



U.S. Geological Survey
Research and Equipment Development
Grade Evaluation Process Handbook

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PREFACE

The U.S. Geological Survey (USGS) Office of Science Quality and Integrity (OSQI)—in conjunction with the Office of Human Resources (OHR)—is responsible for administering the USGS Research Grade Evaluation (RGE), Equipment Development Grade Evaluation (EDGE), and Senior Scientist (ST) review processes. This handbook describes these review processes and the policies that were developed by OSQI, the OHR, and the USGS RGE–EDGE Advisory Group. The handbook also includes instructions, forms, and guidance on all aspects of RGE–EDGE and ST evaluations in the Bureau. This handbook and additional RGE and EDGE resources are available on the RGE–EDGE intranet site at http://internal.usgs.gov/quality_integrity/rge_edge/ and the Human Capital internet site at <http://www.usgs.gov/humancapital/hr/rgeg.html>

All permanent USGS research and development positions have the following requirements:

- Full performance levels of GS–15.
- Mandatory 4-year review cycles for positions classified at GS–15 or below (scientists rotating out of a management position and returning to research or development may be given 5 years prior to their first review).
- Mandatory 6-year review cycle for positions classified at ST.

The RGE–EDGE process has the following attributes:

- Standard procedures and forms for Bureau panel operations.
- Common principles for conversion of operational scientists to research and development positions.
- Required panel training.

INTRODUCTION

The nature of the research or development work performed by scientists has undergone significant changes over the past several decades. In addition to traditional expectations of conducting research or development investigations, disseminating scientific information, and performing other professional service activities, there are other demands on scientists engaged in research or development. They are likely to work closely with information users, partners, managers, policymakers, or others to identify information gaps and needs; participate in strategic planning of research or development programs and projects; organize and lead interdisciplinary research teams; apply new findings and technology in integrated science and adaptive management programs; and extend and interpret scientific information in terms relevant and useful to the public and society. USGS research and development scientists perform work ranging from basic and applied research to experimental design and development of new technologies. These discoveries expand and advance scientific theories and knowledge into new and unexplored frontiers of human experience and perception.

Scientists and engineers engaged in either research or development are typically expected to perform work throughout the entire research or development cycle, including conceptualizing research or technology needs; designing, planning, and conducting experiments and studies or developing equipment or new technologies; collecting, analyzing, and managing data, results, and information; publishing results in varied and appropriate outlets; developing databases and documenting metadata; transferring new information and technology to users; and conducting reviews and evaluations.

Close collaboration of research and development scientists and information users throughout the entire cycle

is increasingly expected and necessary for effective transfer of methodologies, techniques, models, and other technologies. Peer review continues to be an integral and expected part of the research or development scientist's job; scientists work with others to define scientific quality, determine scientific value, and evaluate scientific merit.

While many scientists work independently or collaboratively with other scientists, technicians, and specialists, the use of interdisciplinary and multidisciplinary teams of scientists or engineers to accomplish complex and large-scale projects is becoming increasingly necessary and common. The integrated team approach to large, complex problems requires the collaboration of numerous specialists, each of whom must have some understanding of many related disciplines in order to contribute effectively to the entire scientific process. Other examples of this trend are government-industry, government-academia, or other public-private partnerships in research and development projects established using cooperative research and development agreements.

Perhaps the most dramatic change in research and development has been the rapid proliferation of diverse scientific products and mechanisms for documenting and disseminating results, especially with the advent of computer technology and the internet. Although publication in the peer-reviewed literature remains the primary method of disseminating research information and establishing leadership and excellence in a field of science, research and development scientists and engineers are now actively involved in the dissemination of a wide variety of information and technology products via the most appropriate media for intended audiences. These include technical journals, monographs, books, newsletters, reports, models, maps, exhibits, demonstrations, films, computerized databases, or other electronic media such as CD-ROMs, videotapes, and Internet Web sites. A research or development scientist's stature is established and evaluated on the impact of the work on the scientific community as determined through peer-reviewed scientific publications and other research products, as well as other management and policy impacts. Scientists and engineers are also recognized for their efforts in devising innovative ways of disseminating data, information, or knowledge to benefit scientific advancement and society.

The USGS encourages research and development scientists to maintain a balanced career record that includes contributions to science and science issues of impact to society, a full range of publication products including peer-reviewed publications, nonpublication research-related contributions, and transfer of scientific findings into useful customer-focused products.

To properly assess the contributions of USGS research and development scientists in such a complex environment, the USGS requires a minimum of one RGE or EDGE review every 4 years. Evaluations are conducted by panels composed of scientific peers who review and assess an employee's accomplishments, scientific contributions, scientific and societal impact, and professional stature. To operate effectively, these processes must have the ongoing support of all USGS research and development scientists and management staff. All permanent research and development scientists are expected to serve periodically as peer reviewers on RGE and (or) EDGE panels.

USGS RGE-EDGE review policies described in this handbook are designed to accomplish the following:

- Fairly and accurately assess the scientific impact of employees' research and development contributions and their relevance to the Bureau mission.
- Ensure consistency and fairness in evaluations across the Bureau, across disciplines, across grade levels, and across levels of panel review.

- Ensure transparency of the evaluation process.

CHAPTER 1 THE BASICS

All Federal positions are required by law to be evaluated for appropriate title, occupational series and grade. The Office of Personnel Management has developed numerous evaluation tools (classification standards and guides) covering specific occupations, job families, or functions that cross various occupations. Research positions are evaluated against the Office of Personnel Management Research Grade Evaluation Guide, and the USGS RGE Checklist, which includes criteria to supplement the OPM, Research Grade Evaluation Guide. Development positions are evaluated against Part III of the Office of Personnel Management Equipment Development Grade Evaluation Guide and the USGS EDGE Checklist, which includes criteria to supplement the OPM, Equipment Development Grade Evaluation Guide.

