U.S. Office of Personnel Management
Division for Human Capital Leadership & Merit System Accountability
Classification Appeals Program

Atlanta Field Services Group
75 Spring Street, SW., Suite 1018
Atlanta, GA 30303-3109

Classification Appeal Decision
Under section 5112 of title 5, United States Code

Appellant:	[appellant]
Agency classification:	Aerospace Engineer GS-861-13
Organization:	[organization] Branch [organization] [organization] Center National Aeronautics and Space Administration [location]
OPM decision:	Aerospace Engineer GS-861-13
OPM decision number:	C-0861-13-01

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Human Capital Leadership
and Merit System Accountability

September 3, 2004
Date

As provided in section 511.612 of title 5, Code of Federal Regulations, this decision constitutes a certificate that is mandatory and binding on all administrative, certifying, payroll, disbursing, and accounting officials of the government. The agency is responsible for reviewing its classification decisions for identical, similar, or related positions to ensure consistency with this decision. There is no right of further appeal. This decision is subject to discretionary review only under conditions and time limits specified in the *Introduction to the Position Classification Standards*, appendix 4, section G (address provided in appendix 4, section H).

Decision sent to:

PERSONAL
[appellant]
National Aeronautics and
Space Administration
[organization] Center
[address]
[address]
[location]

[name]
Director
Office of Human Resources
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Director of Personnel
National Aeronautics and
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Headquarters
Washington, DC 20546-0001

Introduction

On March 11, 2004, the Atlanta Oversight Division of the U.S. Office of Personnel Management (OPM) accepted a classification appeal from [appellant]. His position is currently classified as Aerospace Engineer, GS-861-13, in the [organization] Branch, [organization], [organization] Center (acronym), National Aeronautics and Space Administration (NASA), [location]. The appellant believes that the peer review process used by the agency was "apparently biased" and that his past work accomplishments were not properly considered. We received the complete appeal administrative report from the agency on April 22, 2004. The appeal has been accepted and processed under section 5112(b) of title 5, United States Code (U.S.C.).

To help decide the appeal, we conducted a phone audit with the appellant and we interviewed his supervisor. We also telephonically interviewed six other engineers knowledgeable of the appellant's work and structural dynamics, whose names were furnished to us by the appellant and the agency. In reaching our classification decision, we have carefully reviewed the audit findings and all information of record furnished by the appellant and his agency, including his official position description, number [#], which we find contains the major duties and responsibilities assigned to and performed by the appellant.

Background

In July 2003, a peer review panel, following [organization]'s Research Development Classification Process, evaluated the appellant's position at the GS-13 level using the Equipment Development Grade Evaluation Guide, Part 1. The appellant requested a re-evaluation of the findings and, in December 2003, a subject matter expert and a [organization] human resources specialist affirmed the peer panel's findings. The appellant then appealed to his agency and, on February 20, 2004, the agency sustained the current grade of the appellant's position. He subsequently filed a classification appeal to OPM.

General issues

The appellant makes various statements about his agency's review and evaluation of his position. He states that some employees who received GS-14 grades in the peer review process "showed little advanced or original technical work, but claimed an association with a large dollar spacecraft project." He also states that over 50 percent of his peers who "are perhaps from the local area and well known" at [organization] were advanced to the GS-14 level in the review process. The appellant also wishes to grieve the operation of the peer review process at his activity since he believes his position was not reviewed within the timeline established by the review process guidelines. He also wishes to grieve the activity's timeliness in re-evaluating his position. In adjudicating this appeal, our only concern is to make our own independent decision on the proper classification of the appellant's position. By law, we must classify positions solely by comparing their current duties and responsibilities to OPM standards and guidelines (5 U.S.C. 5106, 5107, and 5112). Therefore, we have considered the appellant's statements only insofar as they are relevant to making that comparison. Like OPM, the appellant's agency must classify positions based on comparison to OPM position classification standards and guidelines.

However, the agency also has primary responsibility for ensuring that its positions are classified consistently with OPM appeal decisions.

The appellant discusses work that he performed since 1993, including two work products that were patented in 1995 and 1999. However, 5 U.S.C. 5112 requires that we can consider only current duties and responsibilities in classifying positions. Established OPM guidance requires that a representative work cycle be determined for establishing what work is characteristic of a position for classification evaluation. The "cycle of work" representative of a position can vary from agency to agency, or even within a given agency. Given the cycle of the appellant's work, particularly as relates to his on-going applied research and incorporation of aspects of it in work proposals, current duties for this position are those that have occurred in about the past two years. The earlier investigations provide useful historical background and personal qualification for work currently assigned, but our adjudication must focus on the more recent work performed by the appellant.

Position information

The appellant's organization performs functions associated with the management and implementation of integration and test activities for aerospace flight projects. It provides support to engineering and research elements during the fabrication, assembly, integration, inspection, functional checkout, testing, including complex end-to-end system performance testing, and operations of aerospace flight and ground support systems.

