(new code)*	PE112
Animal or Non-DoD affiliated human *(new code)*	PC113

PE101 Environmental Conditions Affected Vision: is when conditions such as lighting/illumination, physical obstructions, rain, snow, spray, fog, haze, darkness, smoke, dust, sand, other particulates, etc., impeded clear viewing/vision, negatively affected performance, and resulted in hazardous conditions or unsafe acts.

PE103 Vibration Affected Performance: is when the intensity and/or duration of vibrations from an engine, equipment, tools, airframe, rotor, and/or propeller negatively affected vision, balance, and/or performance, and resulted in hazardous conditions or unsafe acts.

PE106 Temperature Affected Performance: is when the ambient/workspace temperature negatively affected performance and resulted in hazardous conditions or unsafe act.

NOTE: If this code is selected, consider if PC305 is applicable.

PE108 External Force or Object Impeded Performance: is when accelerative forces, wind, sea-state, objects, aircraft/vehicle/vessel structures, etc. impeded individual movement and resulted in hazardous conditions or unsafe acts.

NOTE: Use PC304 to code GLOC.

PE109 External Lighting of Vehicle/Aircraft/Vessel/Object Affected Vision: is when the intensity, position, pattern, color, and/or absence of the lighting of other aircraft, vehicles, vessels, or objects negatively affected performance and resulted in hazardous conditions or unsafe acts.

NOTE: This code may be paired with either another precondition, supervisory or organizational code(s).

PE110 Noise Interference: is when an unexpected sound not directly related to information needed for a task (bang, explosion, shout, alarm, machine noise, etc.) negatively affected performance and resulted in hazardous conditions or unsafe acts.

NEW CODE- PE112 Terrain Feature Affected Performance: is when known yet unanticipated or unseen/unknown terrain hazards were encountered, which negatively affected performance and resulted in hazardous conditions or unsafe acts. (Uneven surfaces, loose gravel or rock, sand, soft shoulders, pooled water, black-ice, pot-hole, drop-off, dense vegetation, deep mud, etc.)

NEW CODE- PE113 Animal or Non-DoD affiliated Human: is when the actions of a non-DoD affiliated civilian or an animal resulted in a reportable/recordable DoD mishap IAW DoDI 6055.07. (Examples include: Commercial conveyance during an official duty status where DoD personnel are not in control of the operation; contractor caused mishaps that result in a DoD reportable injury or damage; motor vehicle mishaps were a non-DoD affiliated driver runs a red-light, crosses centerline or fails to brake; where an animal or human runs into the path of travel, etc.)

Question P7: Did the technological environment (workspace design) negatively affect the performance of the mishap individual or team members? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

TECHNOLOGICAL ENVIRONMENT (PE200): Is when workspace design conditions or automation affected the actions of individuals and resulted in a hazardous condition or unsafe acts. This includes ground vehicle systems, aircraft, watercraft/shipboard spaces, control stations, weapons systems, communication systems, maintenance repair systems, etc.

NOTE: This section assesses hazardous conditions of materiel components and the role a materiel design condition played in an individual's actions. If any code in this section is applicable, you must determine which "Organizational Influences" level codes under Resource Problems (OR) and Policy and Processes Issues (OP) apply for the support failures. These hazardous conditions also require reporting to the proper acquisition or materiel support agency in accordance with your respective DoD component's policies.

TECHNOLOGICAL ENVIRONMENT *(no change)*	PE200 (bin)
Restraint System and/or Seat Problems: *(changed – was "Seat and Restraint System Problems")*	PE201
Instrumentation and Warning System Issues *(no change)*	PE202
Workspace Visibility Restrictions (not weather related) *(changed – added "Workspace")*	PE203
Controls and/or Switches *(changed – was "Controls and Switches are inadequate")*	PE204
Automated System Created a Hazardous Condition *(changed – was "Automated System Creates an Unsafe Situation")*	PE205
Workspace Limitations Affected Performance *(changed – was "Workspace Incompatible with Operation")*	PE206
Personal Equipment Interference *(no change)*	PE207
Communication Equipment Ineffective *(changed – replaced "inadequate" with "Ineffective")*	PC208

PE201 Restraint System and/or Seat Problems: is when the design of a restraint system, seat, ejection system, and/or associated comfort element impeded occupant performance or failed to function as intended, which resulted in a hazardous condition or unsafe act.

PE202 Instrumentation and Warning System Issues: is when workspace/cockpit instrument or warning system elements (design, reliability, lighting/backlighting, audible cues, location, symbology, size, display, etc.) negatively affected performance, which resulted in a hazardous condition or unsafe act.

NOTE: This also includes alarm fatigue and/or habituation.

PE203 Workspace Visibility Restrictions (not weather related): is when obstructions from workspace design/layout prevented necessary visibility and negatively affected performance,

resulting in a hazardous condition or unsafe act. This includes physical design, glare, reflections, etc.

NOTE: Visibility restrictions due to weather or other environmental conditions are captured under PE101.

PE204 Controls and/or Switches: is when the location, shape, size, design, reliability, or other aspect of controls and/or switches negatively affected performance and resulted in a hazardous condition or unsafe act.

PE205 Automated System Created a Hazardous Condition: is when the design, function, reliability, symbology, logic or other aspects of automated systems negatively affected performance, which resulted in a hazardous condition or unsafe act. This includes designs of tooling machines, ship or aircraft components, etc.

NOTE: Use PE202 if alarm fatigue and/or habituation was the condition.

PE206 Workspace Limitations Affected Performance: is when conditions of a workspace configuration/design negatively affected performance, which resulted in a hazardous condition or unsafe act.

PE207 Personal Equipment Interference: is when the individual's personal equipment negatively affected performance and resulted in a hazardous condition or unsafe act. This includes body armor, harness, other PPE, night vision devices (NVDs), weapons, etc.

PE208 Communication Equipment Ineffective: is when a communication system's (voice, data, multi-sensory) limitations and/or malfunctions negatively affected performance and resulted in a hazardous condition or unsafe act.

Question P8: Did communication practices, conditions, or actions of team members contribute to the individual's unsafe act? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

TEAM COORDINATION/COMMUNICATION CONDITION (PP100): refers to verbal or non-verbal interactions among crews/teams involved with the preparation and/or execution of a task/mission, which resulted in hazardous conditions or unsafe acts. This includes failures with communication between members of aircraft, tactical vehicles, ground guides, boat or ship, stevedore/long shoring, or any other crew/team communication failures.

