# Department of Defense (DoD)
## Civilian Personnel Management Service (CPMS)
## Field Advisory Services - ***FAS***
## Classification Appeal Decision

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| **DoD Decision:** | **Hydraulic Engineer, GS-0810-12** |
| **Initial classification:** | Hydraulic Engineer, GS-0810-12 |
| **Organization:** | Army Corps of Engineers<br>District<br>Engineering Division<br>Hydrology and Hydraulics Branch<br>Hydrologic Engineering Section |
| **Date:** | December 19, 1996 |

**BACKGROUND:**

This office accepted a classification appeal from , a Civil Engineer, GS-810-12 at the U.S. Army Division, District, Engineering Division, Hydrology and Hydraulics Branch, Hydrologic Engineering Section. Mr. Young contested the local evaluation of his position, and requested that his position be reclassified as a SWL Technical Specialist, River Design Bank Stabilization, GS-810-13. Specifically, he believes his responsibilities for the approximately 1,600 channel control/bank stabilization structures located on the first of the River Navigation System, and overall expertise in the areas of channel improvement and bank stabilization warrant classification at the GS-13 level.

**SOURCES OF INFORMATION:**

1. Appellant's memorandum of appeal with enclosures transmitted by the agency Administrative Report.
2. Telephone audit with appellant.
3. Telephone audit with appellant's supervisor, Hydrologic Engineering Section Head.

**STANDARDS REFERENCED:**

1. U.S. OPM Position Classification Standard for the Civil Engineering Series, GS-810, TS 62, dated June 1966.

2. U.S. OPM Position Classification Standard for the Mechanical Engineering Standard, GS-830, TS-28, dated June 1977.

3. U.S. OPM Introduction to the Position Classification Standards, TS-107, dated August 1991.

**POSITION INFORMATION:**

The appellant is responsible for maintaining the navigability of mile xxx to mile xxx of the River Navigation System. Specifically, he is responsible for maintenance and repair (and new construction as required) of approximately 1,600 bank stabilization and channel control structures (such as dikes, revetments, and weirs) along that section of the river system. He is also considered the technical expert in the area of bank stabilization and channel control, identifying and resolving bank stabilization and channel improvement problems occurring throughout the District. He conducts studies, prepares or directs preparation of designs and drawings, prepares contract specifications, identifies associated resource estimates, accomplishes all necessary coordination, and establishes project priorities for submission to top District management. He assures finished projects are consistent with the original intent, and coordinates with and advises counterparts in District Resident Offices, as well as in Construction-Operations (Con-Ops), Navigation, and Geotechnical elements at the District level. The nature of problems arising from river activity or impact of other structures require the appellant to consult with engineering experts at the Waterways Experiment Station (WES). The appellant also fields questions from outside activities such as landowners and utility companies regarding bank stabilization and channel control issues.

**SERIES AND TITLE DETERMINATION:**

The appellant does not dispute the classification of the position in the Civil Engineering Series, GS-810. The position clearly performs duties analogous to those positions included in the GS-810 series, which use knowledge of physical sciences and mathematics underlying engineering, and specialized knowledge of solids (especially soils), hydraulics, structural theory, strength of materials, engineering geology, and surveying in order to plan, design, construct, and/or maintain structures and facilities that provide shelter, support transportation systems and control natural resources; and investigate, measure, survey, and map the earth’s physical features and phenomena. We agree that the position is appropriately classified in the GS-810 series.

The appellant believes a more appropriate title for the position is "SWL Technical Specialist, River Design/Bank Stabilization". The law (5 U.S.Code 5105) requires OPM to establish the official titles of positions in published classification standards. Accordingly, the OPM Introduction to the Position Classification Standards (Section III.H) requires use of prescribed titles when they are included in the governing classification standard. The GS-810 standard contains such prescribed titles. The position clearly fits the Hydraulic Engineering specialty, which requires application of knowledge of (a) the hydrologic and geologic environment, (b) principles of fluid mechanics and hydraulics, and (c) operational water requirements, with respect to systems and facilities for the development, conservation, utilization and control of water resources. The appropriate title for the appealed position is Hydraulic Engineer.

The requirement to use prescribed titles on official position documents (such as position descriptions and personnel actions) does not preclude the use of unofficial titles, such as that requested by the appellant, for internal agency use or recruiting purposes.

**GRADE DETERMINATION:**

The appellant believes that Part II of the Civil Engineering standard, GS-810, and the Mechanical Engineering standard, GS-830 are appropriate for grading his position. Each is addressed as follows:

a. GS-810:

The GS-810 standard contains five sets of grading criteria: Part I applies to positions at grades GS-5 and GS-7; Part II to positions involved in planning and design work; Part III to positions involved in construction; Part IV to positions involved in facilities engineering management; and Part V to positions involved in investigations and surveys. The key responsibilities of the appealed positions concern the identification of bank stabilization and channel control/improvement projects, the preparation of engineering design, contract plans, technical specifications, resource estimates, and relative priorities associated with those projects, and all associated coordination with funding authorities and construction counterparts. Part II provides the most appropriate reference for evaluating the appealed position. The position does not fully meet the intent of Part IV, which implies more authority than is delegated to the position with respect to making judgments on what facilities to build, with what resources, where and in what order, and taking action to ensure the approved facilities get built and maintained.