The Research Grade Evaluation Guide (appendix A, exhibit A-1) and the USGS RGE Checklist (appendix A, exhibit A-3) are the prescribed tools for use in the grade-level evaluation of positions engaged in basic or applied research work in the engineering, biological, medical, agricultural, physical, mathematical, and social sciences occupational groups when the positions involve either (1) the performance of professionally responsible research (defined below) for a substantial portion of the time or (2) the direct and personal leadership and participation in the activities of a research team or organizational unit when the primary basis of selection for the position is competence and capability in the performance of research. All positions classified under the Research Grade Evaluation Guide will be referred to as research positions in the remainder of this handbook.

Part III of the Equipment Development Grade Evaluation Guide (appendix B, exhibit B-1) and the USGS EDGE Checklist (appendix B, exhibit B-3) are the prescribed tools for use in the grade-level evaluation of positions engaged in experimental and investigative activities to develop new and improved equipment and to advance technology. Positions covered by the Equipment Development Grade Evaluation Guide involve a range of development processes consisting of theoretical analysis, experimentation, and evaluation. These positions require a thorough grounding in the theories, principles, and practices of the physical and engineering sciences and the ability to use scientific techniques and methods to analyze, measure, and evaluate the properties and characteristics of phenomena, materials, equipment, and processes. All positions classified under the Equipment Development Grade Evaluation Guide will be referred to as development positions in the remainder of this handbook.

Definitions

The Office of Personnel Management's Research Grade Evaluation Guide and Equipment Development Grade Evaluation Guide define research, professionally responsible research, and development as follows:

Research is systematic, critical, intensive investigation directed toward discovering, disseminating, and applying new or expanded knowledge in a professional discipline. Research includes, but is not limited to, empirical and theoretical investigations with one or more of the following objectives: (1) to determine the nature, magnitude, and interrelationships of physical, biological, psychological, social, and other comparable phenomena and processes; (2) to create or develop empirical, theoretical, or experimental means of investigating such phenomena and processes; or (3) to develop principles, criteria, methods, and data of general applicability.

Professionally responsible research meets the following criteria:

- Involves applying scientific methods, including exploring and defining problems, planning the approach for study, analyzing data, interpreting results, and documenting or reporting findings;
- Requires creativity and critical judgment, which may materially affect the nature of the end product;
- Requires research capability attainable through graduate education or demonstrated research experience;
- Is performed at a level of responsibility typically associated with independent research investigation; and
- The researcher’s contributions, stature, and recognition have a direct and major impact on the level of difficulty and responsibility of the research.

Development is the systematic application of scientific knowledge to create new or substantially improved equipment, systems, materials, processes, techniques, and procedures that will perform a useful function or be suitable for a particular duty.

Development includes experimental and investigative activities to develop new and improved equipment and advanced technology and models. These positions involve a range of development processes consisting of theoretical analysis, experimentation, and evaluation. Typically, development is associated with engineering positions; however, it also applies to positions in the physical sciences performing work dealing with the development of instrumentation, techniques, processes, materials, equipment, models, and with the investigation of physical and natural phenomena to establish performance requirements and design criteria for equipment.

Comparison between Research and Development

It is often difficult to determine if work is more accurately defined as research or development. The following chart (from the Research Grade Evaluation Guide) highlights some of the distinguishing characteristics.

RESEARCH

DEVELOPMENT

Purpose	Extending knowledge and understanding	Creating new or improved products, processes, and techniques
Assignments	Problems to be solved: <ul style="list-style-type: none"> • Entail relative freedom to explore promising areas in relation to organizational programs; • May stem from an intent to close gaps in knowledge in a given field, or to develop new theories or explanations of phenomena; and • Are difficult to define in terms of expected outcomes and measurable results. 	Problems to be solved: <ul style="list-style-type: none"> • Are defined in advance or assigned; • May stem from an intent to exploit an understanding of phenomena and principles; or • Have predictable outcomes or measurable results.

Results	Products are: <ul style="list-style-type: none"> • Papers describing new and modified theories and principles; • Explanations of phenomena; and • Information to improve the understanding of techniques and processes. 	Products are: <ul style="list-style-type: none"> • Papers describing application of theories and principles; • Design concepts, models, patents, and inventions; and • Equipment, techniques, and processes.
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U.S. GEOLOGICAL SURVEY RESEARCH AND DEVELOPMENT POLICIES AND GUIDING PRINCIPLE

Bureau Policies

All USGS permanent research and development employees will be evaluated by a panel-review process, using the Research Grade Evaluation Guide (appendix A, exhibit A–1) or the Equipment Development Grade Evaluation Guide (appendix B, exhibit B–1). Term research and development employees may request a panel review.

First-level panels will be organized around 13 peer groups (appendix C). All RGE and EDGE review panels will operate in accordance with the Bureau guidelines described in this handbook.

All permanent research and development employees, through GS–15, will be reviewed by a panel at least once every 4 years. Employees or supervisors may request early or deferred reviews (see chapter 4).

All research and development Senior Scientists (STs) will be reviewed by the Senior Scientist Review Panel at least once every 6 years.

All research and development employees will provide current and accurate Research and Development Scientist Records (RDSRs) in the timeframe identified for their panel review.

Term, Temporary, and Faculty Appointments: Employees who have term appointments are not subject to panel review because their appointments are typically limited to 4 years or less. They may request, through their Science Center Director or National Capability Manager, to be reviewed by a first-level panel. Employees under temporary appointments cannot be promoted in their current positions and therefore will not be reviewed by the panel-review process. Employees appointed under the excepted service Faculty Member appointing authority that limits employment to 130 days per calendar year are not subject to the panel-review process. Science Center Directors and National Capability Managers, in accordance with their delegated authority and in coordination with the servicing personnel office, may independently evaluate and recommend promotions for Faculty Member appointments.