TEAM COORDINATION/COMMUNICATION CONDITIONS *(changed – was "TEAMWORK")*	PP100 (bin)
Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance) *(changed – was "Failure of Crew/Team Leadership")*	PP101
~~*Inadequate Task Delegation:*~~ *(Combined with PP101)*	~~PP103~~
~~*Rank/Position Intimidation:*~~ *(Combined with PP101)*	~~PP104~~
~~*Lack of Assertiveness*~~ *(Combined with PC205)*	~~PP105~~
~~*Critical Information Not Communicated*~~ *(Combined with PP101)*	~~PP106~~
~~*Standard/Proper Terminology Not Used*~~ *(Combined with PP101)*	~~PP107~~
~~*Failed to Effectively Communicate*~~ *(Combined with PP101)*	~~PP108~~
Task/Mission Planning and/or Briefing Inadequate *(no change)*	PP109
Task/Mission-In-Progress Re-Planning *(re-instated code from v6.02)*	PP111

PP101 Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance, etc.): is when crew/team members failed to actively maintain an accurate and shared understanding of the evolving task, or manage their distribution of tasks, which resulted in a hazardous condition or unsafe act. This includes communication breakdowns (e.g., standardized terms, phrases, hand signals or language/lexicon barriers), critical information not shared, rank/position intimidation, lack of assertiveness or other teamwork functions.

~~**PP103 Inadequate Task Delegation: (**~~combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

~~**PP104 Rank/Position Intimidation:** ~~(combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

~~**PP105 Lack of Assertiveness:** ~~(combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

~~**PP106 Critical Information Not Communicated:** ~~(combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

~~**PP107 Standard/Proper Terminology Not Used:** ~~(combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

~~**PP108 Failed to Effectively Communicate:** ~~(combined with PP101 and archived) *(The HFWG elected to combine this with PP101 as it is a function of TRM/CRM)*

PP109 Task/Mission Planning and/or Briefing Inadequate: is when an individual, crew or team failed to complete all preparatory tasks associated with planning the mission and/or effective briefing the tasks, which resulted in a hazardous condition or unsafe act. Planning tasks include information collection and analysis, coordinating activities within the crew or team and with appropriate external agencies, risk assessment followed by the pre-mission/task safety briefing.

NOTE: You will need to review SP100 codes to determine if the individual's or team's failure was secondary to higher level planning and briefing flaws.

Re-instated original code from v6.02 - PP111 Task/Mission-In-Progress Re-Planning: is when crew or team members failed to adequately reassess changes in their dynamic environment during mission execution and change their mission plan accordingly to ensure adequate management of risk, which resulted in a hazardous condition or unsafe act.

NEW - Question P9: Was the mishap individual's action the result of being untrained, inexperienced, not current or unable to remember the process? *(If yes, determine which code(s) is/are the most appropriate to support the unsafe act.)*

NEW BIN- TRAINING CONDITIONS (PT100): is when formal or informal instruction, skill development or knowledge limit the individual's capability, capacity or performance resulting in an unsafe act.

TRAINING *(new Bin)*		PT100 (bin)
Untrained Operator/Worker	*(new code)*	PT101
Knowledge Retention	*(moved from PC109)*	PT102
Lack of Currency	*(new code)*	PT103
Lack of Proficiency/Experience	*(new code)*	PT104

Lack of Job/Work Related Safety Training	*(new code)*	PT105

NEW CODE- PT101 Untrained Operator/Worker: is when the mishap individual did not receive adequate/sufficient training (formal, just-in-time, on the job, etc.) or received no training for a specific task, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of supervisory codes SI003, SI008, SI009, SP006, SC003 or SD003 and organizational formal training program OP004.

NEW (moved from PC109) - PT102 Knowledge Retention: is when the mishap person did not remember information from training and/or previous experience necessary to complete a task safely, which resulted in a hazardous condition or unsafe act. This may be due to flaws in local/unit training or a formal training program or the individual's capacity to learn and retain information. *(Formerly PC109)*

NOTE 1: Exposure to information at one point in the past does not imply "knowledge" of it.

NOTE 2: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.

NEW CODE- PT103 Lack of Currency: is when an individual's familiarity with a specific task or process was either not current or was limited by infrequent or rare performance of the task to permit safe execution, which resulted in a hazardous condition or unsafe act.

NOTE 1: The mishap individual was once trained to proficiency to operate a specific system or perform a process, but has not done so in many months or years.

NOTE 2: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.

NEW CODE- PT104 Lack of Proficiency/Experience: is when an individual's level of fluency or expertise did not match skills required for safe execution, regardless of his or her familiarity with the process, task, system or mission, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of appropriate supervisory (SI008, SP006, etc.) and/or organizational level codes.

NEW CODE- PT105 Lack of Job/Work Related Safety Training: is when an individual had not received required or effective safety training related to hazards associated with their daily job or a one-time task, or when there was a change in process or equipment, which resulted in a hazardous condition or unsafe act.

NOTE: Selection of this code requires assessment of appropriate supervisory and/or organizational level codes.

Question S1: Did immediate or long-standing actions or inactions of a supervisor/leader influence any of the preconditions or unsafe acts or any part of the mishap?

(If yes, go to S2, if no, go to O1.)

INEFFECTIVE SUPERVISION/LEADERSHIP (Latent Failures)

This tier of latent failures encapsulates longstanding actions or inactions, methods, or directives of any supervisory/leadership personnel within the unit that created hazardous practices or conditions and resulted in unsafe acts of the mishap individual or team.

This category includes any personnel serving in a leadership/supervisory role ranging from the immediate supervisor to the commanding officer/director, each of which may have influenced subordinate actions or behaviors in the months, weeks, days and/or minutes leading up to the individual's active failure.

Latent failures to an on-duty mishap can often be traced back to a supervisor/leader failing to correct inappropriate behavior, enforce standards, emphasize correct procedures, or provide ineffective planning, risk assessments, provide effective training, guidance, oversight, work or crew pairing assignments, and/or risk decisions during mission execution to prevent individuals from committing unsafe acts.

All personnel in a supervisory and formal leadership position are responsible for ensuring that complacency or deviation from standards and controls are not allowed to threaten success of safety management system or combat readiness.

A commander and his/her subordinate supervisory/leader personnel exercise supervision to maintain situational understanding, to continuously identify and assess any new hazards, and to develop or modify controls as necessary. An extraordinary degree of discipline is needed to avoid complacency from boredom and overconfidence when personnel are performing repetitive tasks. For many reasons, individuals are inclined to neglect controls used for a prolonged period. It is critical to mission success that all personnel assigned to a supervisory or formal leadership role ensure service members/employees monitor factors such as fatigue, equipment serviceability and availability, the operating environment, and the weather.

When choosing codes applicable to these latent failures, investigating safety personnel identify where the leader errors or known deviations reside (e.g., first-line leader/supervisor, 2nd line leader/supervisor, or higher to the Battalion/Squadron/Ship/Installation Commander).

