

# Position Classification Standard for Air Safety Investigating Series, GS-1815

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## **SERIES COVERAGE**

Positions included in this series have duties involving the investigation and prevention of accidents and incidents involving United States aircraft anywhere in the world, and in the establishment of programs and procedures to provide for the notification and reporting of accidents. The investigation includes a report of the facts, conditions, and circumstances relating to each accident and a determination of the probable cause of the accident along with recommendations for remedial action designed to prevent similar accidents in the future. Special studies and investigations on matters pertaining to safety in air navigation and the prevention of accidents are conducted to ascertain what will best tend to reduce or eliminate the possibility of, or recurrence of, accidents. These duties and responsibilities require the application of a broad technical knowledge in the field of aviation, and experience or training that provides a knowledge of investigative techniques and/or legal procedures and practices.

These standards for this new series represent a revision of certain of those portions of standards for the Aircraft Operation Series, GS-1681 (published in November 1947 under the code of P-807-0) concerned with investigation and related functions involving aircraft operations and safety in flight. The new series also includes some positions not formerly covered by published standards. The result is a single series that includes positions that have as their common objective the evaluation and investigation of air accidents, incidents, and safety hazards to ascertain the facts and circumstances relating thereto, determine the probable cause, make recommendations for effective remedial action, and disseminate the results to the aviation interests concerned.

Two major categories of work are included in this series:

1. Work primarily related to military aircraft and military aviation;
2. Work primarily related to civil aircraft and civil aviation (Positions in the Civil Aeronautics Board, the agency charged by statute with performance of the investigative duties in relation to civil aviation.)

The grade-level portions of this standard apply only to positions in the Civil Aeronautics Board.

## **SPECIALIZATIONS AND TITLES**

This series has the following specializations which cover the various segments of aviation with which the work deals:

1. Air Safety Investigator (Field)
2. Air Safety Investigator (Airworthiness)
3. Air Safety Investigator Operations)
4. Air Safety Investigator Analysis)

5. Air Safety Investigator (Hearing and Reports)
6. Air Safety Specialist (Military)
7. Air Safety Investigator (General)

The prefix "Supervisory" is included with the above titles when the position meets the criteria for coverage by the [General Schedule Supervisory Guide](#).

The following statements briefly describe the major functions and duties included in the foregoing specializations:

1. AIR SAFETY INVESTIGATORS (FIELD) participate in and/or conduct on-the-scene investigations of accidents or incidents involving civil aircraft of United States Registry and all accidents involving aircraft of foreign registry which occur within the territorial limits of the United States. The investigators determine the need for the services of operations or airworthiness specialists to aid in field investigations and to conduct any technical studies or research which may be required to develop the facts in a case. The air safety investigators (field) elicit all significant information concerning accident, interrogate witnesses, and complete a written record of all the known facts, conditions, and circumstances, to establish the basic causes of individual occurrences. During the course of the investigation when they recognize safety hazards or a potentially dangerous condition, they recommend remedial action.

Air safety investigators (field) conduct safety surveys and are required to testify in hearings or court actions as competent authorities on accident investigations or other facets of aviation activities.

2. AIR SAFETY INVESTIGATORS (AIRWORTHINESS) participate in the field investigation of accidents involving civil aircraft, as chairman or co-chairman of the airworthiness group, or as a technical expert assigned to uncover all pertinent and relevant facts, conditions, and circumstances relating to the airworthiness of the aircraft involved. The results of such airworthiness investigations are compiled in comprehensive technical reports.

Air safety investigators (airworthiness) are required to develop, arrange, and monitor laboratory studies and tests of failed or malfunctioning parts to isolate the cause. They are responsible for conducting airworthiness studies to determine ways and means of reducing accident and hazardous occurrence trends noted in general studies.

Because of the degree of specialization required, investigators may be assigned to work on structures, powerplants, systems, maintenance, or crash survival equipment.

3. AIR SAFETY INVESTIGATORS (OPERATIONS) participate in field investigations and provide the Board with expert counsel and information in such specialized fields as: meteorology, air traffic control, agricultural aviation, air carrier operations, and private and executive operations. They furnish highly specialized counsel and advice relating to operations, in aircraft accident and other safety investigations.

They initiate special studies and investigations and reports on (a) factors pertaining to air navigation, including navigational systems airborne and otherwise, airport communications, procedures, and air traffic rules concerned with the use of air space; (b) aviation operations including general, commercial, executive, and agricultural use of aircraft, their certification, and training programs organized to insure airman proficiency; and (c) meteorological studies to provide techniques for determining significant weather factors influencing rate of aircraft icing or other operating problems, for providing aircraft in flight with weather information, and to establish operational minima. The studies are designed to aid accident prevention work by determining significant operational factors involved in aircraft accidents.

