Cargo Air Carrier Safety Enhancement Checklist

This checklist focuses on all SEs with Air Carrier Maintenance actions and outputs. SE outputs are categorized as either Airworthiness or Operations.

CONTROLLED FLIGHT INTO TERRAIN (CFIT)

SE 1: Terrain Avoidance Warning System (TAWS)

Output 5

- ☐ Is your air carrier using a comprehensive system to support TAWS that includes information on installation, maintenance, training, and the use of TAWS equipment?

SE 2: Standard Operating Procedures (SOP)

Output 4

- ☐ Has your air carrier developed SOP that incorporates the proposed SOP template items as appropriate for the technology of the equipment in the aircraft?
- ☐ Has your air carrier revised training manuals and programs to incorporate the SOP items above as appropriate for the technology of the equipment in the aircraft?

SEs 3–8: Precision-Like Approach Implementation

Output 3

- ☐ Has your air carrier updated all appropriate pilot documentation to explain the revised instrument procedures including VGSI, DME, RNAV 3D, RNP–RNAV, xLS, MLS, and GLS?

Output 6

- ☐ Has your air carrier developed crew procedures and updated their training program to promote new instrument procedures including VGSI, DME, RNAV 3D, RNP–RNAV, xLS, MLS, and GLS?

Output 11

- ☐ Has your air carrier developed crew procedures/ techniques to fly stabilized approach procedures that replace “dive and drive” procedures?
- ☐ Has your air carrier tailored existing crew procedures and techniques to your operational requirements?

SE 11: Crew Resource Management (CRM)

Output 3

- ☐ Does your air carrier have CFIT training incorporated in your approved CRM training program?

SE 12: CFIT Prevention Training

Output 5

- ☐ Does your air carrier have CFIT education and training aid, or similar training, in your approved training program?
- ☐ Has your air carrier submitted your revised training program to your principal operations inspector for approval?

SE 120: TAWS Improved Functionality

Output 1

- ☐ Has your air carrier established SOP that communicates to flightcrews the rationale behind the necessity for these SOP?
- ☐ Has your air carrier advised flightcrews the possible increased risk of operating into areas with limited ground-based NAVAID that help verify the aircraft’s actual position relative to displayed ground track when appropriate?
- ☐ Has your air carrier referenced events involving map shifts and/or ground navigation equipment failures?
- ☐ Has your air carrier developed policies that match aircraft capability to the NAVAID environment at the expected arrival location?

APPROACH AND LANDING ACCIDENT REDUCTION (ALAR)

SEs 14–16: Policies for ALAR (Safety Culture)

Output 1

- ☐ Is your air carrier’s chief executive officer visible and effective in promoting safety culture?

Outputs 2 and 3

- ☐ Is your air carrier’s director of safety visible and effective in promoting safety culture?
- ☐ Does your air carrier’s director of safety ensure the establishment of a process to identify, review, analyze, and include appropriate safety information in training programs and in manuals used by flightcrews and maintenance staff?

SEs 17–20: Maintenance Procedures

Output 4

- ☐ Has your air carrier’s director of safety determined that the maintenance deficiencies, described in the bulletins and policy letters listed in this document, have been remedied?
- ☐ Has your air carrier’s director of safety determined that quality control procedures have been implemented to ensure that those deficiencies are continually addressed?
- ☐ Has your air carrier’s director of safety ensured an internal audit has been conducted to determine that rules relating to the maintenance deficiencies described in the specified bulletins are being met through adequate maintenance procedures?
- ☐ Has your air carrier’s director of safety established system safety procedures to ensure continuing conformance with the bulletins?

SE 21: Flight Deck Equipment Upgrades/Installation to Improve Altitude Awareness and Checklist Completion

Outputs 1 and 3

- ☐ Has your air carrier developed training syllabuses and procedures for interactive checklists and smart alerting system use?

SE 23: Flight Crew Training

Output 3

- ☐ Has your air carrier assisted your principal operations inspector and director of safety (or designees) in conducting a review to determine if your air carrier addresses the topics, listed in this document, under your flightcrew qualifications program?

SE 24: Aircraft Design

Output 3

- ☐ Has your air carrier reviewed SAE ARP 5150 (Safety Assessment of Transport Airplanes in Commercial Service) to ensure your continuing airworthiness process(es) incorporates risk management techniques that help ensure that the original design level of safety is not degraded?