If you previously deduced that supervisory/leader failures influenced the actions or preconditions of the mishap individual and/or team, then determine which unsafe supervision/leader codes best apply to support the identified latent failures. If leadership flaws include multiple first line and/or second line supervisors and/or command leadership, ensure selected codes address each level of failure and support recommendations for corrective actions.

NOTE: 1: Some supervisory/leadership failures may be the result of organizational influences such as resource support failures, OPTEMPO or flaws in policy/standards/guidance or procedures.

NOTE 2: If a supervisor/leader was the mishap person or committed an active failure, then code the supervisor/leader as separate mishap person.

NEW - Question S2: Did supervisory/leadership attitudes, values, or beliefs contribute to creating unnecessary risk or allowed workload to overwhelm personnel and influence the mishap individual's preconditions or unsafe acts(s)? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S3.)*

NEW BIN- INEFFECTIVE UNIT SAFETY CULTURE (SC 100): occurs when the unspoken or unofficial rules, values, attitudes, beliefs, and customs of small unit leaders or their higher organization negatively affected good order and discipline in adherence to established safety standards, initiatives, and practices.

A response of "that is the way things really get done around here" is an indicator. Other issues related to culture include unit justice, psychological contracts, and esprit de corps. All these issues affect attitudes about safety and the value of a safe working environment.

Culture is influenced and different at each level of leadership from the platoon/section up to the commander. Leaders can create a culture of cohesion in which employees have a sense they belong, that they are valued, and that they commit to personal and organizational goals either in a safe manner or overly risky manner. Leaders in small units can also create a culture of high risk and distrust from overemphasis on time versus safe completion of tasks, lack of accountability, training, communication, consistent discipline, etc.

INEFFECTIVE UNIT SAFETY CULTURE *(New Bin)*	SC100 (bin)
Unit Safety Culture *(new code)*	SC101
Pace of OPTEMPO/Workload *(new code)*	SC102

NEW CODE- SC101 Unit Safety Culture: is when the explicit or implicit actions, statements, attitudes, techniques or values of supervisors/leaders facilitated an environment where demands or pressures existed that resulted in hazardous conditions or unsafe acts. (Examples include: mission or time expectations supersede mishap prevention strategies; role-modeling fosters unsafe behaviors, proactive safety initiatives receive minimal support; near-misses, mishaps or adverse events are minimized or considered non-reportable; limited positive recognition for safe performance or reporting hazardous conditions; lessons learned are not shared throughout the entire unit; etc.)

This also includes ineffective facilitation of a constructive climate such as establishing and maintaining an accurate and shared understanding of the evolving task or mission on the part of all personnel.

NOTE 1: This may be localized to a team as small as a section/platoon or company to battalion/squadron or may result from larger organizational influence as defined in OC001.

NOTE 2: When using this code, consider applicability of SD002.

NEW CODE- Pace of OPTEMPO/Workload: is when the pace of primary duties, additional duties, training, deployments, or other workload-inducing conditions of a unit created hazardous conditions or unsafe acts.

Question S3: Did a supervisor/leader knowingly deviate from a known rule, regulation, policy, etc., allowing hazardous conditions or unsafe acts to occur? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act. If no, go to S4.)*

SUPERVISORY KNOWN DEVIATION (SD000): are factors when a supervisor/leader willfully disregarded instructions, guidance, policies, rules or standard operating procedures. This includes failing to enforce standards, allowing unwritten practices to become standard, directing individuals to violate existing rules/regulations and authorizing unqualified personnel for a task.

SUPERVISORY KNOWN DEVIATION *(changed tag line – was "Supervisory Violations"; changed codes – replaced "SV" with "SD")*	SD000 (bin)
Failure to Enforce Published Rules/Guidance *(changed – was Failure to Enforce Existing Rules)*	SD001
Allowed Unwritten Practices to Become Standard (Normalization of Deviance)	SD002

(changed – was "Allowing Unwritten Policies to Become Standard")	
Directed Individual to Circumvent Existing Regulations, Rules, or Procedures *(changed – added "Rules, or Regulations")*	SD003
~~*Authorized Unqualified Individuals for Task*~~ *(combined with SD001)*	~~SV004~~

SD001 Failure to Enforce Published Rules/Guidance: is when a supervisor/leader failed to ensure that personnel adhered to published rules/policy/guidance/procedure or knowingly allowed an untrained, inexperienced, non-proficient or non-current individual to perform a task, which resulted in a hazardous conditions or unsafe acts. (Examples include: a failure to enforce a policy, standard operating procedures or technical guidance in regards to vehicle/watercraft operation, weapons or explosives handling, use of machines or hand tools, etc.; failure to enforce use of PPE such as restraints, eye, face or head protection, hearing protection devices, etc.)

SD002 Allowed Unwritten Practices to Become Standard (Normalization of Deviance): is when a supervisor/leader chronically condoned the use of unwritten/unofficial procedures by subordinates, which resulted in hazardous conditions or unsafe acts.

SD003 Directed Individual to Circumvent Existing Regulations, Rules, or Procedures: is when a leader/supervisor directed a subordinate to circumvent existing standard operating procedures, regulations, instructions, policies, or technical guidance, which resulted in a hazardous condition or unsafe acts. This may be the result of the supervisor's personality, a faulty logic or when the consequences/risk of violating published procedures was recognized and determined by the supervisor/leader to be the best course of action.

~~**SV004 Authorized Unqualified Individuals for Task:**~~ (combined with SD001 and archived)

Question S4: Did a supervisor/leader create hazardous conditions or unsafe acts by failing to provide effective oversight, training, guidance, policy, respond to critical information or inadvertently task inexperienced personnel for a task? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act.)*

INEFFECTIVE SUPERVISION (SI000): is a factor when supervisory/leadership personnel failed to properly identify and assess hazards, mitigate risks, ensure personnel are effectively trained and informed, and/or provide effective guidance and oversight, which resulted in hazardous conditions or unsafe acts.

INEFFECTIVE SUPERVISION *(changed tag line – was "Inadequate Supervision")*	SI000 (bin)
Ineffective Supervisory or Command Oversight *(changed – was "Supervisory/Command Oversight Inadequate")*	SI001
~~Improper Role Modeling~~ combined with SC101	~~SI002~~
Failed to Provide Effective Training *(changed – replaced "proper" with "Effective")*	SI003
Failed to Provide Clear Written Procedure/Guidance/Policy *(changed – was "Failed to Provide Appropriate Policy/Guidance")*	SI004
~~*Personality Conflict with Supervisor*~~ *archived*	~~SI005~~
Lack of Supervisory Responses to Critical Information *(No change)*	SI006
Failed to Identify or Correct Hazardous Practices, Conditions or Guidance *(changed – was "Failed to Identify/Correct Risky or Unsafe Practices")*	SI007
Tasked Individual(s) with Lack of Experience, Currency or Proficiency *(changed – was "Selected Individual with Lack of Proficiency")*	SI008
Rank/Position Intimidation *(new code)*	SI009

SI001 Ineffective Supervisory or Command Oversight: is when the availability, competency, quality or timeliness of supervisor/leader oversight did not meet task or mission demands, which resulted in hazardous conditions or unsafe acts. (Examples include: failure to verify accuracy and completeness of work, conduct pre-combat checks/pre-mission inspections, mismanagement of emerging risks during mission execution, etc.) NOTE: Inappropriate supervisory pressures are also captured under this code.