The primary purpose of the appellant's position is to serve as an aerospace engineering technical expert in structural dynamics performing work related to dynamic testing both for [organization] and other NASA centers and private organizations. Work includes vibration and modal testing and analysis of spacecraft and aircraft structures and experiments, wind tunnel models and their support systems, laboratory research experiments, and facility structures and equipment. He critiques NASA studies and proposals and may serve as a lead over junior engineers and technicians for testing and development activities or in coordinating the work of other engineers in other specialty areas. The appellant develops test requirements, procedures and equipment needs. He recommends and implements corrective actions for dynamics problems. The appellant indicated that he performs this work for approximately 50 percent of his time.

The appellant is also working on an applied research project involving application of current technology to the development of instruments and sensors. He is investigating composite damage detection by testing Macro-fiber Piezoelectric sensor flaw and level detection for advanced cryogenic/structural tanks and the feasibility of sensor use for new technology. The appellant estimated this duty at 50 percent of his time. The supervisor indicated that the time varies, but may be as high as 50 percent, and the appellant performs this duty when he is not performing his other assigned duties.

The appellant's present and immediate past work assignments include:

- [name] Project Proposal – The appellant served as lead engineer responsible for integration of calibration and dynamic testing for the Point Spectrometer Instrument

Proposal for a designed vehicle. The work involved state-of-the-art point spectrometer instrumentation developed by a project team for the proposal. The appellant defined the test sequence and cost and integrated the work of other professionals involved in testing and analysis. Testing principles, timeline, overall schedule, and a cost cap were provided and the appellant developed a plan consistent with these and the overall project requirements. He provided the overview for development and testing, including the tests and procedures necessary to qualify the spectrometer as capable of performing or holding up under the stresses and environment of the mission. He coordinated the work of other specialists in determined how many tests (e.g., radiation, shock, acoustic, EMI interference, etc.) were needed, how to do them, integration of test equipment with the hardware, what and how many engineering specialists were needed, equipment costs, etc. The appellant recommended incorporation of a sensor system designed to provide a comprehensive vibrational history of the mission.

- Vibration lab testing and sign off qualification for projects – These projects were recently assigned and involve determination of the vibration and shock testing requirements and methods, including procedures and data analysis when required, for spacecraft, aeronautical instruments, and other space-flight payloads. Specific projects have included those associated with a Boeing 757 research plane and the [name] program. The appellant developed the vibration specifications and performed the testing of a computer instrument on the research plan and an imager for the [name] project. He planned, developed, and wrote the vibration test procedures and wrote the report.

- [name] Proposal – The appellant served as lead structural mechanical engineer for the [organization] study in completing the testing plan and schedule portion of the proposal. The project involved a new vehicle for taking a larger payload to Mars. The appellant determined the requirements for testing the aero-shell for shock, vibration, and other environmental conditions and performed a comparative analysis of the old and new testing designs. The appellant prepared the work breakdown statement defining the cost, time, tests, and other resources required to test and qualify the spacecraft using assumptions of the Mid Lift and Drag program team. Based on his research, he developed a test schedule and manpower estimates and proposed integrating a vibration sensor subsystem to provide a history of vibrational stress. The project was jointly led by Johnson Space Center and [organization] to provide a realistic costing and schedule review.

- [name] Research Project – The appellant is expanding on previous research work done by others in using sensor flaw and level detection for advanced cryogenic/structural tanks for investigation of practical composite damage detection. He adapted [organization] patented sensors and partnered with Marshall Space Flight Center personnel to fabricate composite tanks with incorporated flaws for research purposes. The appellant is still verifying his test results. The work has not been subjected to peer review and the value of the work has not been determined. He presented a paper on a similar sensor project to the Society of Experimental Mechanics.

Supervision is provided by the branch chief, a Supervisory Aerospace Engineer, who assigns projects in terms of broad objectives. The appellant has considerable discretion in engineering activities and coordinates work with customers and others as needed. Work results are reviewed primarily in terms of accomplishment of objectives and impact on other programs and projects and with adherence to NASA's policies and objectives. As proposals move forward, they are reviewed by design review boards. The appellant's decisions and recommendations are usually accepted as authoritative and serve as a basis for senior management and customer decisions.

Both the appellant and the supervisor certified the accuracy of the appellant's official position description. The position description of record contains more information on the duties and responsibilities assigned by management and performed by the appellant and we incorporate it by reference into the decision.

Series, title, and standard determination

The agency classified the appellant's position in the Aerospace Engineering Series, GS-861, and titled it as Aerospace Engineer. It is properly evaluated by application of the Equipment Development Grade-Evaluation Guide (EDGEG), Part 1, Product Development Engineering. The appellant does not disagree with these determinations and we concur.