Bureau Guiding Principle for Establishing New Research and Development Positions

It is the USGS Guiding Position Management Principle for research and development positions that new research and development positions be established only if it is management’s intent that the employee will spend at least 50 percent of his or her time on research or development work (See “Position Management for Research and Development Positions” section of chapter 9).

EVALUATING RESEARCH AND DEVELOPMENT POSITIONS

Fundamental Concepts

The Office of Personnel Management’s Research Grade Evaluation Guide and Equipment Development Grade Evaluation Guide are unique because they employ the “person-in-job” concept as an integral component of the evaluation tool itself. The grade level of research and development positions is determined by the interaction of the assignment and the scientist. Creativity and originality are of central importance in research and development positions because the purpose of the work is to extend our knowledge and understanding. Hence, it is recognized that where the nature of the research or development situation involves a high potential for originality and creativity, the work of the position may be performed at any one of several levels, depending upon the incumbent’s capabilities and motivation as well as on the availability of the work and funding.

The USGS uses panels of scientific peers to evaluate all permanent research and development positions. The judgment called for by the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide can best be made by scientists who possess relevant scientific and (or) technical knowledge. They are best able to evaluate a scientist’s stature; creativity; quality of work; and impact on the scientific field, organizational and program goals, science partners, and customers.

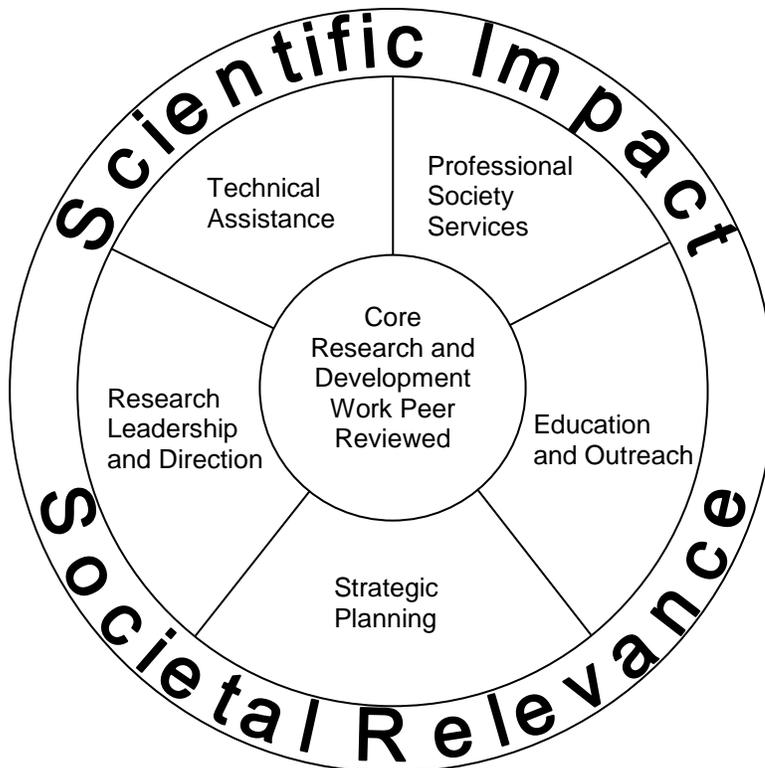
Panel members have a responsibility to conduct a thorough and objective review. Evaluating the quality and impact of contributions by highly trained, skilled, and motivated scientists is not easy. Generally there is a direct correlation between the qualifications, stature, and past contributions of the incumbent and the level of difficulty and responsibility of the present work. The reviewer must use not only obvious and measurable criteria such as the quantity of products, rates of production, and changes in this rate, but, more importantly, subjective criteria like relevance, quality, impact, and the general scientific esteem in which the person is held.

Core Research and Development Responsibilities and Related Activities

Evaluation of a position using the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide requires that the position has core responsibilities to perform scientific research or development work. In addition, all research and development staff must understand the need for balance between scientific and societal impact in the RGE and EDGE review processes. Increasingly, USGS scientists are expected to develop research findings, apply them to socially relevant issues, and communicate with scientific peers, nonscientific groups, and policymakers. The Research Grade Evaluation Guide and Equipment Development Grade Evaluation Guide provide sufficient flexibility to evaluate a range of contributions.

Research and development staff are encouraged to develop a balanced career record; in other words, one that includes contributions to science and science issues of impact to society, a full range of publication products including but not limited to those in peer-reviewed journals, nonpublication research-related contributions, and transfer of scientific findings into useful customer-focused products. Employees being reviewed are encouraged to clearly document in the RDSR (appendix D) the scientific and (or) societal impact of career accomplishments and the scientist’s organizational contributions related to their research or development work.

The diagram below depicts the range of activities that can be considered in the evaluation of research and development staff. Each position evaluated through the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide begins with the performance of research or development work with the expectation that that work is validated through peer review. In addition, the performance of the work will generally include a variety of other activities such as technical assistance, service to professional societies and the Bureau, outreach, leadership, and (or) strategic planning. In the panel-review process, such breadth and balance should be acknowledged and considered as indicators of the relevance and impact of the research or development work and the stature of the individual.



In determining appropriate grade levels for research and development staff, the panel must consider a variety of outcomes and indicators of the impact of the work for both societal and scientific relevance.