~~**SI002 Improper Role Modeling:**~~ (combined with SC101 and archived) *(The HFWG elected to combine this code with the new SC101 code as this is indicative of unit culture)*

SI003 Failed to Provide Effective Training: is when supervisors/leaders failed to provide effective training to ensure competency and proficiency of their personnel for a specific task which resulted in a hazardous conditions or unsafe acts. (Examples include: technical procedures for amphibious assault/towing/convoy/flight; ground guiding, weapons handling, maintenance procedures, flight operations, working with hazardous materials, use of PPE, fall-protection, water survival, helicopter rope suspension techniques, combat tactics, techniques and procedures, fire-fighting, operation of specific variant/class of a vehicle/vessels or materiel handling equipment operation, etc.)

NOTE 1: The failure of an individual to absorb the training material in a satisfactory training program does not indicate a training problem (see PT102).

NOTE 2: The failure of an individual to recall learned information under in a high stress environment or while fatigued despite receiving adequate training does not indicate a training problem (see PC100, PC200, and/or PC300 series.)

SI004 Failed to Provide Clear Written Procedure/Guidance/Policy: is when unit level guidance or policy was ineffective, unclear, impractical, or non-existent and resulted in hazardous conditions or unsafe acts. (Examples include: standard operating procedures, job/activity hazard analysis, checklists, hazard communication plan, emergency action plan, leave or liberty/pass policies, letter of instruction, operational orders, fragmentary order (FRAGO), concept of operations, etc.)

~~**SI005 Personality Conflict with Supervisor:**~~ (archived) *(The HFWG elected to delete this as it is focused on individuals instead of departmental/unit issues that a commander can correct.)*

SI006 Lack of Supervisory Responses to Critical Information: is when an individual or crew provided critical information regarding a potential safety issue of the operating environment, equipment, or personnel to supervisory/leadership personnel, who failed to act/close the loop, which resulted in a hazardous conditions or unsafe acts.

SI007 Failed to Identify or Correct Hazardous Practices, Conditions or Guidance: is when any supervisor/leader in the unit failed to identify or correct known hazardous conditions of equipment, facilities, or written procedures/guidance, or correct unsafe work practices of personnel within his/her scope, which resulted in hazardous conditions or unsafe acts.

SI008 Tasked Individual(s) with Lack of Experience, Currency or Proficiency: is when a supervisor/leader inadvertently tasked an individual or team whose fluency or expertise did not match skills required for safe execution of the task, system or mission; or whose familiarity with a task or process was either not current or limited by infrequent or rare performance, and resulted

in hazardous conditions or unsafe acts. This may be due to flaws in institutional or local training or a leader's lack of knowledge of his/her personnel.

NOTE: If the supervisor was aware the individual or team's skill levels were inappropriate for the task, then refer to SD003.

NEW CODE- SI009 Rank/Position Intimidation: is when a supervisor/leader caused the task performance capabilities to be degraded by exercising too much or too little of the authority conferred by his or her rank or position. Also, conditions where formal or informal authority gradient is too steep or too flat across a crew/team and this condition degrades collective or individual performance.

Question S5: Was any part of the deliberate risk management processes and/or planning during pre-mission/activity/event planning ineffective or not complete? *(If yes, determine which code(s) is/are the most appropriate to support preconditions or the unsafe act.)*

INEFFECTIVE PLANNING AND COORDINATION (SP000): are factors when unit leadership failed to effectively utilize the troop leading procedures/risk management process to assess hazards and develop effective controls associated with an activity, event, mission or operation, which resulted in unnecessary risk.

Occasionally, the OPTEMPO or schedule is planned such that individuals are put at unacceptable risk, team/crew rest is jeopardized, and ultimately performance is adversely affected. Such planning flaws, though arguably unavoidable during emergency or combat situations, are not acceptable for readiness training or day-to-day operations.

Planning includes the entire risk management process from information collection, consideration of team member knowledge, skills and physical conditions, analysis of environmental hazards, resource support factors, equipment conditions, capabilities of external agencies, and contingency planning. Included in this category are issues of crew/team composition, pre-mission deliberate risk assessments, risk acceptance authority, information resource support, and personnel manning.

INEFFECTIVE PLANNING AND COORDINATION *line – was "Planned Inappropriate Operations")*	*(changed tag*	SP000 (bin)
~~Directed Task Beyond Personnel's Capabilities~~	(combined with SI008)	~~SP001~~
~~Inappropriate Team Composition~~	(combined with SP006)	~~SP002~~
~~Selected Individual with Lack of Current or Limited Experience~~	(combined with SI008)	~~SP003~~
Ineffective Deliberate Risk Assessment *(changed – was "Performed Inadequate Risk Assessment")*		SP006
Authorized Unnecessary Risk	*(changed – was "Authorized Unnecessary Hazard")*	SP007
Ineffective Pre-Mission Planning:	*(New code)*	SP008
Unit Failure to Provide Sufficient Operational Information Resources	*(New code)*	SP009
Unit Failure to Provide Sufficient Manning/Staffing	*(New code)*	SP010
Unit Failure to Provide Sufficient Equipment or Supplies	*(New code)*	SP011

~~**SP001 Directed Task Beyond Personnel's Capabilities:**~~ (combined with SI008 and archived) *(The HFWG elected to combine this code with SI008 which covers and inadvertent or unknowingly tasked an untrained, unqualified or experienced subordinate. This also refers to "proficiency" which is captured in SI008.)*

~~**SP002 Inappropriate Team Composition:** (combined with SP006 and archived)~~ *(The HFWG elected to combine this code with SP006 since it is an element of applying the deliberate RM process during pre-mission/activity planning.)*

~~**SP003 Selected Individual with Lack of Current or Limited Experience:** (combined with SI008 and archived)~~ *(The HFWG elected to combine this code with SI008 which covers and inadvertent or unknowingly tasked an untrained, unqualified or experienced subordinate. This also refers to "experience and proficiency" which is captured in SI008.)*

SP006 Ineffective Deliberate Risk Assessment: is when supervision/leadership did not effectively apply DoD risk management procedures (identify hazards, assess hazards, develop controls, implement controls, supervise and evaluate/assess) during pre-mission/activity/event planning or a job hazard analysis, which resulted in hazardous conditions and/or unsafe acts. This includes assessment of all hazards including crew/team composition (Examples include: Did not have enough trained, licensed, certified or qualified personnel to safely operate the amount of vehicles or equipment available, or not enough personnel with specific occupational specialties required for the task or mission.)

