

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

Dallas Oversight Division
1100 Commerce Street, Room 4C22
Dallas, TX 75242-9968

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

Appellant: [appellant's name]

Agency classification: Research Hydrologist
GS-1315-14

Organization: [appellant's activity]
U.S. Geological Survey
Department of the Interior
[geographic location]

OPM decision: Research Hydrologist
GS-1315-14

OPM decision number: C-1315-14-01

/s/ Bonnie J. Brandon

Bonnie J. Brandon
Classification Appeals Officer

October 30, 2000

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:

Appellant:

[appellant's name and address]

Agency:

[servicing personnel office]
U.S. Geological Survey

Director of Personnel
Department of the Interior
Mail Stop 5221
1849 C Street, NW.
Washington, DC 20240

Introduction

On June 27, 2000, the Dallas Oversight Division of the U.S. Office of Personnel Management (OPM) accepted an appeal from [the appellant]. The appealed position is assigned to the [appellant's activity], U.S. Geological Survey (USGS), Department of the Interior, [geographic location]. The agency has classified the position as Research Hydrologist, GS-1315-14. The appellant believes his position should be classified at the GS-15 level or higher. He had initially appealed the classification of his position to the U.S. Geological Survey Research Grade Evaluation (RGE) Panel in May 1999 and to the Department of the Interior in February 2000. The Department found the appellant's position to be properly classified as Research Hydrologist, GS-1315-14. The appellant has filed an appeal with this office under the provisions of section 5112 of title 5, United States Code (U.S.C.).

The appellant certified to the accuracy of the duties described in his current position description (PD), [number], dated September 17, 1999. The appellant's supervisor certified that this PD accurately reflects the duties performed by the appellant. We find this PD is adequate for position classification purposes.

In reaching our classification decision, we considered information submitted in writing by the appellant and his agency and information obtained by telephone from the appellant and his supervisor. Additionally, as part of our fact-finding process, we contacted the RGE panel chairman and panel members who convened to assess the appellant's position. As required by law, we classified the position based upon the duties, responsibilities, and qualification requirements as compared to the criteria specified in the appropriate OPM classification standards and guidelines (5 U.S.C. 5106, 5107, and 5112).

Position information

The [appellant's activity] is a major research center of [a specific region] of the Biological Resources Division. The Division provides Federal and State management agencies and other cooperative organizations with data, research support, and research results that pertain to the nation's biological resources. The Division's research activities help Interior carry out its biotic and renewable resource trust responsibilities. The [organization's] staff is composed of hydrologists, ecologists, economists and biologists whose mission is to provide scientific understanding and technologies to support management and conservation of natural resources.

The [appellant's activity within the Division] conducts applied research and provides information and technology on the biological, physical, and chemical processes and dynamics underlying the ecological functions of wetlands, riverine, and floodplain ecosystems in order to describe and predict natural and human-induced environmental changes. The appellant works as a senior level hydrologist who participates with an interdisciplinary team of six self-directed scientists investigating approaches to restoring and managing [river] ecosystems.

The appellant's research focuses on developing and implementing a complex decision support system for water resource operation and management of [a specific river basin in two states] to protect and restore anadromous salmon runs. This position requires expertise in systems analysis

methods, computer modeling, network simulation, optimization, development of decision support systems, multicriteria decision analysis frameworks, and the adapting of these methods for use by resource decision makers in user friendly personal computer and spreadsheet environments.

Series, title, and standard determination

The qualifications of the appellant are highly significant in selecting the most appropriate classification series for research positions. Between 1972 and 1974, the appellant earned bachelor's and master's degrees in civil engineering with a minor in water resources systems. In 1977, he earned a Ph.D. in agricultural engineering with a minor in irrigation, drainage, and water resources. The appellant is also registered as a professional engineer in [two states]. In the context of this background, the appellant provides the principal expertise in hydrologic analysis of stream flow records and development of simulated river-reservoir network flow models.

We concur with the agency's determination that the duties performed by the appellant and the knowledge required for the position are best covered by the Hydrology Series, GS-1315. This series includes positions that involve professional work in hydrology, the science concerned with the study of water in the hydrologic cycle. The work includes basic and applied research on water and water resources; the collection, measurement, analysis, and interpretation of information on water resources; the forecast of water supply and water flows; and the development of new, improved, or more economical methods, techniques, and instruments.

The majority of the appellant's position involves research duties and responsibilities as defined in the Research Grade Evaluation Guide (RGEG). Therefore, the appellant's current title of Research Hydrologist is appropriate.