While there is not a predefined degree of focus in any specific area by grade level, as research and development staff reach the journeyman level of their field, technical assistance, service to professional societies and the Bureau, outreach, and leadership accomplishments become more evident in the RDSR. As the scientist's career progresses, it is expected that he or she will participate as a peer reviewer for journal publications, serve on interagency committees and expert panels, give invited talks, and be recognized by outside professional groups as evidence of their stature in the field.

The above description defines the scope of what is evaluated using the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide. It does not diminish the role of the supervisor, who retains the responsibility to assign work that is appropriate to the mission and objectives of the organization. At times, availability of funding, change of research direction, or other organizational needs may limit the

opportunity for research and development staff to pursue work that could lead to advancement.

The Factors

Both the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide use four similar factors to evaluate positions. In the guides, each factor is defined by five levels or degrees of proficiency, ranging from A (the lowest level) to E (the highest level).

Research Factors

Factor 1: Research Assignment

Factor 2: Supervisory Controls

Factor 3: Guidelines and Originality

Factor 4: Contributions, Impact, and Stature

Development Factors

Factor I: Nature of Assignment

Factor II: Supervision Received

Factor III: Guidelines and Originality

Factor IV: Qualifications and Contributions

Each factor is intended to provide specific information concerning a complementary aspect of the relationship between position and scientist, although there is some overlap between factors. Factors 1 through 4 progressively invert the emphasis on job versus person; that is, Factor 1 stands most independent of any particular scientist, while Factor 4 is wholly reflective of a scientist's personal impact on the assignment.

How to Score Factors Using the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide

A step-by-step mechanical approach to scoring cannot be given. Three considerations are important.

- Assigning Levels or Degrees—The Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide provide specific descriptions of three levels or degrees (A, C, and E) and corresponding point values for each factor. Intervening levels or degrees are not specifically described but are assigned point values. (Note: The USGS developed criteria for EDGE degree F, which equate to GS–15, as well as RGE criteria for degree G, which are used to evaluate ST scientists and GS–15 scientists thought to be working above the GS–15 level.)
- Definition as a Whole—The panel should evaluate and assign factor levels/degrees separately for each factor based on the best match between the factor level/degree criteria and the scientist's work. The whole factor level/degree definition in its total context must be applied—not isolated words or phrases. According to the Office of Personnel Management, if the work exceeds factor level/degree A but does not fully satisfy level/degree C, then work must be awarded level/degree B. Similarly, if the work exceeds level/degree C but does not fully satisfy degree E, then the work must be awarded level/degree D.
- Point Scores—According to the Research Grade Evaluation Guide, no scores can fall between levels A, B, C, D, and E. Factors 1 through 3 must be divisible by 2 and Factor 4 must be divisible by 4. The Equipment Development Grade Evaluation Guide uses scores 1, 2, 3, 4, and 5 for Factors I through III and scores 2, 4, 6, 8 and 10 for Factor IV.

PANEL OPERATIONS

General Information

The USGS has a uniform two-level review-panel system that is administered by OSQI and the OHR.

Each year, OSQI runs two review cycles (see below), one in the spring and one in the fall. OSQI will send a memo each year, in late summer, that solicits requests for early and delayed reviews and identification of candidates for conversion to research and development positions for the coming year. All requests should be made by the scientist's Science Center Director or National Capabilities Manager and sent to the RGE-EDGE Coordinators, at rge-edge@usgs.gov, by the requested date. Panel planning is done several months in advance and requests made after the date requested in the annual memo may not be accommodated within the requested review year.

Criteria for Delaying a Review

A scientist may request the delay of a scheduled review for up to 1 year, but such requests should be reserved for significant circumstances such as health or personal issues, or special assignments that have required the scientist to be involved in nonresearch or nondevelopment work rather than research or development activities for a significant amount of time. Delays should not be requested because a scientist believes that he or she will have a stronger record in the future and, as such, a better chance for a promotion. All requests for a delay must be approved by the scientist's supervisor with concurrence by the Science Center Director or National Capability Manager. Additionally, management must delay the panel review for any individual who is currently on a Performance Improvement Plan, or where a Performance Improvement Plan is imminent. Performance issues must be resolved before an RGE or EDGE evaluation of the position is undertaken.

Confidentiality of Process

All evaluations, documents, and discussions must be kept confidential and the identities of panel should be kept anonymous. Under no circumstances should panel members discuss review packages, panel deliberations, or outcomes with anyone, including the people being evaluated.

RGE–EDGE Review Schedule		
Annual memo	August	
	Spring cycle	Fall cycle
RDSR training	November	May
Deadline for submitting manuscripts to Bureau Approving Officials (BAOs) for approval. BAOs will work with authors to get these manuscripts approved before the RDSR submission deadline.	December 1	June 1
RDSR packages are reviewed by appropriate management and colleagues to ensure the final package is accurate and of requisite quality.	December–January	June–July
RDSR portal opens. Link to portal will be on RGE–EDGE home page, http://internal.usgs.gov/quality_integrity/rge_edge/. Active Directory account required to log in.	January 5	July 5
Cut-off date for Bureau approval of manuscripts that can be included in the RDSR. Deadline for submitting final review packages via online portal link, http://internal.usgs.gov/quality_integrity/rge_edge/.	January 21	July 21
Panel member training	February	August
First-level panels meet	March–April	September–October
Second-level panel meets	June	December
Feedback to employee	April–July	October–January

Review Packages

Review packages must be submitted digitally through the online RDSR portal, and no changes can be made to review packages between first- and second-level panel reviews.

Review packages for permanent research and development employees consist of three required elements and a fourth optional element:

- (1) RDSR—All USGS scientists who are reviewed by this process must prepare and submit an updated RDSR. The RDSR template is found in appendix D and also on the RGE–EDGE intranet site, at http://internal.usgs.gov/quality_integrity/rge_edge/.