SP007 Authorized Unnecessary Risk: is when a leader with risk acceptance authority unnecessarily authorized a mission, activity, or task, which resulted in hazardous conditions and/or unsafe acts.

NOTE: This code could be considered when the safety investigator concluded the residual risk was accepted at the wrong level as defined by a service's policies.

NEW CODE- SP008 Ineffective Pre-Mission Planning: is when supervision/leadership did not conduct effective pre-mission/activity/event planning, which resulted in hazardous conditions and/or unsafe acts.

NOTE: This is outside of the formal/deliberate risk management process. If there were deficiencies in the risk management process or the deliberate risk assessment, then cite SP006.

NEW CODE- SP009 Unit Failure to Provide Sufficient Operational Information Resources: is when unit/ship or installation level information resources (e.g., maps, graphic depictions, tables, charts, blueprints, weather data, intelligence, traffic, road or terrain conditions etc.) were not made fully available to personnel who executed the mission/task/event and resulted in hazardous conditions and/or unsafe acts.

NEW CODE- SP010 Unit Failure to Provide Sufficient Manning/Staffing: is when unit/ship or installation planning processes failed to meet staffing demands or continuity of operations for ongoing missions and created an unnecessary workload, which resulted in hazardous conditions and/or unsafe acts. This may be the result of competencies, processes, internal policies, higher organizational manning support issues, etc. (Examples include: reduced manning for holidays, contingencies, deployment manning needs, medical asset requirements to support training or events, etc.)

NEW CODE- SP011 Unit Failure to Provide Sufficient Equipment or Supplies: is when unit/ship or installation level leaders failed to ensure personnel executing the mission received all necessary equipment and/or supplies to effectively implement risk control measures which, resulted in hazardous conditions and/or unsafe acts. (Examples include: unnecessarily using

dead-lined equipment, not providing personnel with necessary tools, communications equipment, kits, vehicles, PPE, etc.)

Question O1: Did any organizational conditions/flaws influence either leader/supervisory actions, preconditions, or the unsafe act(s)? *(If yes, go to O2, if no, you are finished.)*

ORGANIZATIONAL INFLUENCES (Latent Failures)

By affecting the practices, condition, or actions of leaders/supervisors and/or operator(s), an organization's communications, actions, omissions, and policies can lead to a mishap or near miss. These latent failures include major command, service and/or DoD level policies, oversight/governance, acquisition processes, resource management, and formal training programs that impact battalion/ship/squadron level or installation commands.

The roots to an on-duty mishap can sometimes be traced back to fallible processes of higher-level organizations that directly affect unit leader/supervisory practices or conditions and actions of operators. These system inadequacies may not be known to upper-level leaders.

Headquarters and supporting organizations generally include O6 and above unit level organizations that fit into each DoD component's strategic planning domains of Doctrine, Organizations, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P).

This tier includes readiness support organizations (Training Commands, Materiel Acquisition, Design and Maintenance Commands, Personnel Support/Human Resources Commands, Recruiting Commands, Doctrine Commands, Installation/Garrison Management Commands, etc.) as well as the direct chain of command of an installation or operating command.

A deep understanding of this relationship allows safety officers, mishap investigators and commanders to proceed beyond the superficial identification of active failures to pinpointing underlying system inadequacies. Developing recommendations that fall within the DOTMLPF-P framework that address these underlying inadequacies in the safety management system serves the ultimate goal of periodic safety inspections and mishap investigations to adopt more effective risk management/mishap prevention/readiness strategies across the services.

Question O2: Did any organizational climate or culture issues influence unit level leader/supervisory actions or preconditions to unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O3.)*

ORGANIZATIONAL CLIMATE/CULTURE (OC000): Are latent failures where the unspoken or unofficial rules, values, attitudes, beliefs, and customs of organizational level leadership negatively affected lower-level working environment or practices resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

ORGANIZATIONAL CLIMATE/CULTURE *(changed tag line – was "CLIMATE/CULTURE INFLUENCES")*	OC000 (bin)
Organizational Culture (attitude/actions) Created Increased Risk: *(changed – was "Organizational Culture (attitude/actions) Allows for Unsafe Task/Mission")*	OC001
Organizational Perceptions of Materiel Resources (Equipment) *(changed – was "Organizational Over-confidence or Under-confidence in Equipment")*	OC003
Mission/Aircraft/Vehicle/Ship/Equipment Change or Unit Deactivation *(no change)*	OC004
Organizational Structure is Unclear or Inadequate *(no change)*	OC005

OC001 Organizational Culture (attitude/actions) Created Increased Risk: is when explicit or implicit actions, statements, attitudes or techniques at an organizational level facilitated an environment where demands or pressures existed, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

OC003 Organizational Perceptions of Materiel Resources (Equipment): is when there was organizational over- or under-confidence in vehicle systems, vessels, aircraft, weapons systems, communication systems or any other materiel, resulting in a hazardous condition or unsafe acts throughout subordinate units or the field/fleet.

OC004 Mission/Aircraft/Vehicle/Ship//Equipment Change or Unit Deactivation: is when the process of changing missions, aircraft/vehicle/ship/equipment or an impending deactivation resulted in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

OC005 Organizational Structure is Unclear or Inadequate: is when the chain of command of subordinate commander(s) or structure of an organization was confusing, non-standard or inadequate, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

NOTE: This is applicable when subordinate leaders are receiving direction from more than one command.

Question O3: Did any organizational policies, procedures, processes or oversight influence actions of unit leaders, supervisors or individual unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, go to O4.)*

ORGANIZATIONAL POLICY, PROCEDURES, OR PROCESS ISSUES (OP000): are latent failures whereby flaws in an organization's safety management system (standards, policies, procedural guidance, doctrine, processes, or governance/program management) negatively influenced leader/supervisory or individual performance.