The appellant believes that the strict use of the RGEG is not appropriate for evaluating portions of the work described in his PD. The RGEG is intended for use in the evaluation of positions that are essentially full-time research positions. According to the RGEG, the purpose of the work, as determined by responsible management, usually governs whether or not a position requires the conduct of substantial research of the type covered by the RGEG as an integral part of the work. The appellant provides the principal expertise in hydraulic and hydrologic modeling and river system operations to [his] team. The appellant acknowledged in his telephone interview that he spends more than 60 percent of his work time conducting research.

We evaluated the appellant's position by application of the RGEG, which is used across series lines to determine the grade levels of research positions.

Grade determination

Part I of the RGEG is used to evaluate positions at GS-11 through GS-15 that are engaged in basic or applied research in the sciences when the functions involve the personal performance, as the highest level function and for a substantial portion of the time, of professionally responsible research. Part I includes four factors which are considered and rated separately, with the total

point value then being converted to a grade level by use of the grade conversion chart provided in the RGEG.

Each factor is evaluated at one of five degree levels. Three of these levels (A, C, and E) are defined in the RGEG. An intermediate level (B or D) may be assigned when a position is evaluated between levels A and C or levels C and E, respectively. Each factor also includes a description for an “In Excess of Degree E” level.

Factor I, Research situation or assignment

This factor deals with the nature, scope, and characteristics of the studies being undertaken by the employee. It is intended to reflect the situation or assignment in the current job, rather than a summation of the employee’s assignments over a long period of time. The RGE peer panel that evaluated the appellant’s position and issued a report on August 19, 1999, rated this factor at Degree D. Likewise, Interior rated this factor at Degree D, stating that the appellant’s work “does not involve problems that may be characterized as critical obstacles or that have been unyielding to research analysis by others.” The Interior decision acknowledged that the “research conducted by the appellant involves a problem area of considerable complexity and requires unconventional and novel approaches,” but the complexity envisioned by the RGEG at Degree E is not met. The appellant believes that he clearly meets or exceeds Degree E for this factor.

At Degree C, the scientist is responsible for formulating and conducting a systematic research attack on a problem area of considerable scope and complexity. Problems of this scope must be approached through a series of complete and conceptually related research studies carried out by the scientist or by a team led by the scientist. Complexity is such that problems are typically difficult to define, require unconventional or novel approaches, require sophisticated research techniques, and/or present other features of more than average difficulty. Research studies of this scope will result in a series of publishable contributions to knowledge that will (1) answer important questions in the scientific field, account for previously unexplained phenomena, and/or open significant new avenues for further study; (2) represent an important contribution to the validation or modification of scientific theory or methodology; (3) result in important changes in existing products, processes, techniques, or practices; and/or (4) be definitive of a specific topic area.

The difficulty and complexity of the appellant’s research meet or exceed Degree C. His work involving the development and integration of surface water modeling involving multiple reservoir systems exceeds the complexity found at Degree C, where problems are described as being of more than average difficulty and require approaches that are merely unconventional or novel. In contrast, the appellant’s work is of a greater level of difficulty in that he is exploring areas that are largely undefined. The impact of his work in developing and integrating water quantity and routing models with water quality, physical habitat, temperature, and biological production models is of a considerable level of difficulty.

Three types of research situations are described at Degree E. The third situation involves team leadership with substantial supervisory responsibility in attacking problems of such scope and

complexity as to require subdivision into separate phases of which several are characteristic of Degree E. On a rotational basis, the appellant served as a team leader for an interdisciplinary work unit whose responsibility is to develop a river reservoir network flow simulation model for [a specific river] system. This team leader responsibility clearly does not meet Degree E.

The appellant also serves as principal investigator on collaborative projects with [a specific] State University. As leader of this program, he supervises graduate students, full- and part-time research assistants, and occasionally university faculty. This leadership role requires and provides authority for administration of research projects, funding, and expenditures at the university that is intended to expand the scope of USGS research. Although defining the phases of the appellant's projects may eventually require subdivision, the appellant's leadership role does not suggest that the studies undertaken are of the broad scope expected under the third situation described at Degree E. Similar arrangements are common to scientific endeavor and do not constitute the type of formalized, continuous team leadership, including administrative and management responsibilities, intended in the third situation.

The first situation described at Degree E involves responsibility, ordinarily as a team leader, for formulating and guiding a research attack on problems in applied research which have been recognized as critical obstacles to progress or development in areas of exceptional interest. The solution of such problems would represent a major advance, opening the way for extensive further development. The second situation at Degree E involves comparable responsibility for attacking basic research problems that have been recognized as exceptionally difficult and unyielding to research analysis so that their solution would represent an advance of great significance. For either situation, the RGEG states that a reasonable expectation of fruitful work on problems of such difficulty and magnitude is presupposed.