LOSS OF CONTROL (LOC)

SE 26: Standard Operating Procedures (SOP)

Output 4

- ☐ Has your air carrier adopted the revised SOP information from AC 120−71A and revised your training programs and manuals to incorporate the proposed revisions?
- ☐ Has your air carrier revised the company training programs and manuals to incorporate as many SOP item revisions as appropriate?

SE 27: Risk Assessment and Management

Output 3

- ☐ Has your air carrier established a risk management program that—
  - a) Prioritizes safety related decisions?
  - b) Implements risk management methods in operations and maintenance departments?

SE 28: Policies

Output 1

- ☐ Has your air carrier distributed essential operating information identified by the manufacturers to flightcrews and maintenance staff?
- ☐ Has your air carrier's director of safety or equivalent ensured the establishment of a process to identify, review, analyze and include essential operating information in training programs and in manuals used by flightcrews and maintenance staff?
- ☐ Has your air carrier revised the company flight manual(s) as essential operating information is amended or added?

SE 29: Policies

Output 2

- ☐ Has your air carrier ensured the training and qualification processes use information from programs such as FOQA, AQP, and ASAP to assist in assuring pilot proficiency?

SE 30: Human Factors and Automation

Output 4

- ☐ Has your air carrier reviewed the generic automation policies as published and implemented them as appropriate?

SE 31: Advanced Maneuvers

Output 3

- ☐ Has your air carrier developed and implemented maneuvers and procedures for the prevention and recovery from loss of control events in ground and flight training?
- ☐ If so, does it include—
  - a) Stall onset recognition and recovery?
  - b) Unusual attitudes?
  - c) Upset recovery?
  - d) Effects of icing?
  - e) Energy awareness and management?
  - f) Causal factors that lead to loss of control?

SE 192: Low Airspeed Alerting

Output 1

- ☐ Do your air carrier's applicable airplanes have the available manufacturer service bulletins regarding low airspeed alerting functionality installed?

SE 193: Non-Standard, Non-Revenue Flights

Output 1

- ☐ Has your air carrier reviewed the FAA guidance material providing best practices on the conduct of non standard, non revenue flights?

Output 2

- ☐ Has your air carrier revised its SOPs and policies, as applicable, regarding conduct of non-standard, non-revenue flight operations to reflect the guidance?

SE 194: SOPs Effectiveness and Adherence

Output 1

- ☐ Has your air carrier reviewed its existing SOP for consistency with the latest versions of the CAST plan, manufacturer recommendations, and ATC procedures?
- ☐ Has your air carrier updated its SOP, as necessary, to become consistent with the latest version of the CAST plan, manufacturer recommendations, and ATC procedures?

Output 2

- ☐ Has your air carrier completed an assessment to determine the level of adherence to current SOPs and identified possible reasons for insufficient adherence?

Output 3

- ☐ Has your air carrier revised its training program, as necessary, based on the first round of SOP reviews and revisions?
- ☐ Have all pilots employed by your air carrier received the first round of training?

SE 195: Flight Crew Training Verification and Validation

Output 1

- ☐ Has your air carrier completed a review of its air crew training to ensure the quality is verified and validated, with emphasis on contractor provided training?
- ☐ Has your air carrier implemented processes to assess trainer currency and qualification?

- ☐ Has your air carrier made an initial observation/validation visit to any contracted training organizations they use, as applicable?

SE 196: Effective Upset Prevention and Recovery Training, Including Approach to Stall

Output 2

- ☐ Has your air carrier revised its approach to stall training, as necessary, to reflect the guidance material and industry best practices?
- ☐ Have all pilots employed by your air carrier received approach to stall training?

Output 4

- ☐ Has your air carrier revised its UPRT, as necessary, to reflect the guidance material and industry best practices?
- ☐ Have all pilots employed by your air carrier received the UPRT?

Output 5

- ☐ Has your air carrier implemented the changes, as necessary, made by airplane and simulator manufacturers to update training devices to satisfactorily represent airplane characteristics for additional proposed training scenarios?
- ☐ Has your air carrier made additional revisions to its training programs to support the additional scenarios and communicate these actions to the industry associations?

SE 197: Policy and Training for Non-Normal Situations

Output 1

- ☐ Has your air carrier reviewed and revised their policies and manuals emphasizing the importance of flying the aircraft and crew coordination in non-normal situations?