ORGANIZATIONAL POLICY, PROCEDURES, OR PROCESS ISSUES *(changed tag line – was "POLICY AND PROCESS ISSUES")*	OP000 (bin)
OPTEMPO/Workload: *(changed – removed "Pace of")*	OP001
Organizational Program or Operation not Adequately Assessed *(changed – was "Organizational Program/Policy Risks not Adequately Assessed")*	OP002
Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or *Publications* *(changed – was "Provided Inadequate Procedural Guidance or Publications")*	OP003
Organizational (formal) Training is Inadequate or Unavailable *(Move to "Training Program" and recoded as "OT001")*	~~OP004~~
Flawed Doctrine/Philosophy *(no change)*	OP005
Inadequate Program Management/Governance *(changed – add "/Governance")*	OP006
Purchasing or Providing Poorly Designed or Unsuitable Equipment *(Moved back to OR004 as was under v 6.02)*	~~OP007~~

OP001 OPTEMPO/Workload: is when the workload-inducing conditions on one or more subordinate units/ships created hazardous conditions for unit/ship commanders and supervisors to effectively manage risks during pre-deployment readiness activities (effects on unit level leader's ability to meet pre-deployment training and qualification requirements; family readiness, administrative, medical readiness requirements, etc.), which resulted in hazardous conditions and/or unsafe acts.

OP002 Organizational Program or Operation not Adequately Assessed: is when the potential risks of large programs, contract management, acquisition programs or operations were not assessed adequately, and this inadequacy impacted subordinate level actions.

OP003 Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or Publications: is when written standards (policies, directives, procedural guidance/standard operating procedures, technical manuals, checklists, or publications) for normal or abnormal/emergency conditions are impractical, too vague/unclear, incorrect or ineffectively disseminated for safe operations throughout the organization or within a subordinate unit, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet.

NOTE: Not following a written document that is available, correct and simple to understand is a supervisory or individual level factor and does not apply to this code.

~~**OP004 Organizational (formal) Training is Inadequate or Unavailable:**~~ *(Moved to new bin for organizational "Training Programs" and recoded as OT001)*

OP005 Flawed Doctrine/Philosophy: is when the doctrine, philosophy or concept of operations in an organization is flawed or accepts unnecessary risk, which leads to unmitigated hazardous conditions and/or unsafe acts throughout subordinate units or the field/fleet.

OP006 Inadequate Program Management/Governance: is when formal programs (e.g., a Program of Record) are implemented without sufficient planning, oversight, or support and creates hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This includes such programs ranging from a specific Occupational Health program to inadequate quality control, original manufacture and rebuild, packaging, assembly of materiel, or the entire safety management system.

~~**OP007 Purchasing or Providing Poorly Designed or Unsuitable Equipment:**~~ *(Moved back to OR004 as was under v6.02)*

RESOURCE SUPPORT PROBLEMS (OR000): are latent failures when resource support or system safety inadequacies resulted in ineffective risk management or created hazardous conditions for leaders/supervisors and/or the operator/aviator/worker.

Resource support problems exist when the type, amount, capabilities, or condition of the resource support is not sufficient to correctly perform a mission. Resources include: personnel, equipment, materiel, supplies, services, and/or facilities.

This category refers to the management, allocation, and maintenance of organizational resources (human, fiscal, and materiel/equipment/facilities). The term "human" refers to the management of military, federal civilian and contractor personnel. Issues that directly influence safety include selection (e.g., background checks), training, and staffing/manning. "Fiscal" issues refer to the management of monetary resources (e.g., excessive cost cutting and/or lack of funding for needed equipment had adverse effects on subordinate commander risk decisions, operator performance and the overall safety management system). Finally, "Materiel" refers to issues related to availability of needed infrastructure, equipment design including the purchasing of unsuitable equipment, inadequate design of workspaces, and failures to correct known design flaws. Headquarters leaders should ensure that human-factors engineering principles are known and utilized and that existing specifications for equipment and workspace design are identified and met.

RESOURCE SUPPORT PROBLEMS *(changed tag line – was "RESOURCE PROBLEMS")*	OR000 (bin)
Command and Control (C2) Resources are Deficient: *(changed – added "(C2)"*	OR001
Inadequate Infrastructure *(no change)*	OR003
Purchasing or Providing Poorly Designed or Unsuitable Equipment *(Moved back to OR004 from OP007. Note: The was OR004 under v6.02 then changed to OP007 under v7.0)*	OR004
Failure to Remove Inadequate/Worn-Out Equipment in a Timely Manner *(no change)*	OR005
Personnel Accession/Selection Policies or Processes *(Moved back to OR006 from OS001. Note: The was OR006 under v6.02 then changed to OS001 under v7.0)*	OR006
Failure to Provide Adequate Personnel/Staffing Resources *(Moved back to OR007 from OS002. Note: The was OR007 under v6.02 then changed to OS002 under v7.0)*	OR007
Failure to Provide Adequate Information Resources *(no change)*	OR008
Failure to Provide Adequate Funding *(no change)*	OR009

OR001 Command and Control (C2) Resources are Deficient: is when installation or resources of command staff, maritime or airfield services, communications/IT support, etc. are unavailable or inadequate for safe operations, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (e.g., Joint force or individual component C2, battlegroup management).

OR003 Inadequate Infrastructure: is when the support, maintenance and/or space provided by installations or industrial facilities supporting military operations or military production programs become inadequate, degraded or non-available, resulting in hazardous conditions or unsafe acts. This includes those facilities or services dedicated to deployment, reception, staging, movement, integration and sustainment, airfield services, dining, physical fitness, living quarters, recreation areas, petroleum, oil and lubricant (POL) services, housing, medical clinics/hospitals, weather services, storage areas, maintenance facilities, property disposal, hobby shops, road maintenance, traffic management.

NOTE: Traffic management includes road signs or overt identification of hazardous areas due to maintenance or environmental issues, etc.

NEW (moved from OP007) - OR004 Purchasing or Providing Poorly Designed or Unsuitable Equipment: Is when there are inadequacies in the acquisition and/or fielding of warfighting or commercial materiel, resulting in hazardous conditions or fallible decisions throughout subordinate units or the field/fleet. (Examples include: failure to field needed equipment/materiel in a timely manner, failure of installation, inspection, quality control, or depot level maintenance services in a timely manner. This also includes a breakdown in capability-based assessments, DOTMLPF-P change recommendations (DCRs), capability development documents (CDDs) or capability production documents (CPDs)). (Formerly OP007)

NOTE: This code is likely a latent failure to "Technological Environment" findings.

OR005 Failure to Remove Inadequate/Worn-Out Equipment in a Timely Manner: is when the process through which equipment is removed from service is inadequate, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet (Examples include: tactical vehicle systems or components, shipboard systems or components, aircraft, etc.)

NOTE: This code is likely a latent failure to "Technological Environment" findings.

NEW (moved from OS001) - OR006 Personnel Accession/Selection Policies or Processes: is when the process through which individuals are recruited, screened, brought into the service or placed into occupational specialties is ineffective, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This occurs prior to occupational specialty training and includes screening processes for disqualifying conditions such as a physical, psychological or behavioral disorders, aptitude, or history of any condition that may reasonably be expected to interfere with the successful performance of duty or training or limit geographical assignment. *(Formerly OS001)*

OR007 Failure to Provide Adequate Personnel/Staffing Resources: is when the process through which personnel resource allocations, staffing or personnel placement processes are inadequate for mission demands, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. *(Formerly OS002)*

OR008 Failure to Provide Adequate Information Resources: is when weather, intelligence, operational planning material or other information necessary for safe operations planning are too complex, too vague, incorrect or not available throughout the organization, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. This also includes knowledge management tools or data collection and analysis tools to support large safety management system programs such as materiel management, systems safety, hazard inspections and assessments, risk management, etc.