The RDSR must be thoroughly reviewed by the scientist’s supervisor who must sign and date the cover sheet attesting to the accuracy of the content and adherence to format per guidelines (appendix D) of the RDSR before the scientist can submit it for panel review.

The last section of a scientist’s RDSR must include a list of contacts, including the employee’s supervisor, that the scientist recommends the primary reviewer consult in order to gain a broader understanding of the scientist’s research or development contributions, impact, and stature.

For mixed positions, where part of the position is research or development and part of the position is operational, the RDSR should describe the complete scope of the position even though the panel will only assess the research or development part of the job. Having a full understanding of the position allows panel members to consider how to assess recency and accomplishment expectations in the research or development part of the position. In the case of a mixed position, supervisors have a separate responsibility to assess the operational component of the position with a classifier to determine which part of the position controls the grade and to ensure proper pay.

- (2) Current position description and cover sheet (OF–8 form)—These documents are part of every employee’s electronic personnel folder. Scientists must include their current position description and OF–8 form with their review package in order to provide panel members with a clear understanding of the work that has been officially assigned by management.

If the assignment in Factor 1 of the official position description is not current, the scientist being reviewed must also submit to the panel a brief list of current assignments in bullet form (not to exceed one page) that is signed by the employee’s supervisor. The purpose of this document is to clarify work that is officially assigned. The content should be brief and only describe major duties.

- (3) Three significant contributions (see section 19 of the RDSR).
- (4) Optional Element—A supervisor or Science Center Director or National Capability Manager may write a letter of support that the employee can submit with his or her package. No other letters of advocacy should be submitted with the package. (Note: There is an exception to evaluating classified work. Additional letters describing the relevance and impact of the classified work may be required.)

Review packages for research and development conversion candidates must include the three required elements described above and also must include a supervisory letter. The supervisory letter is the supervisor’s assessment of whether or not the work is research or development in nature, the temporary or

continuing nature of the work that is being proposed as research or development, and the percentage of work time devoted to the research or development assignment.

First-Level Panel

First-level panels are composed of scientific peers, an RGE–EDGE Coordinator, and a Human Resources Specialist. These panels are organized around the following 13 scientific peer groups:

- Biogeochemistry
- Climate and Land Surface Change
- Coastal and Marine
- Development
- Ecology
- Energy and Minerals
- Fisheries and Aquatic Organisms
- Framework Geology and Geophysics
- Geochemistry
- Geographic Information Science and Remote Sensing
- Geohazards
- Hydrology
- Wildlife

All development scientists are reviewed by the Development peer group; research scientists are asked to select the peer group that best describes their work. Descriptions for the peer groups are found in appendix C.

The first-level panel serves as the primary rating panel for scientists through GS–15 and makes final recommendations for promotions through GS–13. The first-level panel is the recommendation panel for all promotions to GS–14, GS–15, ST, and below-grade ratings. The first-level panel:

- Evaluates the employee’s grade level by reviewing the job as it actually operates in reference to the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide. This includes assessing research or development and related work in terms of scientific quality and impact.
- Evaluates employee’s research or development career progress, balance of scientific activities, and relevance of work to USGS goals.
- Identifies significant work activities that are not research or development in nature and may impact career path or career growth. This includes identifying situations where the employee’s work is preponderantly nonresearch or nondevelopment and the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide is no longer the appropriate evaluation tool.
- Provides comments or suggestions on the content and quality of the RDSR and accuracy of the position description.
- Reviews cases of operational employees applying for conversion to the research or development career path.

The Role of First-Level Panels

- Rate all research and development scientists through GS–15, using the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide, make recommendations, and provide

feedback for all individuals reviewed.

- Review and make final recommendations on the admittance of scientists to research and development positions.
- Make final recommendations to Science Center Directors or National Capability Managers for all scientists found to be working within grade and for promotions up to and including GS–13.
- Review, provide feedback, and make promotion recommendations to GS–14, GS–15 and ST levels as well as make below-grade recommendations to the second-level panel.
- Identify instances where the work being performed no longer meets research or development criteria. In these situations the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide is no longer the appropriate evaluation tool, and it becomes the responsibility of the supervisor to review the package with a classifier to ensure proper grade and titling.

Note: The panel chair may bring any issues regarding the panel findings and (or) its operations to the attention of the OSQI Director or Deputy Director.

Composition of the First-Level Panel

First-level panels are aligned with the 13 peer groups and are composed of scientific peers. Panel chairs and members must be selected carefully to ensure that the appropriate subject matter expertise is available during panel review. There should also be a mix of experienced versus new panel members. An OSQI RGE–EDGE Coordinator and HR Specialist will work with each panel as nonvoting members to ensure that the process is implemented consistently across the USGS.

Selection of Panel Chairs

Each panel chair is selected by an RGE–EDGE Coordinator in consultation with Science Center Directors, National Capability Managers, Associate Directors, and Regional Directors. Science Center Directors, National Capability Managers, Associate Directors, and Regional Directors are encouraged to submit nominations for panel chairs and panel members to the RGE–EDGE Coordinators, at rge-edge@usgs.gov.

Selection of Panel Members

Panel chairs are responsible for selecting panel members based on their suitability to serve as primary reviewers for one to three scientists being reviewed by the panel. In general, primary reviewers should be at a similar grade or higher grade (no more than one grade lower) than the scientist(s) he or she is assigned. Panel chairs are responsible for ensuring the proper mix of panel members and may consult with Associate Directors, Regional Directors, National Capability Managers, Science Center Directors, and the RGE–EDGE Coordinator working with his or her panel.