Output 2

- ☐ Has your air carrier revised training in accordance emphasizing the importance of flying the aircraft and crew coordination in non-normal situations, as necessary?
- ☐ Have all pilots employed by your air carrier received the training emphasizing the importance of flying the aircraft and crew coordination in non-normal situations?

SE 198: Scenario Based Training for Go Around Maneuvers

Output 2

- ☐ Has your air carrier revised its go around training, as necessary, to reflect the published guidance material addressing scenario based go around training?
- ☐ Have all pilots employed by your air carrier received the scenario based go around training?

SE 199: Enhanced CRM Training

Output 2

- ☐ Has your air carrier revised its CRM policies to align the FAA revised guidance in AC 120–51?

Output 3

- ☐ Has your air carrier revised training in accordance with the recommendations of FAA revised AC 120–51 and air carrier policies regarding CRM training, as necessary?
- ☐ Have all pilots employed by your air carrier received training with the recommendations of FAA revised AC 120–51 and air carrier policies regarding CRM?

Output 4

- ☐ Has your air carrier implemented a process for soliciting feedback and revising training, as necessary?

RUNWAY INCURSION

SE 49: Runway Incursion Prevention

Output 4

- ☐ Has your air carrier incorporated the proposed SOP template items in AC 120−71A into policy manuals and training programs as appropriate?
- ☐ Has your air carrier revised the company training programs and policy manuals to incorporate as many SOP template items as appropriate?

SE 51: SOPs for Tow Tug Operators

Output 1

- ☐ Has your air carrier trained its mechanics and others who tow or otherwise move aircraft within the airport movement area on the recommended "best practices" developed to prevent runway incursions and other surface incidents?

SE 60: Pilot Training

Output 7

- ☐ Has your air carrier used the guidance modified within AC 120−51E to provide clear delineation of captain command oversight training and first officer monitoring responsibilities during surface movements?

CARGO

SE 121: Cargo Loading Training and SOPs

Output 1

- ☐ Has your air carrier conducted/improved the surveillance of contractor cargo loading training?

Output 4

- ☐ Has your air carrier incorporated AC 120−85 into the SOP?
- ☐ Does your air carrier train those procedures including emphasis of the rationale behind those procedures?
- ☐ Has your air carrier developed and obtained approval/acceptance of SOP that adopt best practices?

SE 125: HazMat Processing

Output 2

- ☐ Has your cargo air carrier incorporated best practices, as shared on the FAA Office of Hazardous Materials Safety Web site: http://www.faa.gov/about/office_org/headquarters_offices/ash/ash_programs/hazmat/?

SE 127: Cargo Fire Management

Output 4

- ☐ Has your cargo air carrier incorporated the new fire suppression and/or containment systems developed by manufacturers?

Output 8

- ☐ If they are available, does your cargo air carrier have the new ULD installed?

SE 131: Safety Culture

Output 2

- ☐ Has your air carrier implemented a self-audit process to further enhance safety?

Output 3

- ☐ Has your air carrier implemented an operational risk management program?

Output 5

- ☐ Has a safety reporting system been implemented? Has a quality assurance program appropriate for your operations been developed?

SE 223: Hazardous Material Fires – Prevention and Mitigation

Output 1

- ☐ Has your air carrier developed policies and procedures requiring all lithium batteries tendered as cargo to be identified to the operator and information on the shipment provided to the flightcrew?

Output 3

- ☐ Has your air carrier implemented FCCs, FRCs, a container-based fire suppression system, and/or aircraft-based systems that deliver a suppression agent into ULDs?

Output 5

- ☐ Has your air carrier developed policies and procedures for conducting risk assessments for the hazardous materials allowed on their aircraft, and accompanying policy to limit the amount and type of hazardous materials that are within the capability of the fire protection method(s) used?

SE 226: Hazardous Material Fires – Enhanced Protection of Occupants and Aircraft

Output 2

- ☐ Has your air carrier implemented equipment to provide a means to maintain pilots' view of necessary flight information and, where possible, visual references outside the aircraft in dense continuous smoke conditions on the flightdeck?

Output 3

- ☐ Has your air carrier implemented installation of a system to upload emergency route information to aircraft using CPDLC (pending ATC equipage)?

ICING

SE 136: Engine Surge Recovery

Output 1

- ☐ Does your air carrier include the engine malfunction recognition and response training materials in the training program?