OR009 Failure to Provide Adequate Funding: is when subordinate organizations or an operation does not receive the financial resources to complete its assigned mission/task, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: To compensate for a lack of funding, leaders/supervisors are forced to find creative means to accomplish the mission, which may create high risk conditions related to readiness training and/or use of materiel/equipment. Leaders may be forced to accept a higher level of risk in a specific area due to lack of funding for materiel, supplies, or personnel.)

The OSxxx bin has been removed as both codes have been moved to the ORxxx bin

PERSONNEL SELECTION & STAFFING *(Deleted)*	OS000
(Moved back to OR006 from OS001. Note: The was OR006 under v6.02 then changed to OS001 under v7.0)	~~OS001~~
(Moved back to OR007 from OS002. Note: The was OR007 under v6.02 then changed to OS002 under v7.0)	~~OS002~~

~~**OS001 Personnel Recruiting and Selection Policies are Inadequate**~~**:** *(Moved back to OR006 from OS001. Note: The was OR006 under v6.02 then changed to OS001 under v7.0)*

~~**OS002 Failure to Provide Adequate Manning/Staffing Resources:**~~ *(Moved back to OR007 from OS002. Note: The was OR007 under v6.02 then changed to OS002 under v7.0)*

NEW - Question O5: Did any flaws in the type, amount, capabilities, or condition of the organizational support influence unit mission essential resources, leader/supervisory actions or preconditions to unsafe acts? *(If yes, determine which code(s) is/are the most appropriate to support supervisor/leader actions, individual preconditions, or the unsafe act. If no, you are finished.)*

NEW BIN - TRAINING PROGRAMS (OT000): are when a training and/or educational program of instruction designed to improve technical, tactical, critical thinking or leadership skills is incorrect, incomplete or insufficient for performance to standard, which negatively influenced supervisor/leader and/or individual performance.

Selection of these codes means there is evidence of either inadequate formal school training or inadequate program of instruction support for institutional training.

By identifying the need for changes in tactics, techniques, and procedures, improvements can be made to improve technical and/ critical thinking skills at all levels. This includes, but is not limited to interactive resident or virtual simulations to enhance technical skills in aviation, ground operational, maritime and industrial communities; increased use of tactical exercises without troops; small unit Leadership courses such as integrated training targeted at O1/2 and O3 or O1/2 and E6-E8, etc.

Observations of training vulnerabilities also help mature the ideas in an approved concept, or support development of a new or revised concept by identifying and analyzing trends, best practices, and insights derived from multiple combatant commanders.

Combatant commanders (CCDRs) may adopt these changes to prepare the force to respond more effectively to strategic and operational requirements and to execute assigned or anticipated missions. Concept developers may engage and support exercise planners to incorporate appropriate aspects of the future security environment into scenarios, educate the training audience on the concept and required capabilities, and observe event execution.

NOTE 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

TRAINING PROBLEMS (NEW BIN)	OT000 (bin)
Resident Formal School Training Program is Ineffective or Unavailable *(Changed – was OP004 "Organizational (formal) Training is Inadequate or Unavailable". This is moved to the "Training" bin and recoded as OT001*	OT001
Distance Learning Training is Ineffective or Unavailable *(New)*	OT002

NEW (moved from OP004) - OT001 Resident Formal School Training Program is Ineffective or Unavailable: is when resident based formal school training conducted by a formal schoolhouse under TECOM, TRADOC, NETC, AETC, or USCG-FORCECOM is either incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (Examples include: programs that produce officer and enlisted core skills, Military Occupational Specialty, civilian career programs, train-the-trainer programs, operational planning/risk management training, military leadership development, civilian employee supervisor development, staff

development, one-time, upgrade or transition programs, combat readiness, etc.) *(Formerly OP004)*

NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

NEW CODE- OT002 Distance Learning Training is Ineffective or Unavailable: is when distance learning programs provided by either military service component or contracted organizations is incorrect, incomplete, insufficient or unavailable for performance to standard, resulting in hazardous conditions or unsafe acts throughout subordinate units or the field/fleet. (e.g., simulations, professional military training, career enhancement skills, etc.)

NOTE: 1: The failure of an individual to absorb the training material in an adequate training program does not indicate a training program problem. (This falls into the precondition tier)

NOTE 2: The failure of an individual to recall learned information under stress or while fatigued despite attending an adequate training program does not indicate a training program problem.

NOTE 3: If the training program is appropriate and approved yet there is an instructional problem at the unit or schoolhouse level, capture these factors under the appropriate precondition and/or supervisory codes.

ORGANIZATIONAL INFLUENCES 8.0 *"Headquarters and/or Support Command level that impact battalion/ship/squadron level or installation commands."* *NOTE: The proposed organizational bins better supports DOTMLPF-P domains*			
Climate/Culture Influences	Policy, Procedures, or Process Issues	Resource Support Problems	Training Program Issues
OC001 Organizational Culture (attitude/actions) Created Increased Risk OC003 Organizational Perceptions of Materiel Resources (Equipment) OC004 Mission/Aircraft/Vehicle/Ship/ Equipment Change or Deactivation OC005 Organizational Structure is Unclear or Inadequate	OP001 OPTEMPO/ Workload OP002 Organizational Program or Operation not Adequately Assessed OP003 Provided Unclear, Impractical, or Inadequate Policy, Procedural Guidance or Publications ~~OP004~~ *(moved to OT001)* OP005 Flawed Doctrine/Philosophy OP006 Inadequate Program Management/Governance ~~OP007~~ *(move back to OR004 as was in v6.02)*	OR001 Command & Control (C2) Resources are Deficient OR003 Inadequate Infrastructure OR004 Purchasing or Providing Poorly Designed or Unsuitable Equipment *(was OP007)* OR005 Failure to Remove Inadequate/ Worn-out Equipment in Timely Manner OR006 Personnel Accession/Selection Policies or Processes *(was OS001)* OR007 Failure to Provide Adequate Personnel/Staffing Resources *(was OS002)* OR008 Failure to Provide Adequate Information Resources OR009 Failure to Provide Adequate Funding	OT001 Resident Formal School Training Program is Ineffective or Unavailable *(moved from OP004)* OT002 Distance Learning Training Program is Ineffective or Unavailable *(New code)*

