

**U.S. Office of Personnel Management
Office of Merit Systems Oversight and
Effectiveness
Classification Appeal and FLSA Programs**

San Francisco Oversight Division
120 Howard Street, Room 760
San Francisco, CA 94105-0001

**Job Grading Appeal Decision
Under section 5346 of title 5, United States Code**

Appellant: [The appellant], et al.

Agency classification: Electronic Integrated Systems Mechanic
WG-2610-12

Organization: [The appellants' organization]

OPM decision: Electronic Integrated Systems Mechanic
WG-2610-12

OPM decision number: C-2610-12-01

Carlos A. Torrico
Classification Appeals Officer

February 22, 2001
Date

As provided in section S7-8 of the *Operating Manual: Federal Wage System*, this decision constitutes a certificate that is mandatory and binding on all administrative, certifying, payroll, disbursing, and accounting officials of the government. There is no right of further appeal. This decision is subject to discretionary review only under conditions and time limits specified in section 532.705(f) of title 5, Code of Federal Regulations (address provided in the *Introduction to the Position Classification Standards*, appendix 4, section H).

Decision sent to:

Appellant:

[The appellant's address], et al.

Agency:

[The appellant's personnel office]

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Introduction

On May 31, 2000, the San Francisco Oversight Division of the U.S. Office of Personnel Management (OPM) received a job grading appeal from [the appellant]. Subsequently, on September 29, 2000, the appeal was converted to a group appeal filed by [the appellants]. All the other appellants have designated [name of one appellant] as their representative for this appeal. All of the appellants are assigned to the same job description. Their jobs are currently classified as Electronic Integrated Systems Mechanic, WG-2610-12, but they believe the jobs should be graded at the WG-13 level. Prior to appealing to OPM, [name of one appellant] appealed the classification of his job to the Department of Defense, Civilian Personnel Management Service. In a letter to [the appellant's] agency dated May 16, 2000, the Department of Defense sustained the current classification. The appellants' jobs are located in [name of appellants' organization and installation]. We accepted and decided this appeal under section 5346 of title 5, United States Code.

General issues

This appeal decision is based on a thorough review of all information submitted by the appellants and their agency, telephone interviews with three of the appellants, and telephone interviews with their immediate supervisor and shop supervisor. Both the appellants and their supervisors have certified to the accuracy of the appellants' official job description (JD). The appellants make various statements about their agency's evaluation of their jobs, and contend that their jobs should be upgraded because they believe that there are other jobs similar to theirs in the agency, which are graded at the 13 level. In adjudicating this appeal, our only concern is to make our own independent decision on the proper classification of the appellants' jobs. By law, OPM must classify jobs solely by comparing current duties and responsibilities to OPM job grading standards and guidelines (5 U.S. Code section 5346). Since comparison to standards is the exclusive method for classifying jobs, we cannot compare the appellants' jobs to others as a basis for deciding their appeals, and have considered their statements only insofar as they are relevant to making that comparison.

Job information

The appellants work in the [name of the appellant's organization]. Their duties include analyzing malfunctions, troubleshooting, repairing, installing, maintaining, testing, inspecting and modifying avionics weapons control, inertial and radar navigation systems, automatic flight control systems, instrument systems, and communication, navigation, penetration aids systems of the F-15 aircraft. The appellants work in four functionally integrated shops, requiring them to apply thorough technical knowledge in four different areas including radar navigation, automatic flight control and instrumentation, communication navigation and penetration aids systems, and photo sensors.