MIDAIR

SE 165: TCAS Policies and Procedures

Output 2

- ☐ For aircraft equipped with TCAS II, has your air carrier established SOP and standardized training on pilot response to TCAS RAs?

Output 3

- ☐ Has your air carrier established procedures for TCAS range setting appropriate to the traffic situation?

SE 186: TCAS-Sensitivity Level Command

Output 4

- ☐ Has your air carrier developed changes in operating practices at Denver International Airport (DEN) to reduce Traffic Alert and Collision Avoidance System (TCAS) Resolution Advisories (RA)?

SE 212: Equipment and Procedures to Improve Route Entry for RNAV Departures

Output 1

- ☐ Has your air carrier's dispatch organization reviewed and updated procedures to coordinate with ATO to improve the likelihood that dispatchers will file routes that are not changed in the cleared route?

Output 2

- ☐ Has your air carrier modified and standardized its PDC format and updated as appropriate to clearly communicate PDC to pilots and reduce crew errors?

Output 3

- ☐ Has your air carrier deployed the capability to autoload pre-departure route clearances, with crew acknowledgement, into the FMS?

SE 213: Safe Operating and Design Practices for STARs and RNAV Departures

Output 1

- ☐ Has your air carrier collaborated with the FAA to develop guidance to align training for flightcrews, training for controllers, and procedure and chart design and implementation?

Output 2

- ☐ Has your air carrier collaborated with AFS to update ACs containing details of commonly accepted safe operating practices for flightcrews to mitigate errors on STARs and RNAV departures?
- ☐ Has your air carrier's training organization developed, reviewed, and amended its training syllabi and air carrier policies and procedures to be consistent with the guidance in the ACs for conducting STARs and RNAV departures?

Output 3

- ☐ Has your air carrier provided input to assist the FAA in developing commonly accepted safe operating practices for air traffic control of STARs and RNAV departures?

MAINTENANCE

SE 169: Work Cards/Shift Change/ Responsibilities/ Manuals

Output 2

- ☐ Has your air carrier audited your compliance with AC 120–16F?

SE 170: OEM Continuous Monitoring of Service History

Output 2

- ☐ Has your air carrier developed processes to follow the intent of the guidance material?
- ☐ Has your air carrier incorporated the best practices into your reporting processes for maintenance task difficulties?

SE 175: Flight Critical Configurations Changes Made During Maintenance

Output 1

- ☐ Has your air carrier reviewed, and amended, procedures as appropriate to ensure that multiple levels of alerting, including visible tagging, are used anytime the pitot static system is covered?
- ☐ Has your air carrier ensured that maintenance procedures include multiple levels of protection to ensure timely removal of covering?
- ☐ Has your air carrier's director of safety, in conjunction with its director of maintenance, ensured the appropriate procedures are covered in maintenance information, including work cards?
- ☐ Does your air carrier include adherence to the process within the internal audit process of its SMS?

Output 2

- ☐ Has your air carrier ensured that preflight walk around procedures ensure that pitot/static ports are uncovered?

UNCONTAINED ENGINE FAILURES

SE 84: Disk Inspection Initiative

Output 1

- ☐ Has your air carrier developed and implemented enhanced disk inspection to detect cracks and help prevent UEF of high energy rotating parts?

WRONG RUNWAY DEPARTURES

SE 183: Cockpit Moving Map Display and Runway Awareness System

Output 1

- ☐ Has your air carrier installed ownship moving map display and/or runway awareness systems?

TERRAIN AWARENESS WARNING SYSTEM

SE 120: TAWS Improved Functionality

Output 3

- ☐ Has your air carrier installed GPS capability on all airplanes with multi-sensor RNAV FMS, electronic flight instruments and electronic map displays?
- ☐ If your air carrier flies standard airplanes equipped with non GPS TAWS into regions with minimal NAVAID, have you modified standard TAWS to GPS TAWS, or conducted a risk assessment to develop and implement effective risk mitigation?

Output 4

- ☐ Has your air carrier developed and implemented procedures to ensure that TAWS terrain databases are updated in accordance with the manufacturer's recommendations on all airplanes?

SE 185: TAWS and RNAV Visual or Other Procedures

Output 4

- ☐ Has your air carrier shared a historical analysis of TAWS alerts among ASIAS carrier participants?
- ☐ Has your air carrier been identified as a lead air carrier for RNAV Visual approach development at an airport?