First-level panel members may be drawn from within the USGS, other agencies, and other sources (for example, academia, scientific organizations, or industry). When selecting panel members and making primary reviewer assignments, all measures should be taken to avoid conflicts of position. Conflicts of position include any professional or personal interest that interferes with or could be construed to interfere with the objectivity of a panel member, including close association with the work being performed.

Second-Level Panel

Two second-level panels will be convened each year, the first at the end of the spring review cycle and the second at the end of the fall review cycle. The second-level panel serves as the final review and rating panel for promotions to GS–14 and GS–15 and for all below-grade findings. It also is the recommendation panel

for promotions to ST. The second-level panel:

- Ensures consistent interpretation of the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide across the Bureau.
- Evaluates a scientist's contributions to the scientific leadership of the Bureau.
- Assesses the scientific rigor and leadership health of the Bureau.

The Role of the Second-Level Panel

- Provide final rating for all promotion recommendations to GS-14 and GS-15 levels and below-grade findings. While the second-level panel may agree with the grade-level finding, there may be disagreement with the final score. In those situations, the second-level panel may rescore the package and document the panel's opinion. In the event that the second-level panel does not agree with the grade-level recommendation of the first-level panel, the package must then be rescored and documented as the final panel result (see chapter 6).
- Provide promotion recommendations to the Bureau Senior Scientist Review Panel for all ST candidates.

Composition of the Second-level Panel

Second-level panels are composed of 11 scientists and managers. The OSQI Director or designee will serve as the nonvoting panel chair and will select subject matter experts from the following groups as appropriate: three Regional Directors or Associate Directors or their deputies, three Science Center Directors or National Capability Managers, and four scientists of GS-15 level or higher. Membership on the panel will change to reflect the expertise being reviewed.

Second-level panel members must have research and development experience, have served in a research and (or) development leadership role, or possess comparable professional experience that has provided an understanding of research and (or) development. The RGE-EDGE Coordinators and an HR Policy Office representative will attend each second-level panel as nonvoting or ex officio members.

ROLES AND RESPONSIBILITIES

Office of Science Quality and Integrity (OSQI)

Director

- Addresses any supervisor or Science Center Director or National Capability Manager concerns about RGE–EDGE review panel findings as well as the content and quality of the final panel results forms.
- Chairs second-level panel, or identifies a designee.
- Sends biannual memo to all Associate Directors and Regional Directors initiating the Senior Scientist Review Panel process.

Deputy Director

- Oversees the RGE–EDGE review process.
- Sends annual memo to all managers in late summer, requesting the names of scientists who will be submitted for early review, scientists for whom a review should be deferred, as well as those scientists who are applying for conversion to research or development positions in the upcoming review year.
- Annually requests nominations for scientists to serve as panel chairs and panel members on first-level review panels.
- Recruits second-level panel members with RGE–EDGE Coordinators.
- Reviews and provides final approval for dissemination of all first- and second-level panel feedback.

RGE–EDGE Coordinators

- Each fall, notify research and development staff being reviewed in the upcoming year and schedule training to provide guidance about the process to scientists who will be reviewed.
- Ensure that all employees have access to information, training, and resources on the panel process, Bureau guidance for evaluation using the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide, and information on preparation of the RDSR.
- Ensure that permanent research and development employees are evaluated by a panel of scientific peers that is able to provide thorough and comprehensive evaluations. Ensure that supervisors and employees are notified when they need to update their RDSRs and review position descriptions for accuracy.
- Maintain a database of permanent research and development employees, with a schedule of panel review dates.
- Maintain files on the yearly panel process.
- Maintain a history of previous panel members noting the panel name and dates.
- First-level panel responsibilities:
 - Before the panel meets:
 - Select panel chair.
 - Work with panel chair to identify panel members.
 - Ensure all panel members have access to review packages and RGE–EDGE related classification documents before the panel convenes.
 - Stress the importance of confidentiality to panel members.
 - During the panel process:
 - Provide guidelines for the meeting and answer questions from the panel.
 - Stress the importance of confidentiality to panel members.
 - Serve as recorder for panel, taking notes on consensus decisions and summary discussions for each employee.

- Assist panel as necessary.
- o At the conclusion of the panel:
 - Re-emphasize the confidentiality of the panel discussion and results. Panel members should not discuss the panel deliberations or results. It is management’s responsibility to provide the panel feedback to employees.
 - Counsel panel members to destroy all documentation related to the panel: paper copies should be shredded and digital copies should be deleted.
 - Work with panel chair to assure that all feedback is completed and approved by all panel members.
 - For scientists found to be working within grade or recommended for promotion up to GS–13: Distribute final feedback forms (Individual Panel Results Forms—exhibit A–5 or exhibit B–5) to Science Center Director or National Capability Manager, corresponding Regional Director or Associate Director, and OHR. Science Center Directors or National Capability Managers are responsible for sharing final feedback forms with the employee as soon as possible.
- Second-level panel responsibilities:
 - o Work with the OSQI Deputy Director to identify and recruit second-level panel members.
 - o Distribute review packages and Individual Panel Results Forms to the second-level panel members, including the OHR representative, for employees recommended for promotion to GS–14, GS–15, or ST and for those employees found to be working below grade by first-level panels. (Special note: Review packages may not be revised between the first- and second-level panels.)
 - o Take notes during panel and help finalize feedback forms.
 - o Distribute final feedback forms to Science Center Director or National Capability Manager, corresponding Regional Director or Associate Director, and OHR. Science Center Directors or National Capability Managers are responsible for sharing final feedback forms with the employee.
- Senior Scientist Review Panel responsibilities:
 - o Ensure that review packages are complete and received in accordance with established deadlines.