The [name of the appellants' organization] has been tasked with the responsibility of maintaining the ever expanding electronic integrated systems complex of the F-15 fighter aircraft. This encompasses all organizational and some intermediate level maintenance in respect to the integrated systems complex on the F-15. The F-15 has several integrated systems including the

fire control system, central computer (CC), weapons control system, navigation system, instruments, UHF communications, IFF systems, tactical electronic warfare system (TEWS), automated flight control system, and malfunction analysis and recording equipment. These avionics related systems have sensor subsystems which include the radar set, the attitude heading reference set, air data computer, flight director adapter, lead computing gyro, inertial navigational set, and actuating sub-systems to include the head-up display, signal data recording set, and internal countermeasures system. The central computer interfaces with each of the major sub-systems with the overall objectives of positioning the airframe to deliver the weapons, aiding in locating the target, providing proper steering information to intercept the target; delivery of weapons for increased assurance of a hit; and finally assisting the pilot in returning to home base. The appellants' jobs require an extensive knowledge of electronic, pneumatic, hydraulic, and mechanical systems in order to understand and predict the progressive effects of malfunctions throughout the complete avionics package on the F-15 aircraft.

The appellants spend up to 85% of their work time in activities related to troubleshooting, diagnostics, repair, performing operational checks, validations and the removal and replacement of line replaceable units (LRU's), wire and cable repair. The remaining time is spent performing aircraft documentation, history recording, repair cycle/supply tracking, computerized fault reporting, aircrew debriefing, housekeeping, technical order posting, scheduled inspection maintenance, and equipment and tool inventories. They receive scheduled inspection and maintenance work assignments either orally or in writing from their supervisor. Assignments involving flight line work on aircraft transiting the area of the base that experience problems prior to, during, or following a flight are relayed from the dispatch desk.

Eighteen F-15 aircraft are assigned to the unit. Work is performed on the flight line where the aircraft are parked, or in hangars. Flight line work typically involves replacing LRU's. Old LRU parts and other individual subsystems are then taken to the shop for bench repair; others are sent out through the supply channel for repair at Depot. One person typically performs LRU replacements. For the majority of the time aircraft are serviced by two-person teams. Technical orders require the two-person crew because the systems are so spread out that one person could not troubleshoot and perform the repair. One person on the flight deck monitors the instruments and reads from the technical order using the aircraft headset, while the other person uses the testing equipment to simulate actual operation. Assigned aircraft are scheduled for 200-flight hours inspections at the installation, while 1,000-flight hours inspections are sent to Depot.

The appellants' job description, other material of record, and the results of our interviews furnish more information on the appellants' duties and how they are performed.

Series, title, and standard determination

The agency has classified the appellants' jobs in the Electronic Integrated Systems Mechanic 2610 occupation and the appellants do not disagree. We concur with the agency's determination. Like the appellants' work, and as described in the job grading standard for the 2610 occupation (dated June 1974, reissued in HRCD-7, July 1999), duties in that occupation involve rebuilding, overhauling, installing, troubleshooting, repairing, modifying, calibrating, aligning, and maintaining integrated electronic systems, i.e., where the output of a number of sensor

subsystems is integrated in a logic subsystem and the resultant used to modify the operation of the total system. Examples are: fire control, flight/landing control, automatic test equipment, flight simulators, combining navigation, and electronic warfare or multiple integrated electronic systems composed of several of these systems which are closely interrelated and interdependent. Similarly, the appellants analyze malfunctions, troubleshoot, repair, install, maintain, test, inspect and modify integrated electronic systems involving weapons control systems, automatic flight controls/instruments, and communication/navigation/penetration aids systems of the F-15 aircraft. The appellants' duties require them to simultaneously draw on the complete range of electronic, mathematical and mechanical knowledge comprising integrated electronic systems to understand and maintain the equipment.

The appellants' jobs are titled Electronic Integrated Systems Mechanic, and evaluated below by application of the grading criteria in the job grading standard (JGS) for Electronic Integrated Systems Mechanic 2610.

Grade determination

The JGS for Electronic Integrated Systems Mechanic 2610 identifies and describes key characteristics, which are significant for distinguishing between levels of work. It evaluates grade levels by considering four factors: Skill and Knowledge, Responsibility, Physical Effort, and Working Conditions. These four factors are addressed below and compared to the appellants' work.