4. AIR SAFETY INVESTIGATORS (ANALYSIS) develop, analyze, and collate all facts set forth in aircraft accident, incident, and flight hazard reports involving civil aircraft. They gather, catalog, develop, and utilize technical, medical, and engineering data related to aircraft operation which are available from a considerable number of authoritative organizations both in and outside the aviation industry.

Comparable accidents or incidents are analyzed to discover inadequacies in design, structure, or powerplants, or in the performance of pilots and other personnel. The air safety investigators (analysis) recommend the steps required to eliminate or alleviate safety hazards. The results of studies are used by the Board in monitoring air safety trends and are made available to aeronautical groups to which they apply in the form of safety studies and safety bulletins.

5. AIR SAFETY INVESTIGATORS (HEARING AND REPORTS) prepare for and conduct public hearings or take depositions in aircraft accident investigations in order to develop the facts, conditions, and circumstances surrounding an accident. They thoroughly examine witnesses to bring out all pertinent information and to insure that no avenue of investigation has been overlooked, and that the record is complete in all respects.
6. AIR SAFETY SPECIALISTS (MILITARY) participate in the investigation of and compilation of all data significant to accidental occurrences involving military aircraft; conduct research into the circumstances surrounding such occurrences; and develop, promote, and advise on military aviation safety matters.
7. AIR SAFETY INVESTIGATORS (GENERAL) participate in or direct work appropriate to two or more of the above specializations.

## EXCLUSIONS

1. Engineering positions -- The functions described above are not peculiar to this series. For example, they may be performed by incumbents of professional positions in the GS-0800 group. Therefore, excluded from this series are positions which require the practical application of the basic scientific principles of mathematics, physics, chemistry, etc., a knowledge of applied structural design; and a knowledge of fundamental engineering concepts, terminology, units of measurement, and their interrelationships. Such positions are classified in the [Aeronautical Engineering Series, GS-0861](#), or other appropriate engineering series.
2. Legal administration positions - Similarly, when the training, the positions are classified in the Legal and Kindred work is so organized as to require full professional [Legal and Kindred Group, GS-0900](#).
3. Inspection type positions - Also exclude from this series are positions which involve the application of related knowledge of civil aviation for purpose of inspection and/or certification. These positions are classified in the [Aviation Safety Officer Series, GS-1825](#).

## COMMON CHARACTERISTICS OF AIR SAFETY INVESTIGATORS

The experience, knowledge, and good judgment of air safety investigators have a direct bearing on safety of human life, preservation of economic resources, and the future of aviation. The impact of an accident on the aviation industry and the country is far reaching. Air safety investigators must deal impartially and intelligently with individuals or groups of varying interests in the conduct of their work. They must possess the ability to express themselves clearly on technical matters and be able to work under pressure, often under hazardous conditions, in the investigation of accidents. They must be able to draw conclusions without bias from all the facts, conditions, and circumstances involved in an accident.

Incumbents may be called upon to conduct on-the-scene investigations of accidents involving aircraft of all makes and models. This requires technical knowledge and broad experience in aircraft design, maintenance, repair, alteration, and flight operation. It also requires a thorough understanding of aircraft systems, airways traffic control procedures, and Civil Air Regulations as well as the range of human behavior and the potential for error.

Positions in this series are concerned with investigation of the facts, conditions and circumstances of aircraft accidents, incidents, and other safety hazards; and the determination of the probable cause and recommendations of corrective measures that will best tend to prevent or eliminate recurrence of similar accidents. These duties and responsibilities require: (1) the ability to examine aircraft wreckage and supervise the testing of aircraft and appliances to

determine whether any structural failure, or the failure or malfunction of any air-craft component, may have contributed to or caused the accident; (2) the ability to examine records to disclose any information whatsoever which might have a bearing on the cause of the accident; (3) the ability to conduct or to participate in the interrogation of witnesses to bring out relevant information concerning any and all phases of aircraft operations; (4) the ability to assimilate, interpret, and analyze the information gained in such investigations; (5) the ability to express clearly and completely, in writing and/or orally, detailed descriptions of the accident; and (6) the ability to represent the Government in public or other proceedings and meet and deal with the public and press tactfully and effectively under difficult circumstances.