The appellant's research, which is primarily applied research, does not involve the investigation of problems that have been recognized as critical obstacles to progress where solutions would enable extensive further development. The appellant's work in multicriteria decision making is novel and pioneering, but a level of *exceptional* difficulty commensurate with that expected at Degree E has not been demonstrated. The appellant focuses his research on the protection, restoration, and enhancement of natural resources while trying to minimize conflicts among numerous uses and users within river basins. His work is directed toward the design of decision making tools and network flow models in order to quantify resource impacts in managed river and reservoir ecosystems. Although this work will contribute to a better understanding of the effects of changes in water management on biological and water quality resources, there is no indication at this time that the appellant is engaged in an area that has been identified as a critical problem or that his work will have the broad applicability or impact on multicriteria decision analysis as indicated by the appellant.

The term "major advance" is not defined in the RGEG, but it would involve an advance significantly beyond that described at Degree C, which includes contributing to the validation or modification of scientific theory or methodology, answering important questions in the scientific field, or bringing about important changes in existing products, processes, techniques, or practices. The appellant's research meets Degree C and has the potential to open new areas of investigation that may, in time, lead to the broad advances described at Degree E.

Because Degree C is fully met and Degree E is approached in terms of complexity, the intermediate Degree D (8 points) is credited for this factor.

Factor II, Supervision received

This factor deals with the supervisory guidance and control exercised over the researcher in the current job situation. The RGE peer panel and Interior rated this factor at Degree E. The appellant believes that this factor should be evaluated in excess of Degree E.

At Degree E, technical supervision is nominal and consultative. The researcher works under broad administrative supervision, which is generally limited to approval of staffing, funds, and facilities and to broad agency policies. Within the framework of management objectives, priorities, and pressures for results, the researcher is expected to locate and explore the most fruitful areas of research in relation to the agency's program needs and the state of the science involved; to take complete responsibility for formulating research plans and hypotheses and for carrying them through to completion; and to take full technical responsibility for interpreting findings, including interpreting their applicability to activities and interests of the agency, and their broader applicability to basic scientific methodology. Within the agency, these interpretations are accepted as technically authoritative and become the basis for necessary administrative action.

The appellant's level of supervision received matches Degree E in that, within the broad areas of research assigned to the Section, the appellant has complete freedom to evaluate, assess, and choose the research approaches and methods for solving problems, and he has freedom to carry out alternative research within his assigned area. Approval for major changes in research direction is not delegated to the appellant or to his supervisor. Such decisions must be approved by the national program staff. The appellant receives no technical supervision. His manuscripts and results are accepted by the supervisor as technically accurate and are subject to validation by the peer review process. Further, the appellant's supervisor attests that the level of supervision for the appellant far exceeds Degree C and is consistent with the criteria described at Degree E.

We do not find any basis for credit beyond Degree E. At the "In Excess of Degree E" level described in the RGE, there is an unusual level of support for a researcher's recommendations; responsibility such that interpretations, recommendations, and conclusions having major impact on matters of great urgency and significance are furnished to other agencies and the professional community without reference to higher authority in the agency. The appellant's recommendations do not receive the high degree of support or significance envisioned at this level.

Degree E (10 points) is assigned for this factor.

Factor III, Guidelines and originality

This factor deals with the creative thinking, analyses, syntheses, evaluation, judgment, resourcefulness, and insight that characterize the work performed by the employee in the current

job situation. The RGE peer panel and Interior rated this factor at Degree D. The Interior decision indicates that there is a substantial amount of applicable guidelines, literature, and methodology in the appellant's field resulting from extensive work conducted over a number of years. In its decision, Interior also states that integrated network flow models, for which the appellant is primarily responsible, have previously been developed at universities and are currently being studied by researchers performing similar work. The appellant believes that this factor should be evaluated at Degree E.

At Degree C, available guides and precedents in basic research are limited in usefulness or may be largely lacking because of the novel character of the work being done. A high degree of originality is required in defining problems which are very elusive and/or highly complex; in developing productive hypotheses for testing; in identifying significant problems for study; in developing important new approaches, methods, and techniques; and in interpreting and relating the significance of results to other research findings.