Part II of the GS-810 standard defines grade levels in terms of (1) the inherent complexity of the planning and design problems assigned, and (2) the level of judgment and authority exercised. Variety and depth of qualifications required are underlying considerations in each of these factors. The standard defines complexity in terms of "conventional work", which is accomplished by applying or adapting standard references, criteria, and precedents, and "advanced work", which requires searching out and selecting laws, formulae, principles, and materials, and applying them to novel situations through the use of new methodology, or by developing new design concepts and criteria for systems, structures, or materials. Additional indicators of complexity are (1) variety of interrelated operations or activities to be considered or coordinated, (2) problems in dealing with groups or individuals with conflicting views on project features or purpose, coupled with the need to balance those considerations against cost and practical design or construction principles, and (3) severe resource, time, statutory, or regulatory limitations.

The standard views the level of judgment and authority exercised in terms of the following: (1) the kind and degree of supervision received, and (2) the extent to which the incumbent must assess or identify the scope of his assignments or nature of problems, and determine the means and approaches to be used to carry out the work. A third indicator is the extent to which there is responsibility for monitoring or coordinating efforts of contract or in-house personnel; presenting plans and proposals to other agencies, public bodies, or private groups to obtain their acceptance and cooperation; explaining and justifying proposed project plans before higher authorities or outside groups; committing the agency to a course of action in conferences or consultations with external activities; serving as expert

advisor or troubleshooter in specialized areas; and serving as an expert witness in formal hearings.

At the GS-12 level, engineers rely on experience and know-how beyond that of standard theory and practices in order to identify and define the nature and scope of obscure problems, and to derive criteria and project assumptions from inconclusive or variable data. Assignments typically include either individual work on advanced planning or design problems, or responsibility for coordinating or monitoring work that is largely conventional, but which encompasses a number of components or phases of project work. Individual assignments are problematic in terms of their interrelated difficult and conflicting elements, critical performance and cost requirements, or unprecedented or undetermined design factors. These characteristics require extension or modification of existing criteria, development of new approaches and development of prototypes from studying research reports and other laboratory results, coupled with first-hand investigation. Coordinative work at this level involves developing schedules for orderly and timely accomplishment of work, arranging for and obtaining data and information from outside sources, and advising engineers on solutions to technical problems. Both individual and leadership efforts require coordination with those in other specialties to assure compatibility of approach and optimum results, as well as with representatives from other government agencies to negotiate differences, obtain cooperation, get clearances, etc. Efforts are limited only in terms of an indication of results desired and approved project scope and findings. Supervisors are kept apprised of controversial problems and consulted when proposed actions may require policy decisions.

GS-13 level engineers serve as the technically responsible specialists (in either a subject-matter or functional area or type of facility) in an organization in which work in their field constitutes a major activity and presents problems of significant depth and complexity. They are called on for opinions and advice on any matter within or touching their field. They develop procedures and standards for carrying out their specialty in the organization, and represent the organization with authority on technical engineering matters within the specialty. Engineers at this level individually perform advanced work related to difficult or critical problems, and often lead team efforts in carrying out broad project assignments with emphasis in their areas of specialization. Their projects typically include a broad range of elements, subsystems, or components required to meet a variety of operational requirements, unusually difficult site conditions and limitations, major aspects of environmental conditions that actual measurement cannot adequately determine, novel problems relating to efficiency and safety requirements, and controversial economic and public policy issues. These varied and interrelated complications require the engineer to apply perception, analysis, and experienced judgment to select optimum planning and design approaches from a technical, economic, and public need standpoint, and to exercise outstanding skill in representing the activity in connection with the assigned project, to present and explain controlling policies, objectives, and needs to cooperating or concerned authorities, agencies, and groups. Work at this level is performed within the framework of program and general technical guidelines established by higher organizational authority. Technical aspects (e.g., identification and analysis of controlling factors or problems, selection of design criteria, and approaches to problem solutions) are performed independently, and reviewed primarily to determine that objectives are being properly realized.