The air safety investigators must possess to a marked degree the ability to anticipate needed action or the consequences of an action in a given situation. They must be able to draw conclusions from all, the facts, circumstances, and conditions around a problem, and must have an extensive technical knowledge of the operations and techniques of the aviation industry and relationship of these techniques and operations to problems encountered in the investigation of an accident or in the conduct of special investigations or studies.

An investigator-in-charge has responsibility for directing the total investigation of an air accident or incident. This includes coordinating the work of specialists in highly technical fields such as those related to the airworthiness and the operation of aircraft.

A group chairman has responsibility for directing a face of the investigation of an air accident or incident such as the structures group, communications group, weather group, etc.

Significant items which combine to influence, the relative difficulty and responsibility of the work of air safety investigators are:

1. The volume as well as the range of different types of causes of accidents and incidents; e.g., operations, weather, air traffic control, mechanical, personal factors, etc.
2. Physical location of wreckage or incident; e.g., inside the United States or within a foreign country, at the bottom of a river, on the top of a 12,000-foot mountain, in the desert, in dense tropical jungle, on an Arctic ice cap, or in the middle of a heavily populated area.
3. The natural confusion and bedlam at the scene immediately following an accident.
4. Availability of facilities and manpower at the scene of an accident to provide for survivors, protection of wreckage and material.
5. The need for quick and valid selection and evaluation of proper information regarding the accident for release on the scene to the press, radio, television, and the public.
6. The pressures of public and private interest in the accident; e.g., Congress, Government and industry organizations, insurance companies, equipment manufacturers.

7. The differences in the complexity of aircraft, equipment, and systems in operations; e.g., from glider to jet-powered aircraft.
8. The complexity in types of aviation operations; e.g., air carrier-freight and passenger -- scheduled and nonscheduled B feeder and major systems -- national and international; general aviation -- private -- corporate flying -- crop dusting -- prospecting -- seeding.
9. The complexity in supporting services, operations, and equipment; e.g., communications, dispatch, air navigation aids, meteorology, air traffic control, flight publications, search and rescue.
10. The regulatory complex including Civil Air Regulations, manual instructions, procedures, etc., pertaining to all phases of aviation.
11. Relationships with other United States Government agencies; e.g., Federal Aviation Agency, military departments, Department of State, Department of Commerce, Federal Bureau of Investigation, Atomic Energy Commission.
12. Relationships with other countries and international organizations; e.g., International Civil Aviation Organization, and aircraft accident investigation organizations of individual governments.
13. Relationships with interested State or local organizations; e.g., State or local aviation commissioners, police, coroners, etc.
14. The authority to make commitments and/or recommendations, conclusions, and decisions.
15. The functions and administrative structure of the organization.

Technical and administrative problems confronting accident investigators are often more complex and difficult in areas of heavy concentration of aviation activities, in areas of dense population, and in foreign countries. The air safety investigators must investigate any or all phases of the aviation industry. No phase of the aviation picture from government and management policies to the actions of an individual can be overlooked in the search for the probable cause of an accident. This may include an investigation of aircraft operations, training, maintenance, aircraft structures, aircraft systems, and airplane and airman performance capabilities.

Air safety investigators must utilize knowledge of principles of aerodynamics, electronics, and all types of power-plants. They must keep current with the technical advances in aircraft design and the increasing complexity of the civil aviation. They must study and understand files, transcripts of hearings, exhibits, and other evidence and evaluate all this evidence in order to determine causal factors of accidents and prepare formal public reports of the official findings. Investigators determine the probable cause of a particular accident. They must recognize safety hazards or potentially dangerous conditions during the course of investigations and immediately

recommend remedial action which will tend to prevent or eliminate recurrence of the accidents and reduce human injuries when accidents do occur.

Accidents vary in their complexity from the simple accident in which minor damage occurs to a small airplane, with no injury to personnel or property other than the aircraft, to accidents of tremendous complexity such as an accident involving the collision of two jet transports with fatal injury to all personnel aboard and to third party personnel on the ground.

## **GRADE-DISTINGUISHING CRITERIA**

The items listed above can be evaluated under two major headings for the purpose of assigning grade levels: (a) authority for recommendations, decisions, and commitments; and (b) complexity of work.

### **A. Authority**

The location of a position in the administrative structure of an agency often reflects the amount of authority which is exercised. However, this authority may be tempered by the decision of higher echelons of authority not to grant or to circumscribe or restrict the authority and responsibility of individual investigators with respect to certain of their functions. In evaluating a position the degree of authority actually delegated to the incumbent must be determined and not assumed from the location of the position in the administrative hierarchy.