Skill and Knowledge

As described on pages 5-6 of the 2610 standard, grade 12 level electronic integrated systems mechanics must have the ability to repair, align, and adjust major integrated electronic systems (composed of a number of individual subsystems) such as inertial navigation, automatic flight control, or fire control. They possess extensive knowledge of electronic, pneumatic, hydraulic, and mechanical systems in order to understand and predict the progressive effects of malfunctions throughout the interrelated units. They must have a thorough knowledge of the application of electronic theories and practices to one or more complex integrated systems such as fire control, inertial navigation, or automatic landing control systems. They apply this knowledge of mechanics, hydraulics, optics, or pneumatics to correct malfunctions because the system's equipment is so interrelated that output or functions of one component affect the total system operation and a malfunction may cause error indications in subsystems remote from the defect. They must have knowledge of mathematics including algebra and basic trigonometric functions in order to adapt standard formulas to the specific requirements of the integrated system. At the grade 12 level, electronic integrated systems mechanics follow drawings for integrated electronic systems such as radar navigation systems, which integrate terrain information from the radar, pitch, roll, and turn rate, etc., from sensing devices, and actuate control relays. Mechanics at this level are able to diagnose and determine needed repairs for malfunctions in electronic systems such as weapons control where knowledge of the entire system is necessary to interpret error data and trace back through a number of units of the system to locate the deficiency.

At the grade 13 level (pages 7-8) electronic integrated systems mechanics must have the ability to repair, align, and adjust complete multisystems such as the electronics package in a highly automated aircraft where target acquisition and tracking, weapons control, aircraft attitude control, navigation, and other complex functions are performed by numerous systems which are extensively interconnected with data feedback loops. Grade 13 electronic integrated systems mechanics must have extensive practical knowledge of the theories and practices of electromagnetic propagation, electronic circuits, computer theory, hydraulic or pneumatic control and power systems, and many other areas covering a wide range of system applications. They are knowledgeable of the uses of mathematics, including trigonometry, to calculate power relationships, signal phasing, etc. They must be able to isolate malfunctions of complete multiple integrated systems consisting of closely interrelated fire control, bombing-navigation, flight control, countermeasures or similar systems. To do this they must have complete knowledge of all electronic, mechanical, and or optical systems and units to determine methods of repair where extremely complex relationships exist among numerous interconnected units and control circuits not only within the individual control systems but between them as well.

The appellants' jobs fully meet the grade 12 level, but fall short of the skill and knowledge required at grade 13. Their primary responsibilities are to perform aircraft systems troubleshooting and adjustments, on-equipment repairs, off equipment repairs, component removal/replacement, operational checks, and special inspections on major integrated electronic systems. Similar to the grade 12 level, to perform those functions they apply thorough knowledge of the application of electronic theories to one or more complex integrated systems. For example, they apply such knowledge to the navigation or flight control systems so they can analyze the malfunctions encountered, devise repair procedures, and assess the adequacy of tests. They use their knowledge of electronics, hydraulics, and mechanical systems to understand and predict the effects of subsystem malfunctions on the total functional system. While they may repair, align and adjust major single integrated systems containing a number of individual subsystems, unlike the grade 13 level their duties do not require them on a regular and recurring basis to repair, overhaul, rebuild, align and adjust complete multi-systems, consisting of several major integrated systems. Our fact-finding disclosed that in contrast to the grade 13 level, the appellants do not have to isolate malfunctions of complete multiple integrated systems consisting of closely interrelated fire control, bombing-navigation, flight control, countermeasures or similar systems. In addition, they are not expected to determine the methods of repair where extremely complex relationships exist among numerous interconnected units and control circuits not only within the individual control systems but between them as well, requiring complete knowledge of all electronic, mechanical, and or optical systems and units as described at the higher level. Comparable to the grade 12 level, the appellants are only required to have a complete working knowledge of the interaction of the subsystems to the characteristics and functions of the integrated system as a whole. In repairing and aligning an integrated system, they must analyze and evaluate operational performance data, inspect, test, and troubleshoot the entire system including its subsystems, using a variety of test equipment, technical orders and engineering data to isolate malfunctions.

Considering the level of skill and knowledge required of the appellants to do their jobs, assignment of grade 12 for this factor is appropriate.