Office of Human Resources (OHR)

Human Resources Policy and Executive Resources Representatives

- Implement Human Resource (HR) policies, procedures, and guidance for the RGE–EDGE evaluation process.
- Work with OSQI to implement the RGE–EDGE review process.
- Work with OSQI to develop Bureau-wide training for panel members and research and development employees.
- Verify that there are no performance issues that should be addressed prior to an RGE–EDGE review.
- Serve as a nonvoting panel member for the second-level panel, providing guidance on the application of the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide and HR regulations and policies.
- Implement HR policies, procedures, and guidance for the ST evaluation process.
- Serve as a nonvoting panel member for the Senior Scientist Review Panel, providing guidance on the application of HR regulations and procedures.
- Work with OSQI to implement the ST review process.

Servicing HR Specialists

- Serve as a resource to managers and the panel chair and members on procedures during preparation for the panel.

- Attend first-level panels as nonvoting panel members.
- Provide guidance and advice on the application of the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide and HR regulations and procedures.
- Ensure fairness and objectivity in panel operations and make recommendations to improve panel processes.

Managers and Supervisors

Regional Directors and Associate Directors

- Actively encourage research and development staff to participate in panel activities as part of their contribution to the scientific health of the organization.
- Nominate scientists to serve as panel chairs and panel members.
- Serve on second-level panels.
- Provide feedback, suggestions, and communicate concerns about the RGE–EDGE review process to the OSQI Director or Deputy Director.

Science Center Directors and National Capability Managers

- Provide leadership and advocacy to research and development scientists for timely preparation of their RDSRs and active participation as panel members.
- Nominate scientists to serve as panel chairs and panel members.
- Serve on second-level panels.
- Provide feedback, suggestions, and concerns about the RGE–EDGE review process to the OSQI Director or Deputy Director.
- Delay the panel review for any individual who is currently on a Performance Improvement Plan (PIP), or where a PIP is imminent. Performance issues must be resolved before a research or development grade evaluation of the position is undertaken. Consult with the OHR Employee Relations Specialist for assistance.
- Consider whether the panel review should be delayed for employees per criteria identified above (see “General Information” section of chapter 4), and inform RGE–EDGE Coordinators, at rge-edge@usgs.gov, of a request for a delay.
- Ensure that all RDSR packages are reviewed by the supervisor for accuracy prior to panel submission.
- Discuss requests and suggestions for early review, deferred review, and conversion to a research or development position with the employee and supervisor. Send early review and conversion candidate review requests to the RGE–EDGE Coordinators, at rge-edge@usgs.gov, by the date requested in the annual RGE–EDGE memo from OSQI.
- Provide senior staff to mentor new or potential research and development staff and assist current staff in developing their RDSRs.
- Provide feedback including feedback forms to employees as soon as possible after receiving panel findings.
- Science Center Directors and National Capability Managers are responsible for working with OHR to process all promotions and reassignment actions.

Supervisors

- Discuss requests and suggestions for early or delayed review and for conversion to a research or development position with the Science Center Director or National Capability Manager and employee. Requests for early RGE or EDGE reviews may be warranted if progress indicates early review is

reasonable for advanced grade-level consideration. The Science Center Director or National Capability Manager should send early or delayed review and conversion candidate review requests to the RGE–EDGE Coordinators, at rge-edge@usgs.gov, by the date requested in the annual RGE–EDGE memo from OSQI.

- Review RDSR packages for accuracy and to ensure that they conform to USGS guidelines before they are submitted for panel review, and sign and date the RDSR cover sheet.
- For research and development conversion candidates: Write a memorandum for the scientist to submit with his or her package to the panel. The memorandum should address the scientist’s work in terms of the supervisor’s assessment of whether the work is research or development in nature, the temporary or continuing nature of the work that is being proposed as research or development, and the percentage of work time devoted to the research or development assignment.
- If a panel indicates that work being performed no longer meets research or development criteria, it is the supervisor’s responsibility to review the package with an HR Specialist to ensure proper classification. If a scientist is found to be working below grade, it is the supervisor’s responsibility to consult with the OHR.

Employees

Research and Development Scientists

- Read the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide, as appropriate, and become familiar with the criteria for evaluation.
- Become familiar with Bureau RGE–EDGE process guidance.
- Agree to serve on a panel when asked.
- Attend training and develop an accurate and well-written RDSR in accordance with USGS guidelines.
- When scheduled for review: Submit updated RDSR, current position description (PD) of record, and other documentation that identifies the major duties of the research and development assignment if different from the current PD. Submit package electronically as instructed by OSQI.
- Employees have the responsibility, through their RDSR, to fully explain and document the nature, scope, relevance, and impact of their work.
- Discuss requests for an early or deferred review with the supervisor and (or) Science Center Director or National Capability Manager. The Science Center Director or National Capability Manager must notify the RGE–EDGE Coordinators, at rge-edge@usgs.gov, of requests by the date requested in the annual RGE–EDGE memo from OSQI.

Panel Members

First-Level Panel Chairs

- Before the panel meets:
 - Recruit panel members, in consultation with the assigned RGE–EDGE Coordinator, Regional Directors, Associate Directors, Science Center Directors, and National Capability Managers. Panel members should be selected on the basis of a scientist’s ability to serve as primary reviewer for one to three scientists up for review. Try to avoid conflicts of position or interest as much as possible when recruiting panel members.
 - Select primary reviewers for each case. Avoid conflicts of position or interest in these assignments. Notify panel members of the cases they are responsible for as a primary reviewer and what being a primary reviewer entails.
 - Ensure all panel members understand that they must do a thorough review and initial rating of all

packages prior to the meeting. Panel members are not to rely on the primary reviewer as the primary source of information.