The lowest degree of authority (other than the trainee) is generally found in assignments limited to work items or problems which have been evaluated as being relatively less difficult and less far reaching in terms of the consequences of the actions taken. While investigators who have this degree of authority are expected to proceed independently in gathering information, their analyses and conclusions generally are guided by higher-grade investigators.

The next degree of authority is found in assignments where the accident investigator is delegated authority over the full range of work items or problems within his specialized field. Typically, this degree is exercised by investigators who serve as group chairmen in charge of an important segment of an investigation.

The highest degree of authority may carry with it the responsibility and accountability for actions taken with respect to a major accident or a series of accidents. The investigator-in-charge with this authority reviews and can overrule or reverse recommendations, decisions, or actions of investigators who assist him. Another earmark of this degree is the authority of air safety investigators to make critical decisions which they may not redelegate, and which have a considerable impact on the agency's mission. Such a decision might involve the release of information to the press on an air accident.



B. Complexity

Complexity reflects the work setting and other factors which contribute to the problems confronting the investigator and which place special demands on his knowledge, skills, and abilities. Although degrees of complexity are not as readily defined as degrees of authority, both categories play a critical role in determining grade levels.

The charts on the following pages illustrate variations in factors contributing to the complexity in aviation which the accident" investigator faces in an accident or incident.

## COMPLEXITY OF AIRCRAFT COMPONENTS AND SYSTEMS

This chart reflects certain major systems common to all aircraft. The three ratings indicate the relative complexity of the systems as a whole, or of components of the systems.

Normal Complexity Range	Intermediate Complexity Range	Highest Complexity Range
Reciprocating engines	<p style="text-align: center;"><u>Powerplants</u></p> Reciprocating engines with internal superchargers and propeller gear reduction.	Turbo-Prop Turbine Turbo-compound
<u>Propellers, Rotor Blades, and Thrust Reversers</u>		
Ground adjustable Fixed pitch	Full feathering hydromatic Constant Speed Controllable	Full Feathering reversible (hydromatic or electric) Rotorblade Thrust reversers
<u>Propeller and Engine Controls and Accessories</u>		
Manual controls	Propeller governors	Propeller synchronizers Automatic power controls Rotor controls
<u>Flight Control System</u>		
Systems involving direct mechanical linkage	Mechanical boost systems	Automatic flight controls

<u>Fuel and Oil System</u>		
Fuel injectors associated with normal complexity engines Direct reading oil and fuel gages Fuel and oil pressure warning units Float carburetors Diaphragm fuel pumps	Electrical fuel & oil gages Propeller feathering pumps Pressure carburetors associated with normal complexity engines Fuel pumps associated with intermediate complexity engines Automatic temperature control devices	Direct fuel injectors associated with intermediate complexity engines Capacitance fuel gage Pressure carburetors associated with intermediate or high complexity engines Fuel flow control system associated with high complexity engines Fuel pump associated with high complexity engines
<u>Landing Gear and Flap Systems (Engine and Aircraft)</u>		
Mechanical systems		Hydraulic, pneumatic, and electrically actuated systems
<u>Cockpit Instruments (Other than Quantity Indicators)</u>		
Mechanical	Electrical	Gyroscopic Electronic
<u>Airframes</u>		
Single-engine composite construction	Single-engine metal construction	Multi-engine metal construction

## AIRCRAFT COMPLEXITY

This chart indicates the criteria under which the relative complexity of aircraft is to be determined, and cites, as examples, a number of aircraft which were categorized in the development of these standards.

### A. Highest Complexity Range

Six High Complexity Systems and Two Intermediate Complexity Systems, as in the following aircraft:

- Lockheed                    749, 1049, Electra
- Douglas                    DC-6, DC-7, DC-8

Boeing	377, 707
Convair	240, 340, 440, 880
Martin	202, 404
Viscount	744, 745
Folker	F-27
Large Helicopters	

## B. Intermediate Complexity Range

Six Intermediate Complexity Systems, as in the following aircraft:

Lockheed	18, 049, 649
Douglas	DC-2, DC-3, DC-4
Curtiss	C-46

### Small Helicopters

Most current production light twin-engine aircraft, e.g., Beech 18, Aero Commander, Piper Apache, Cessna 310, Twin Beech Commander.

## C. Normal Complexity Range

Less than Six Intermediate or High Complexity Systems, as in most single-engine aircraft.