Responsibility

Grade 12 electronic integrated systems mechanics (page 6) receive oral and written assignments in the form of work orders and a general discussion of the work to be performed, including such things as planned completion dates and modification schedules. They exercise judgment and independence in determining solutions to maintenance and repair problems which are complicated by the interactions of the various complex subsystems, so that the cause of an observable malfunction may be in some other area of the equipment and changes made in one area may affect other remote portions of the system. They frequently coordinate the work assignments and provide technical assistance to one or more lower grade employees. Grade 12 mechanics often coordinate with technical and professional personnel on matters affecting operating specifications and changes of equipment, for instance, validating technical data and test programs, reporting discrepancies, and recommending solutions. The supervisor reviews work for compliance with acceptable trade practices and relies on the grade 12 mechanics to take independent action in solving problems.

Grade 13 electronic integrated systems mechanics (page 8) receive broad general instructions covering the scope of the task assigned. Available technical data may refer only to specific portions of the complete integrated system. The mechanic must adapt and extend this data to take into account the multiple interrelationships of the total system. They receive little technical guidance from their supervisors. They are considered to be highly qualified experts in the trade and are responsible for advising engineering personnel on the operation and maintenance effects of proposed modifications or new equipment. The grade 13 mechanic's work is reviewed in terms of overall results achieved, i.e., compliance of the finished product with durability and accuracy requirements.

The level of responsibility exercised by the appellants fully meets the grade 12 criteria, but falls short of the grade 13 level. Like the grade 12 level, they receive assignments from their supervisor verbally or through written work orders. They independently carry out their work, and exercise judgment in solving repair problems which are complicated by the interactions of various subsystems. Typically they make independent judgments and decisions regarding the methods and procedures for completing assignments. They are responsible for understanding the effect that particular repairs will have on the related integral components of the equipment serviced. Similar to the grade 12 level, the appellants sometimes coordinate work assignments and furnish technical guidance and assistance to lower graded employees on the repair of LRUs and various subsystems. Work is reviewed by the supervisor through spot checks and quality control checks for compliance with trade practices, and the supervisor provides technical guidance and assistance for highly unusual or controversial problems.

The appellants' level of responsibility does not meet the grade 13 level. Supervisory instructions are more specific than just broad general guidance, and typically the available technical data covering the integrated systems (e.g., technical orders, manufactures' handbooks and specifications, engineering data) fully deals with the aspects of diagnosis, testing, alignment and repair. Thus there is generally no need to adapt or extend the available technical data. In addition, a representative of the aircraft manufacturer (Boeing) is available for advice and assistance. While the appellants are clearly very skilled journey level mechanics in their

occupation, they are not viewed as experts responsible for advising engineering personnel on the operation and maintenance effects of proposed changes, or application of new equipment on the F-15 aircraft as envisioned at the grade 13 level. Unlike the grade 13 level, the appellants' work is subject to spot check and quality control checks upon completion for acceptability and adherence to instructions and established standards.

The appellants' level of responsibility is evaluated at the grade 12 level.

Physical Effort

This factor is the same at grades 12 and 13, and is not grade controlling. The appellants' jobs meet the grade 12 criteria as described on (page 6) of the standard. Like that level, light to moderate physical exertion is required in lifting and carrying items weighing from 10 to 40 pounds and occasional objects weighing in excess of 40 pounds. The appellants are required to stoop, bend, and stand for extended periods of time on concrete or composition floors.

Working Conditions

This factor is the same at grades 12 and 13, and is not grade controlling. The appellant's jobs meet the grade 12 criteria as described on (page 6) of the standard. Like that level, work is often performed inside in well-lighted, heated, and ventilated areas. Work is performed on aircraft, sometimes outside in inclement weather. The appellants are subject to injuries such as cuts and bruises, as well as burns caused by electrical shocks, hazards from toxic fluids, etc.

Decision

The appellants' jobs are properly classified as Electronic Integrated Systems Mechanic, WG-2610-12.