The appealed position does not meet the GS-13 level. While the appellant is considered a technical authority in the area of bank stabilization and channel control, this expertise is limited to the bodies of water within the District, and in particular, the River. The projects for which the appellant is

responsible are not considered "advanced work", nor do they include a broad range of elements, subsystems, or components. Each project requires consideration of its impact to river activity downstream, but projects such as dikes, revetments, weirs, and similar bank stabilization and channel control structures are essentially single-component, stand-alone structures. Each project typically involves a different combination of concerns (e.g., exactly what the river conditions are in the particular location of the structure, what is contributing to the problem to be solved, and what else (such as downstream activity and wildlife or fish habitat) will be affected), but rarely do these include unusually difficult site conditions and limitations, major environmental issues, novel efficiency and safety requirements, or particularly controversial economic and public policy issues. The appellant emphasizes the cost savings in avoided dredging for which he is responsible, and efficiency improvements as a result of the condition index he developed to streamline the prioritization of proposed projects. However, the GS-13 criteria contemplates the development of new engineering methodology, or design concepts and criteria. The technical solutions developed by the appellant through the years are significant, but are not considered precedent-setting beyond the scope of the appellant's own responsibility (i.e., beyond the District). Particularly troublesome problems have been resolved with the assistance of modeling and prototyping conducted by the Waterway Experiment Station staff. Finally, the appellant's projects do not require the level of external coordination of the GS-13. No more than seven of his projects during the last ten years have been outside Federal jurisdiction. None of his projects have involved the Environmental Protection Agency, and limited coordination is required with the Fish and Wildlife Service. Most projects do not impact private landowners or other public groups. Calls from external sources occur fairly regularly, but do not generally involve concern about ongoing initiatives. The internal coordination conducted by the appellant, albeit with significant independence, is not the sort implied by the GS-13 criteria.

The appellant cites several of the illustrations included at the GS-13 level in the GS-810 standard as comparable to his position. According to the principles of position classification, the full intent of a particular grade level must be met in order for that level to be assigned. It is particularly important to point out that illustrations contained in classification standards must be taken in the full context of the grade level they intend to describe. While the second illustration does, in fact, describe a position similar to the appellant's, the scope and impact of the illustrated assignment are of significantly greater breadth and impact than the appellant's. Unlike the illustration, the appellant's responsibilities do not extend beyond the State of , nor are the systems and facilities with which the appellant works for purposes other than navigation (and flood control). Further, there is much more economic and political interest at issue in the illustrated position than regularly faced by the appellant. Illustrations must be viewed in the context of all the elements of the basic grading criteria of the GS-13 level.

The appealed position meets the GS-12 level. Similar to GS-12 engineers, the appellant relies on his extensive, personal knowledge of the characteristics and behavior of the and related river systems to identify the direct and underlying causes of damage to established structures, changes in water velocity and channel patterns, development of new river behavior, changes in amount and location of sediment and bank conditions, etc. Each issue involves a different combination of causal factors, because of the generally unpredictable nature of alluvial river systems such as the . While actual construction of channel control and bank stabilization structures is not particularly complicated from an engineering point of view, determination of how to build (how long, how high, how wide), where to build, and what will happen elsewhere quickly becomes significantly complex. The no longer supports extensive dredging, and relies on engineers such as the appellant to design and place structures that will eliminate the need for more costly dredging operations. As a result of his own

studies and those jointly conducted by the Waterways Experiment Station, the appellant has achieved substantial improvements in river operations and has eliminated or reduced long-standing dredging requirements. The generic designs and use of indefinite quantity/indefinite delivery contracts, and the condition index developed by the appellant for the streamlining and improving the project planning and prioritization processes are analogous to the extension or modification of existing criteria or techniques required at the GS-12 level.

The appellant's coordinative responsibilities are also comparable to the GS-12 level. With significant independence, the appellant develops a annual prioritized schedule of requirements, along with associated resource requirements. He coordinates with counterparts in Navigation and Maintenance activities, as well as with Con-Ops and Resident Office representatives to discuss and provide advice on requirements, problems, and related issues. He is generally authorized to engage the support of a lower graded Hydraulic Engineer and an Engineering Draftsman to assist in conducting technical studies and preparing drawings and designs. The appellant independently attends budget meetings with higher level District authorities to justify the requirements that he and his supervisor have agreed are of highest priority.

The appropriate grade level for this position by application of Part II of the GS-810 standard is GS-12.

b. GS-830:

The appellant compares his position to the GS-830, Mechanical Engineering standard, because there are no Factor Evaluation System (FES) standards for Civil Engineering, GS-810 positions.

The GS-830 series covers professional positions in the field of mechanical engineering, typically requiring the application of thermo-dynamics, mechanics, and other physical, mathematical, and engineering sciences to problems concerned with the production, transmission, measurement, and use of energy, especially heat and mechanical power. The standard excludes from coverage positions that involve application of mechanical engineering principles and practices, but which are primarily in subject matter fields for which specialized series have been developed. The appealed position requires expertise in the field of civil (particularly hydraulics) engineering, and is correctly classified in the GS-810, Civil Engineering series. In this regard, it is inappropriate to directly apply the grading criteria of the GS-830 standard. However, some analogy can be drawn from the underlying distinctions between the factor level descriptions, and from this point of view, compared to the appellant's duties and responsibilities.