A list of items other than aircraft which affect the complexity of the work of the air safety investigator is as follows:

1. Airspace - Utilization, restrictions, safeguards for various types of operations, evaluation of potential hazards, and obstruction criteria.
2. Air Traffic Control - Assignment of responsibility, qualifications of comptrollers, availability of equipment and equipment utilization, procedures, workload of comptrollers, flight clearances, and flight plans.
3. Operations - Type, national or international, scheduled or non-scheduled, freight or passenger, day or night, flight crew qualifications, equipment maintenance, and flight dispatch.
4. Support Services - Condition and adequacy of communications, meteorology, air navigation aids, terminal facilities, search and rescue facilities, and flight publications.

5. Maintenance - Inspection of records for compliance with airworthiness directives, regulations, etc., repairs of malfunctioning as entered in aircraft log, compliance with inspections, etc., and suitability of parts used in repairs.
6. Aircraft Development - Design and test of aircraft and aircraft equipment.

For purposes of these criteria accidents, incidents, safety hazards, and studies have been categorized as less complicated, complicated, more complicated, and most complicated. These are relative classifications since there are many factors which must be taken into consideration in placing an accident in one category or another. Certain facets of a most complicated accident may fall into the less complicated category and may be handled by lower-grade personnel under proper supervision. On the other hand during the course of the investigation of a less complicated accident, factors of a most complicated nature may be revealed. This may require adjustments accordingly in personnel assignments. Likewise great latitude and discretion must be used in assigning personnel to accidents, incidents, and studies since their individual backgrounds, experience, and capabilities vary widely.

For purposes of illustrating (only in the most general way) the categories listed above, certain examples are set forth in the grade level criteria.

Users of the standards should understand that this document does not describe all of the work performed by air safety investigators. Only those aspects of the work are cited upon which grade-level determinations are dependent. Therefore, the descriptions of authority and complexity and the examples are to be read as criteria only -- not as descriptions of all combinations of duties and responsibilities in investigator positions.

There may be some positions which function under conditions of authority and complexity not reflected in these standards. Such positions must be evaluated on an individual basis to determine whether they are fully equivalent to and meet the intent of the criteria. In making such evaluations it is important to keep in mind that not all duties and responsibilities are grade distinguishing.

Supervisory positions are not covered specifically in the discussion of the classes. However, the grade level of a supervisory position such as one in charge of a geographic area or a special activity may be assessed on the basis of the overall technical requirements and complexity of the investigation and/or evaluation functions assigned plus the authority delegated specifically to the supervisor.

## **AIR SAFETY INVESTIGATOR (ALL SPECIALIZATIONS) GS-1815-11**

The trainee level, grade GS -9, is not described. The distinction between GS-9 and GS-11 is based on the fact that at the GS-11 level the air safety investigator is held directly responsible for the completion of work items and accompanying evaluations and recommendations. At the GS-9

level the assignments are principally for training purposes, and conclusions and recommendations resulting from these assignments are not relied upon for significant actions or decisions.

The air safety investigator at the GS-11 level is generally assigned less difficult accident investigations or investigations of incidents. He may be assigned to handle one of the less complicated phases of an accident investigation or to a group to investigate a more complicated accident under the direct supervision of an investigator of higher grade. He is responsible for less complicated analyses, evaluations, conclusions, recommendations, and reports under the supervision of a higher-grade air safety investigator. He assists in the conduct of special studies and investigations in his area of particular competence under the supervision of an air safety investigator of higher grade.

The air safety investigator at this level is required to assist in the preparation for and conduct of public hearings, interrogate witnesses, and take depositions on less complicated accidents. He may be required to testify at public hearings on technical matters within his area of competence and to display initiative in his work.

Examples of less complicated aircraft accidents, incidents, and hazards are:

1. Small airplane accident involving apparent malfunction or failure of a relatively simple component -- minor damage.
2. Transport aircraft accident involving simple malfunction or failure of a component -- minor damage.
3. Small airplane accident involving student pilot who stalls on take-off and crashes -- minor damage.
4. Small or large airplane accident involving a situation where ground personnel walks into the aircraft while it is in operation -- fatal injuries.