RUNWAY EXCURSION

SE 215: Landing Distance Assessment

Output 7

- ☐ Has your air carrier updated its procedures to include a landing distance assessment consistent with the new FAA guidance material incorporating the TALPA ARC recommendations addressing procedures for conducting such an assessment?
- ☐ Have all your air carrier's pilots received training in the use of the landing distance assessment and performance tools?

SE 216: Flight Crew Landing Training

Output 1

- ☐ Has your air carrier revised its policies, procedures, and training related to the proper use of available airplane stopping devices?
- ☐ Have all of your air carrier's pilots received stabilized approach, flare, and landing training during initial or recurrent training?
- ☐ Has your air carrier developed/revised its operational procedures for landing on runways with reduced or minimal landing distance margin?
- ☐ Have all your air carrier's pilots received training for landing on runways with reduced or minimal landing distance margin, during initial or recurrent training?

Output 2

- ☐ Has your air carrier consulted with manufacturers to ensure consistency with their policies and operating procedures as related to airplane performance in crosswinds?
- ☐ Has your air carrier developed and implemented procedures concerning proper techniques for maintaining directional control in crosswind conditions or in response to an airplane system failure resulting in a directional asymmetry?

- ☐ Have all your air carrier's pilots received training concerning proper techniques for maintaining directional control in crosswind conditions or in response to an airplane system failure resulting in a directional asymmetry?

SE 217: Takeoff Procedures and Training

Output 1

- ☐ Has your air carrier assisted AFS and air carrier industry associations with publishing guidance to include formal processes that ensure accurate takeoff performance data?

Output 2

- ☐ Has your air carrier reviewed and revised its procedures and training, as necessary, in accordance with the guidance from Output 1?
- ☐ Has your air carrier responded to its industry associations after its procedures and training revisions were complete?

Output 3

- ☐ Has your air carrier defined and updated its SOPs related to the RTO decision?

SE 218: Overrun Awareness and Alerting Systems

Output 3

- ☐ Has your air carrier incorporated into its specific fleet (both existing airplanes and new purchases) and operations onboard technologies that reduce or prevent landing overruns?
- ☐ Has your air carrier implemented systems based on results of its feasibility assessments, where applicable?
- ☐ Has your air carrier reported to industry associations whether it intends to incorporate systems in its fleet?

SE 219: Policies, Procedures, and Training to Prevent Runway Excursions

Output 3

- ☐ Has your air carrier assisted AJI in the development and implementation of training for air traffic controllers on significant factors that can contribute to the risk of REs?

Output 4

- ☐ Has your air carrier encouraged reporting for both flightcrews of instances in which flightcrews refuse clearances they believe could lead to an unstable approach?
- ☐ Does your air carrier periodically review the resulting metrics to identify and correct potential systemic issues with those approaches?

TAKEOFF MISCONFIGURATION

SE 227: Air Carrier Procedures for Takeoff Configuration

Output 1

- ☐ Has your air carrier reviewed and assessed its operational data and pilot safety reports to determine its exposure to the risk of improper flap settings on takeoff?
- ☐ Has your air carrier evaluated its SOPs relating to setting takeoff flaps/slats against recommended best practices?
- ☐ If applicable, has your air carrier performed a risk assessment for revising SOPs relating to setting takeoff flaps/slats?

Output 2

- ☐ Do the results of the risk exposure analysis and risk assessment in Output 1 justify revising your air carrier's SOPs relating to setting takeoff flaps/slats?
- ☐ If applicable, has your air carrier updated its SOPs relating to setting takeoff flaps/slats to align with recommended best practices?

SE 229: Takeoff Configuration Warning System Maintenance and Operational Assurance

Output 2

- ☐ Has your air carrier reviewed its maintenance programs related to TCWS to ensure they meet the latest manufacturer recommendations for maintenance intervals and procedures?
- ☐ Has your air carrier reviewed its maintenance procedures to ensure circuit breakers pulled during maintenance or troubleshooting that could affect TCWS availability are re engaged before releasing the aircraft for flight?
- ☐ Has your air carrier reviewed its MEL procedures to ensure approved procedures do not allow the TCWS to be disabled by pulling circuit breakers, including circuit breakers for integrated/related systems?
- ☐ Does your air carrier periodically review its maintenance programs related to the TCWS to ensure acceptable in service reliability?