Grade determination

The EDGEG, Part 1, uses two factors, *Assignment characteristics* and *Level of responsibility* to evaluate covered positions. Our evaluation of the appellant's position using these factors follows.

Assignment characteristics

This factor deals with the nature, scope and characteristics of the assignment; the nature and extent of judgment and knowledge required; and the degree to which guidelines and precedents exist.

At the GS-13 level, engineers serve as technical specialists for the organization in the application of advanced theories, concepts, principles and processes for an assigned area of responsibility. The work requires either theoretical expertise in a specialty that applies to a wide variety of situations, uses, and problems; or, extensive application of theories, principles and practices of one or more disciplines involving many variables and complex interrelationships. Characteristically, GS-13 engineers conduct continuing studies and analyses to determine the feasibility of various advanced engineering approaches, to define concepts and criteria for future programs or to resolve major controversial problems in current programs. Frequently, GS-13 engineers serve as team leaders guiding and coordinating the work of other engineers. They perform a broad range of functions such as establishing requirements for advanced work in the area of responsibility to meet new or inadequately fulfilled technical objectives; and conceiving and developing new products and/or theories pertaining to new applications of existing products. Work is characterized by problems of a controversial or novel nature for which available guides are the basic agency regulations, policies, and fundamental principles of the engineering field. It requires investigation and evaluation of various alternative development approaches and there is

a continuing need for compromises between the most desirable application of engineering principles and the exigencies of costs, priorities, schedules, and supporting requirements.

Illustrations of GS-13 level work include serving as the engineering specialist for a variety of types and models of major systems for specialized applications and performing a range of functions, such as evaluating research findings, recommending development programs to be undertaken, and preparing estimates of funding and time phasing requirements; conducting or directing feasibility studies to analyze, evaluate and determine practicability and adaptability of new proposals; initiating and coordinating various project activities in-house; and determining technical adequacy of developments conducted. A second illustration includes work serving as a specialist in preliminary design and analytical design functions for a broad specialty area such as propulsion and power for missile systems. This may include defining overall characteristics and performance requirements for advanced concepts and establishing basic characteristics in preliminary design. It may also include developing new techniques; applying these techniques to the analysis of existing or proposed systems to determine feasibility of new design concept; and furnishing scientific and engineering advice and directing others in the application of advanced design and analysis techniques.

The GS-13 level is met. As at the GS-13 level, and comparable to the illustrations above, the appellant's work requires expertise in structural dynamics to develop testing plans and integrate tests for a variety of equipment. In doing this, he considers all possible simulations and variables, including a variety of vehicle and instrument designs, environmental conditions, payloads, costs, timeframes, etc. In developing test plans, he must coordinate with design personnel because of all the variables involved and make sure that the plan is consistent with the overall project requirements. While templates exist for the tests, the appellant establishes requirements for original test plans and test integration for new equipment. Because of the state-of-the-art, custom equipment subject to the testing, each test is unique. The appellant routinely must customize and adapt engineering, test, and calibration procedures and design new approaches to accomplish the testing, as he did for the [name] project. He must also determine the structural design of instrument supports or fixtures.

Comparable to the GS-13 level, the appellant serves in a lead capacity on some projects, either guiding the work of lower grade engineers and technicians or integrating and coordinating the work of other professionals doing project testing, e.g., the [name] project. The appellant's projects relating to proposals, e.g., [name] and [name], have required him to prepare work breakdown statements considering costs, resources, schedules, and supporting requirements, and to consider associated risks resulting from testing compromises. Also comparable to the GS-13 level, the appellant performs work to resolve specific problems. For example, because of variations in the properties of actuators manufactured at [organization], he began his research project to assess the manufacturing process and evaluate the actuators. He is now testing the use of actuators to determine flaw detection in composite materials.

At the GS-14 level, engineers serve as advisors and/or as team leaders in planning, organizing, and directing extensive development efforts for organizations engaged in broad programs of applied research and development. The work is characterized by problems for which engineering precedents are lacking in areas critical to the overall development effort or program.

They serve as expert advisors and provide leadership for broad and complex programs that advance the state of the art. Their assignments typically involve the entire development process and may also involve research, production, and operational efforts. These programs are critical to a wide variety of uses and purposes or a unique mission. Relative to programs of this nature, GS-14 engineers perform a range of functions. They assess and demonstrate the effectiveness of new concepts and ideas. They evaluate technological trends and establish the more promising approaches for achieving highly significant advancements. They also formulate overall design concepts and criteria which establish the baseline for advancement of the state-of-the-art engineering developments. GS-14 engineers explore and evaluate advanced proposals. They review and assess overall progress in the development effort, and resolve technical difficulties that can be overcome by changes in characteristics, approach, criteria, and requirements. They also coordinate the efforts of other recognized technical specialists.