SUPERVISION/LEADERSHIP 8.0 *"Supervisory Chain of Command (1st Line supervisor to the Commanding Officer)"*			
Unit Safety Culture	Supervisory Known Deviations	Ineffective Supervision	Ineffective Planning and Coordination
SC101 Unit Safety Culture *(New code)* SC102 Pace of OPTEMPO/Workload: *(New code)*	SD001 Failure to Enforce Published Rules/Guidance SD002 Allowed Unwritten Practices to Become Standard (Normalization of Deviance): SD003 Directed Individual to Circumvent Existing Regulations, Rules, or Procedures ~~SV004~~ *(Combined w/ SD001)*	SI001 Ineffective Supervisory or Command Oversight ~~SI002~~ *(Combined w/ SC101)* SI003 Failed to Provide Effective Training SI004 Failed to Provide Clear Written Procedure/Guidance /Policy ~~SI005~~ *(Deleted)* SI006 Lack of Supervisory Responses to Critical Information SI007 Failed to Identify or Correct Hazardous Practices, Conditions or Guidance SI008 Tasked Individual(s) with Lack of Experience, Currency or Proficiency SI009 Rank/Position Intimidation *(New code)*	~~SP001~~ *(Combined w/ SI008)* ~~SP002~~ *(Combined w/ SP006)* ~~SP003~~ *(combined w/ SI008)* SP006 ineffective Deliberate Risk Assessment SP007 Authorized Unnecessary Risk SP008 Ineffective Pre-Mission Planning*(New code)* SP009 Unit Failure to Provide Sufficient Operational Information Resources *(New code)* SP010 Unit Failure to Provide Sufficient Manning/Staffing *(New code)* SP011 Unit Failure to Provide Sufficient Equipment or Supplies *(New code)*

PRECONDITIONS 8.0 *"Active and/or Latent failures or conditions"*

Conditions of Individuals

Mental Awareness Conditions	State of Mind Conditions	Adverse Physiological Conditions	~~Sensory Misperception~~
PC101 Inattention	PC202 Psychological Disorder	PC301 Effects of Gravitational Forces (G-LOC) *(re-instated from 6.02)*	~~*PC501*~~
PC102 Fixation (Channelized Attention)	PC203 Life Stressors/Emotional State	PC302 Substance Effects (supplements, medications, drugs, alcohol)	~~*PC502*~~
PC103 Task Saturation	~~*PC204*~~ *(combined w/ PC203)*	PC304 Loss of consciousness (sudden or prolonged onset)	~~*PC503*~~
PC104 Confusion	PC205 Personality Style	PC305 Physical Illness/Injury	~~*PC504*~~
PC105 Negative Habit Transfer	PC206 Overconfidence	PC306 Physical Overexertion *(re-instated from 6.02)*	~~*PC505*~~
PC106 Distraction/Interruption	~~*PC207*~~ *(combined w/ PC209)*	PC307 Fatigue	~~*PC507*~~
PC107 Geographically Lost	~~*PC208*~~ *(combined w/ PC101)*	PC310 Acute Trapped Gas Disorders	~~*PC508*~~
~~*PC108*~~ *(combined with PC106)*	PC209 Misplaced Motivation (Pressing/Haste)	PC311 Decompression Sickness (Evolved Gas Disorder)	~~*PC511*~~
~~*PC109*~~ *(Recoded as PT103)*	~~*PC215*~~ *(combined w/ PC203)*	PC312 Respiratory Physiological Event	
PC110 Change Blindness/Inaccurate Expectation		PC314 Inadequate Adaptation to Darkness	
		~~*PC315*~~ *(combined w/ PC305)*	
		PC317 Anthropometric/Biomechanical Limitations	
		~~*PC318*~~ *(combined w/ PC317)*	
		PC319 Nutrition/Diet	
		PC320 Loss of Capacity (Startle Response)	
		PC321 Spatial Disorientation	

Environmental Conditions		**Team Coordination/Communication Factors**	**Training (new)**
Physical Environment	**Technological Environment**		
PE101 Environmental Conditions Affected Vision	PE201 Restraint System and/or Seat Problems	PP101 Ineffective Team Resource Management (Crew, Bridge, Fighter, Maintenance)	PT101 Untrained Operator/Worker *(New Code)*
PE103 Vibration Affected Performance	PE202 Instrumentation & Warning System Issues	~~*PP103*~~ *(combined w/ PP101)*	PT102 Knowledge Retention*(Moved from PC109)* *(New code)*
PE106 Temperature Affected Performance	PE203 Workspace Visibility Restrictions (not weather related)	~~*PP104*~~ *(combined w/ PP101)*	PT103 Lack of Currency *(New Code)*
PE108 External Force or Object Impeded Performance	PE204 Controls and/or Switches	~~*PP105*~~ *(combined w/ PP205)*	PT104 Lack of Proficiency/Experience *(New Code)*
PE109 External lighting of Vehicle/Aircraft/Vessel/ Object Affected Vision	PE205 Automated System Created a Hazardous Condition	~~*PP106*~~ *(combined w/ PP101)*	PT105 Lack of Job/Work Related Safety Training *(New Code)*
PE110 Noise Interference	PE206 Workspace Limitations Affected Performance	~~*PP107*~~ *(combined w/ PP101)*	
PE112 Terrain Feature Affected Performance *(New Code)*	PE207 Personal Equipment Interference	~~*PP108*~~ *(combined w/ PP101)*	
PE113 Animal or Non-DoD affiliated human *(New Code)*	PE208 Communication Equipment Ineffective	PP109 Task/Mission Planning and/or Briefing Inadequate	
		PP111 Task/Mission-In-Progress Re-Planning*(Re-instated 6.02)*	

UNSAFE ACTS 8.0 *"Active Failures or Actions"* Those factors that are *most closely tied to the mishap*, and can be described as active failures or *actions committed by the operator* that result in human error or unsafe situation.		
Errors		**Known Deviations**
Performance/Skill Based Errors	Judgement & Decision Making Errors	
AE101 Unintended Activation or Deactivation AE102 Procedure or Checklist Not Followed Correctly ~~*AE103*~~ *(Combined with AE102)* AE104 Over-Controlled/Under-Controlled Aircraft/Vehicle/Vessel or System AE105 Breakdown in Visual Scan or Instrument Cross-check AE107 Rushed or Delayed a Necessary Action AE108 Misinterpreted/Misread Instrument	AE201 Inadequate Real-Time Risk Assessment/Action AE202 Ineffective Task Prioritization AE205 Ignored a Caution/Warning ~~*AE206*~~ *(Combined with AE201)* AE 207 Misjudged/Misperceived Changing Environment	AD001 Performed Known Deviation (Work-Around) AD002 Commits Widespread/Routine Known Deviation (Normalization of Deviance) AD003 Extreme Lack of Discipline (Indiscipline)