Factor 1, Knowledge Required by the Position: Factor Level 1-8 requires mastery of a specialty area in order to develop new approaches for use by other engineering specialists in solving a variety of engineering problems. The responsibilities of the appealed position do not require expertise equivalent to that provided at this factor level. The appellant's solutions to channel control and bank stabilization problems have not been adopted for general use beyond the District, nor is there any evidence that his efforts have established him as an authoritative consultant by engineers in other districts and divisions, or external activities. The appealed positions does not exceed Factor Level 1-7, where professional knowledges and abilities applicable to a wide range of duties in a specialty area are used to adapt precedents or significantly depart from previous approaches to similar projects, or to

modify standard practices and adapt equipment or techniques to solve a variety of engineering problems.

Factor 2, Supervisory Controls: This position does not meet Factor Level 2-5, where direction is of an administrative nature, and employees are responsible for planning, designing, and carrying out programs, studies, and other work independently. The appellant's efforts are subject to chain of command review and approval, although very little technical review is provided. The appellant does not have the authority to approve the execution of the projects he determines are necessary. The appealed position does not exceed Factor Level 2-4, where duties are performed in accordance with overall objectives and allocated resources, where employees coordinate with others, interpret policy in terms of established objectives, resolve most of the conflicts that arise, and otherwise operate with a considerable degree of independence.

Factor 3, Guidelines: The position does not meet Factor 3-5, where engineers are recognized as technical authorities in their specialty areas, and develop policies, nationwide standards, procedures, and instructions to guide operating personnel. The position does not exceed Factor Level 3-4, where guidelines are often inadequate in dealing with more complex or unusual problems, such as those presented by the sometimes obscure, unpredictable nature of the assigned river systems, and where engineers are required to use experience to deviate from or extend traditional engineering methods and practices to develop solutions to unprecedented problems.

Factor 4, Complexity: The position does not meet Factor Level 4-6, where assignments are characterized by unusual demands caused by extraordinary emergency, public interest, or economic restraints which demand that engineers take short-cuts or engineering compromises considered risky or extreme within the context of engineering methods and techniques. The position does not exceed Factor Level 4-5, where assignments involve many, varied complex features, require versatility and innovation to adapt or modify methods, and involve serious or difficult-to-resolve conflicts between engineering and management requirements, such as those occasions when insufficient funding is allocated to accomplish particularly critical flood repair or other projects.

Factor 5, Scope and Effect: The appealed position does not meet Factor Level 5-4, where the work products impact on a wide range of the agency's engineering program. The appellant's assignments affect a specific portion of a specific river system (and associated waterways) in a specific district. The position is credited at Factor Level 5-3.

Factor 6, Personal Contacts: The appealed position does not meet Factor Level 6-4, where contacts are with high ranking officials from outside the agency. The position does not exceed Factor Level 6-3, where contacts include a variety of officials, managers, professionals, or executives of other agencies, such as manufacturer's representatives or private architect-engineer firms.

Factor 7, Purpose of Contacts: This position does not fully meet Factor Level 7-3, where contacts are to influence other engineers to adopt technical points and methods about which there are conflicts, to negotiate agreements with agencies and contracts where there are conflicting interests and opinions among organizations or individuals who are also experts in the field, or to justify work proposals to top agency officials. The position is properly credited at Factor Level 7-2, where engineers plan and coordinate work with co-workers, discuss technical requirements with manufacturers, and resolve

problems, resolve questions of field personnel, discuss contract requirements, and generally clarify problems and reach agreement on overall plans and schedules.

Factor 8, Physical Demands: This position does not exceed Factor Level 8-1, where work is principally sedentary.

Factor 9, Work Environment: This position does not exceed Factor Level 9-1, where work is usually performed in an office setting.

Summary

FL 1-7 1250 points

FL 2-4 450 points

FL 3-4 450 points

FL 4-5 325 points

FL 5-3 150 points

FL 6-3 60 points

FL 7-2 50 points

FL 8-1 5 points

FL 9-1 5 points

TOTAL 2745 points

A total of 2745 points falls within the range for GS-11 (2355-2750), according to the Grade Conversion Table provided in the standard.

Conclusion: According to the GS-810 standard, the appropriate grade level for the appealed position is GS-12. While application of the GS-830 standard results in a GS-11 grade level, this standard was consulted simply for illustrative purposes to address concerns raised by the appellant. As indicated by the above analysis, the correct grade for the appealed position is GS-12.

**DECISION:**

We have determined that the work of this position is properly evaluated at the GS-12 level. It is our decision, therefore, that the appealed position is correctly classified as a Hydraulic Engineer, GS-810-12.