## **AIR SAFETY INVESTIGATOR (ALL SPECIALIZATIONS) GS-1815-12**

The air safety investigator at the GS-12 level is generally assigned complicated aircraft accident investigations, incidents, and hazards. At this level the investigator may be responsible for acting as chairman of an investigating group or for assisting an investigator of a higher level. He is not generally given the authority to act as the investigator in charge, but may be assigned as group chairman for investigations of a more complicated nature. He is responsible for complicated analyses, evaluations, conclusions, recommendations, and reports under the supervision of a higher-grade air safety investigator. He conducts special studies and investigations in his area of particular competence under the supervision of an air safety investigator of higher grade. He deals generally with the supervisory personnel of the organizations which may be involved. He

must have a high degree of technical competency and must be able to work with a minimum of supervision. He must be experienced in accident investigations and may be required to represent the Board in various types of proceedings. He may be required to testify at public hearings or to participate in the examination of witnesses at such hearings.

Examples of the complicated aircraft accidents, incidents, and hazards are:

1. Small aircraft accident involving the possible failure of more than one component such as separation of power-plant from fuselage in flight.
2. Small or large aircraft accident involving a single but relatively complicated component combined with operational factors such as improper decisions by members of the crew or faulty maintenance.
3. Small or large aircraft accident involving a pilot who, without proper instrument qualifications, attempts to fly in adverse weather (instrument conditions).

## **AIR SAFETY INVESTIGATOR (ALL SPECIALIZATIONS) GS-1815-13**

The position of investigators at this level are distinguished from those at GS-12 by a higher degree of complexity and a broader scope of assignments.

At this level the investigator is responsible for conducting investigations or participating in investigations of a complicated nature. The accidents generally involve modern high-speed complicated aircraft. They involve problems such as fire in flight, structural failures, and collisions; and are related to all types of air carriers, executive aircraft, private airplanes, or helicopters. He is authorized to act as investigator-in-charge of the more complicated accidents or to participate as a group chairman in the most complex accidents. He may be assigned as an assistant to an investigator at the GS-14 level. He is responsible for analyses on the more complicated accidents, evaluations, conclusions, recommendations, and reports with a minimum of supervision. He also conducts special studies and investigations of a more complicated nature in his area of particular competence with a minimum of supervision.

The air safety investigator at this grade is required to conduct public hearings and/or take depositions on more complicated accidents. He deals with the executives of the organizations which may be involved. He must have a full technical competence and be able to work without supervision, and must be able to make independent decisions on his own on, initiative, including decisions concerning the release of information to the press on an air accident. He is required to testify at public hearings or to conduct or participate in the examination of witnesses at such hearings. He must be able to represent the Board in activities within his area of specialization.

Examples of the more complicated accidents, incidents, and hazards are:

1. An accident involving a mid-air collision between two light aircraft where destruction of one aircraft is not complete.
2. Transport aircraft accident involving an over-shoot or under shoot accident which results in extensive damage to the aircraft.
3. Helicopter accident involving the complete destruction of the aircraft in flight.
4. Small aircraft accident involving complete destruction of the aircraft in flight.
5. Transport aircraft accident where there is a partial disintegration of the large aircraft in flight.

## **AIR SAFETY INVESTIGATOR (ALL SPECIALIZATIONS) GS-1815-14**

The positions of air safety investigators GS-14 are distinguished from those at GS-13 by a greater degree of complexity and a broader scope of assignments. At this level the investigator is in charge of investigations and analyses of the most complicated and complex accidents. He conducts special studies and investigations of the most complex nature, including basic research. The air safety investigator is required to conduct public hearings and/or take depositions on the most complicated accidents. The accidents generally involve the latest and most complicated types of aircraft, or unique or complex problems, such as fire in flight of an unknown source, structural failures, collision accidents involving great loss of life. The investigator at this level is assigned the responsibility of dealing with the highest executives of the organizations which may be involved. Characteristically such organizations operate the most extensive fleets of the most advanced and complex commercial aircraft or manufacture or overhaul aircraft of this type. The investigator at this level is required to have an exceptional technical competence and must be able to make independent decisions on his own initiative, including decisions concerning the release of information to the press on an air accident. He represents the Board as a recognized authority in all types of proceedings within the area of his specialization.

Examples of the most complicated accidents, incidents, and hazards are:

1. Large transport aircraft mid-air collision with total destruction to aircraft and fatalities to all passengers.
2. Large transport aircraft accident involving the complete disintegration of the aircraft in flight.
3. Large transport aircraft accident which results in an extreme amount of destruction to the aircraft.

4. Transport aircraft accident involving structural failure, malfunction, and fire coupled with human factors.
5. Transport aircraft accident involving the loss of the wreckage or inability to locate the wreckage. (Requires the application of ingenuity in seeking clues and applying all possible resources in an attempt to locate and recover wreckage.)