In applied research, Degree C typically involves development and application of new techniques and original methods of attack to the solution of important problems presenting unprecedented or novel aspects. This includes application of a high degree of insight to isolate and define the critical features of the problems. It also requires application of a high degree of originality and ingenuity in adapting, extending, and synthesizing existing theory, principles, and techniques into original and nonobvious combinations or configurations and in defining and conducting the specific research studies necessary for the solution of the problems dealt with.

The appellant's current research is primarily applied research in that its stated objective is to combine network flow model simulation and multicriteria decision analysis while incorporating social and environmental objectives. As such, the availability of guidelines and the originality required in the appellant's position exceed Degree C. The use of technologies and strategies to quantify resource impacts in managed river and reservoir ecosystems is a new and rapidly evolving field of research. This work exceeds Degree C where only particular aspects of the assignment are expected to be novel or unprecedented and where guidelines and precedents are available, although they may require adaptation to the specific problem.

In support of his request for evaluation of this factor at Degree E, the appellant notes that there is very limited information in the literature demonstrating the application of methodologies in multicriteria decision analysis and hydrologic systems analysis for environmental, recreational, or instream resource values. He states that his work requires a high degree of imagination and creativity because of the limited amount of pertinent literature. The appellant also states that he has led other researchers to explore new and novel applications regarding traditional and nontraditional water development trade-offs.

At Degree E, originality is represented by creative extension of existing theory or methodology, or significant contribution to the development of new theory or methodology which is of such scope as to supplant or add new dimensions to a previous framework of theory or methodology. Degree E originality, particularly in applied research, may be represented by responsibility for applying a very high degree of imagination and creativity in the solution of problems of marked

importance for which there is an almost complete absence of applicable guidelines, pertinent literature, and methodology.

The distinction between Degrees C and E relates primarily to the manner in which originality is expressed. Degree C focuses on the creativity, analysis, and insight required to define the research problem, to hypothesize possible solutions to the problem, and to develop the approaches, methods, and techniques to carry out the work. Degree E, however, includes the additional element of results in terms of the contributions made to the scientific field in the form of new theories or methodologies that are developed during the course of the work. The appellant's research fully meets Degree C.

To fully meet Degree E, the research must have gone considerably beyond Degree C to extend or develop theory or methodology to the extent that existing theory or methodology is replaced or significantly altered. The appellant's research does not meet Degree E. His work has involved identifying and solving highly complex problems, as at Degree C, but it has not involved the theory modification found at Degree E. The appellant's research application of the Systems Impact Assessment Model for [a specific river] has led to further ongoing development of decision support systems for [a specific area's] Ecosystem. This work approaches Degree E in that it may potentially add a significant new methodology to the limited techniques available, which may prove superior for certain types of applications. However, the scope of these developments is more limited than expected at Degree E. It is premature at this time to expect this work to supplant or add new dimensions to an entire framework of existing methodology, such that it would become the method of choice for work of this nature.

The appellant's research does not meet Degree E criteria related to the solution of problems of marked importance for which there is an almost complete absence of applicable guidelines, literature, and methodology. However, the appellant's work meets Degree E in that there is a basic lack of available literature and methodology for quantifying environmental, ecosystem, and recreation benefits as part of multiple resource decision making. Presently, social and environmental objectives as part of reservoir water management and decision making are considered secondary. Valuation of these issues is typically reported on a qualitative basis with limited scientific literature available to suggest quantifying techniques.

To date, the most significant outcome of the appellant's work is in the application of system analysis and water resource quantity and flow models to multiple resource decision issues. These techniques and methods may be valuable in the developing arena of public involvement, environmental decision making, Federal Energy Regulatory Commission re-licensing of hydropower facilities, and legal influences on water rights and natural resource management such as protection of endangered species. Within this context, the ultimate significance and value of the appellant's application of resource evaluations is as yet unclear, and it cannot be anticipated with any degree of certainty that the work would represent the type of major advance described at Degree E.

We do not underestimate the difficulty associated with the research carried out by the appellant, but we conclude that the originality involved does not exceed the Degree C level. The impact of

the appellant's work marginally meets Degree E, but this one aspect does not lift the evaluation of Factor III to that level. Consequently, we credit Degree D (8 points) for this factor.

Factor IV, Qualifications and scientific contributions

This factor measures the total qualifications, professional standing and recognition, and scientific contributions of the researcher, insofar as these bear on the dimensions of the current research situation and work performance. It is given twice the weight of the other factors. The RGEG instructs that although the total history of accomplishment is to be considered under this factor, recent research is essential to full credit for past accomplishments. The RGE peer panel rated this factor at Degree C. Interior rated this factor at Degree D.