Illustrations for GS-14 work include serving as staff engineer to a laboratory or engineering organization and formulating, planning for, and providing engineering management of programs in a broad and complex field (e.g., guidance control and target detection systems, or flight mechanics). Work illustrations also include serving as a team leader who establishes methods and procedures necessary to accomplish advanced studies for weapon systems, launch vehicles, aircraft, etc., and has responsibility for planning the approach, establishing the phasing and timing of the various stages, and identifying the objectives.

The GS-14 level is not met. The appellant typically has responsibility for the testing plans for projects and performing applied research, but does not have responsibility for planning, organizing, and directing the extensive development efforts expected at the GS-14 level. The objectives, parameters, and requirements of his projects and proposals are typically established by the project manager or a higher level of program management. For example, in the [name] proposal the appellant was assigned a portion of the project. He was assigned the vibration testing for the vehicle structure, rather than the leadership for a broad and complex program, and used assumptions of the Mid Lift and Drag Program Team. The appellant developed the qualification and development plan, including the work breakdown statement with costs and resources. Unlike the GS-14 level, structural precedent was available and the appellant's work was not characterized by innovations in the structural area, although the appellant did propose use of sensors to gather vibration history.

This factor is evaluated at the GS-13 level.

Level of responsibility

At the GS-13 level, engineers function within the framework of broad technical policy and planning formulated at higher engineering management levels. Assignments are received in terms of general objectives. Frequently, compromises and decisions must be made, after preliminary studies and investigations, to define the tangible objectives. The engineers confer with other engineers, scientists and user organizations to develop in more detail the objectives and to reconcile conflicts. Technical problems are generally resolved without reference to supervisors. GS-13 engineers' recommendations are normally accepted by others as those of a specialist and are largely unreviewed except where matters of policy, highly controversial issues,

or unproven concepts are involved. Completed work is reviewed for feasibility in relation to requirements, and for conformance with overall policy and program objectives. GS-13 engineers represent the organization in presenting and justifying comprehensive proposals for major development efforts, in evaluating such proposals of others, and in negotiating compromises in basic design requirements and characteristics.

The GS-13 level is met. As at the GS-13 level, the appellant's work is assigned in terms of general objectives. He independently plans and accomplishes work. Work is reviewed for adherence to NASA's policies and guidelines and accomplishment of objectives. For projects such as [name], he determines possible work compromises and associated risks to meet time and cost objectives. His recommendations as an expert engineer are normally accepted. He deals directly with multidisciplinary project personnel and presents integrated team or his individual recommendations to project and line management. For example, the appellant routinely confers or works with professionals at [organization], other NASA centers, and other private laboratories and academic institutions. For the [name] proposal, he delivered his power point presentation of the testing approach and assumptions to involved engineers at [organization] and Marshall Space Flight Center.

At the GS-14 level, supervision is primarily concerned with the starting and the stopping of programs. The engineers have responsibility for converting overall objectives into development programs and policies for others to use. They adjust the broad development activities carried out to the latest advances in technology and to the changing program needs. The scope of the program and the nature and effect of the determinations made by GS-14 engineers necessitate extensive contacts with key officials and engineers of other groups within the agency, other government agencies, industry, universities, research organizations, and design officials. Frequently, they serve as spokesmen in high level conferences held to negotiate mutually satisfactory solutions to critical issues affecting agency policy, objectives, and missions. They have high professional stature and frequently serve as symposia chairmen or session chairmen of important technical meetings, and they are often consulted by senior technical specialists in other organizations.

The GS-14 level is not met. Neither the scope of the appellant's work nor his authorities over it have GS-14 level breadth and complexity. The GS-14 level anticipates overall responsibility for a broad program or a major project having comparable breadth and complexity. The appellant is typically responsible for a segment of a broader study and performs required testing for research projects or works as a technical lead or member of an engineering team. He develops testing plans and work breakdown statements for his assigned areas of responsibilities, but unlike the GS-14 level, he is not responsible for converting broad objectives into development programs or policies for the use of others. His work and recommendations involve dynamic testing and integration for major programs or projects developed and overseen by project managers or other management staff, e.g., integration of calibration and testing for the [name] point spectrometer proposal; the testing and qualification requirements for the aero-shell for the [name] Mars vehicle study; vibration specifications for an imager for the [name] project; etc. The appellant's recommendations, unlike the GS-14 level, do not directly extend to the initiation of new projects or abandonment or extensive alteration of current ones, but rather are part of an overall project recommendation. Additionally, the appellant infrequently presents a paper at a conference, but

does not serve as a spokesman at high level conferences or have comparable GS-14 level high professional stature

This factor is evaluated at the GS-13 level.

Both *Nature of assignment* and *Level of responsibility* are evaluated at the GS-13 level.

Decision

The appellant's position is properly classified as Aerospace Engineer, GS-861-13.