The Interior report noted that "the appellant's work and publications do not establish an outstanding level of attainment in the field of simulation modeling, that the appellant's work does not contribute to resolving significant problems, and that the ultimate value of the appellant's work cannot be adequately assessed." The report indicates that the appellant has an established reputation in his field and is sought out for consultation and advice on complex technical matters. The appellant believes that his position should be rated at Degree E under this factor. In support of this rating, he cites his extensive activities in professional organizations, speaking invitations, consultative activities, and the overall scope of his publications.

At Degree C, researchers have demonstrated their ability as mature, competent, and productive workers and will typically have authored one or more publications of considerable interest and value to the field. This is typically evidenced by favorable reviews, by citation in the work of others, by presentations of papers to professional societies, and/or will have contributed inventions, new designs, or techniques that are of material significance in the solution of important applied problems. Contributions at this level derive from highly productive personal performance of research, in terms of both quantity and quality. Researchers at this level are considered significant contributors to the field and are beginning to be sought out for consultation by colleagues who are professionally mature researchers. The RGEG also speaks of "emerging recognition" in the field at Degree C.

The appellant's level of professional recognition exceeds Degree C. The appellant has compiled an extensive record of speaking invitations, presentation of papers, service as session chairman at professional seminars and symposia, and other advisory and consultant activities. For example, the appellant has received numerous invitations to either present seminars or symposia addresses, or to chair or organize sessions and workshops, at professional or university conferences. He has served as consultant to the Bureau of Reclamation, Fish and Wildlife Service, Bureau of Land Management, and the National Park Service on water resources management projects, and has served as peer review for several premier scientific journals, including the *Journal of Water Resources Planning and Management* and *Journal of the American Water Resources Association*. The appellant also serves as a Faculty Affiliate to the Civil Engineering Department at [a specific] State University where he typically coauthors publications developed from cooperative efforts. These activities clearly indicate that the appellant has an established reputation in both hydrologic modeling and river system operations, beyond the just-emerging recognition typical of Degree C.

At Degree E, the researcher has demonstrated outstanding attainment in a broad, or in a narrow but intensely specialized, field of research. The researcher will typically have authored a number of important publications, of which at least some have had a major impact on advancing the field, or are accepted as definitive of important areas of the field. The researcher may have contributed inventions, new designs, or techniques that are regarded as major advances in basic or applied research and have opened the way for extensive further developments, or have solved problems of great importance to the scientific field, the agency, or the public. The appellant's work does not meet this level of accomplishment and impact.

Although the appellant has authored a number of publications of considerable interest to other researchers emphasizing the importance of ecological considerations in multipurpose water management, there is no indication that his research has as yet had a major impact on advancing the field or that it has resulted in new inventions or techniques as contemplated at Degree E. The appellant's work involving network simulation flow modeling and multicriteria decision making is not yet accepted as definitive within the scientific community. Information from our contacts stressed the lack of peer-reviewed publications by the appellant in the past ten years. They noted that this lack of publications might be because the appellant has spent a large portion of his time furthering his professional development through active participation in professional society and academic committees and conferences. Because of the limited degree of published data in scientific journals that has been subjected to peer review, with the conclusions accepted and proven repeatable, this aspect of Degree E cannot be credited to the appellant's position.

The Degree E researcher is sought as a consultant by colleagues who are specialists in the researcher's field. Researchers at this level speak authoritatively regarding their field in contacts within and outside the Government. Invitations to address national professional organizations and recognition in the literature of the field through favorable reviews and numerous citations by others are further typical evidence of attainment. The appellant's extensive record of advisory and consulting activities and his level of professional recognition in the scientific community approach Degree E. Although the record of citations of the appellant's publications is consistent with the Degree E criterion of numerous citations, the impact of the appellant's publications is not demonstrated to the extent that might be expected of a researcher functioning at Degree E.

Since the appellant's work fully meets Degree C and approaches Degree E concerning the level of professional recognition attained, the intermediate Degree D (16 points) is credited for this factor.

Summary

Factor evaluations and points are assigned as follows:

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| I. Research situation or assignment: | Degree D | 8 points |
| II. Supervision received: | Degree E | 10 points |
| III. Guidelines and originality: | Degree D | 8 points |
| IV. Qualifications and scientific contributions: | Degree D | 16 points |
| | Total | 42 points |

According to the grade-determination chart in the RGEG, the total of 42 points falls within the range for GS-14 (36-42). Therefore, GS-14 is the appropriate grade for the appealed position.

Decision

The appellant's position is properly classified as Research Hydrologist, GS-1315-14.