- Encourage all panel members to attend panel member training.
- At the start of the panel process:
 - Provide guidelines for the meeting and answer questions from the panel. This sets the tone of the meeting and stresses the importance of the work. Topics that are typically discussed include the following:
 - The value of the findings and observations.
 - The importance of evaluating quality and impact of both publication and nonpublication contributions when scoring Factor 4.
 - The method used to evaluate team contributions or an individual's contribution in a multidisciplinary team.
 - The importance of objective, unbiased ratings, separate and apart from any preconceived ideas of how this "system" works and what will sell at the next level.
 - Ground rules necessary for the discussion of significant differences in ratings and the importance in reaching consensus.
 - The importance of identifying when the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide is not the appropriate tool for evaluation.
- During the panel process:
 - Ensure that individual scores of each panel member are posted on the Individual Summary Evaluation Score Form (exhibit A-4 or exhibit B-4) or a similar table showing each reviewer and his or her scores for each factor.
 - Ensure that the primary reviewer presents information to the panel, and panel members are allowed to ask questions.
 - Lead the discussion, ensuring all panel members contribute, to address the individual factor scores and scoring differences and to guide panel efforts to reach a consensus decision.
 - Take note of major differences among scores by panel members for each factor and ensure that these are thoroughly discussed. A major difference is defined as more than a two-point spread for Factors 1, 2, and 3 and more than a four-point spread for Factor 4.
 - Ensure that the panel discusses each of the four position factors, even if initial scores are close.
 - Ensure that the final score is supported by the factor writeup and correlates with the grade-level characteristics as defined in the Research Grade Evaluation Guide or the Equipment Development Grade Evaluation Guide. The panel is free to consult with anyone, except the scientist being reviewed, who has additional information relevant to a case, in person or by phone during panel deliberations.
 - Ensure that the final summary comments on the Individual Panel Results Form (exhibit A-5 or exhibit B-5) are approved by the panel members.
- At the close of the panel process:
 - Ensure that final documentation of the panel results are completed and approved by all panel members.
 - Complete and sign the Panel Recommendation Summary Form (exhibit A-6 or exhibit B-6).

First-Level Panel Members

- Read the applicable guide carefully (Research Grade Evaluation Guide or Equipment Development Grade Evaluation Guide) and checklist.
- As you read each RDSR package, refer to the Research Grade Evaluation Guide (exhibit A-1) or the Equipment Development Grade Evaluation Guide (exhibit B-1) and Checklists (exhibit A-3 or exhibit

B-3). The checklist is an important aid in the use and interpretation of the Research Grade Evaluation Guide and the Equipment Development Grade Evaluation Guide. The checklist identifies the key elements in each factor and aids in the comprehensive evaluation of each factor.

- Thoroughly review case materials to become familiar with each employee's work and career. Review and consider the career experience, the most significant contributions, and the bibliography. Read the publications listed in each incumbent's significant contributions. Carefully consider evidence of stature by indications of invited conference participation, offices in professional societies, committee work, significant consultant roles, and so on (see section 14 of the RDSR).
- Score each case prior to the panel meeting. Record your preliminary scores for each factor along with notes and questions.
- Participate in panel deliberations.

First-Level Primary Reviewers

- Become thoroughly familiar with each assigned employee's record prior to the panel meeting. This includes closely reviewing the RDSR and the position description and reading the bibliographic entries listed and described in Significant Contributions (section 19 of the RDSR).
- Supplement the package with additional information that may help round out the package. The primary reviewer must correspond with the employee's supervisor as well as additional references, colleagues, customers, or others who can help clarify the impact and importance of the scientist's work. It is recommended that primary reviewers contact or interview as many individuals as necessary to have a complete understanding of the body of work. The confidentiality of all consultations and interviews should be made clear before discussions ensue. Primary reviewers or panel members should not consult with the employee being reviewed for additional information or clarification of the package. Employees have the opportunity through their RDSR to fully explain and document the nature, scope, relevance, and impact of their work.
- Prior to the panel meeting, prepare and send a digital write-up for each of the four factors to the RGE-EDGE Coordinator for scientists for whom you will serve as primary reviewer.
- Present information at the meeting about the assigned employee's career, current assignment, scope of responsibility, contributions, and impact. Clarify written materials for other panel members and provide information that is lacking in the written material but which is required for a panel to make an equitable evaluation. Some areas that might require clarification are as follows:
 - Does the scientist generate ideas and (or) interpretations independently of others?
 - What is the employee's role in cooperative efforts? Is it a formal team within the research and (or) development unit? Is it a lead role? Is it a team member role? What were the scientist's contributions?
 - To what extent are existing methodologies and (or) techniques applicable? How has the employee moved science and (or) technology forward?
 - What was the scientist's role in listed significant contributions, significance of results, and impact? Do the individual and (or) collective team contributions move the science and (or) technology forward? Do they advance USGS strategic goals?
 - How widely is the employee recognized and consulted in his or her field? What is the employee's reputation among scientific and technical peers? How is leadership manifested in the career record?
 - How have recent publication contributions and (or) developed products been assessed by scientific and (or) technical peers? Has there been sufficient time to assess relevance and impact of findings?
 - Does the employee perform a full range of activities in the research and (or) development cycle (for example, conceive ideas; develop and implement project plans; interpret results; publish in a range of outlets; develop practical applications for research results; communicate with nonscience groups or

- o policymakers regarding the nature, impact, and application of the results to societal problems)?
- o Is the employee on track for building and sustaining a productive research or development career in a valued specialty area? What are the career strengths and weaknesses?
- Remain neutral. The primary reviewer is not an advocate. The role is to be as objective as possible in presenting and clarifying information for the panel.

Second-Level Panel Chairs

- At the start of the panel process:
 - o Provide guidelines for the meeting and answer questions from the panel. This sets the tone of the meeting and stresses the importance of the work. Topics include:
 - The roles and responsibilities of panel members and setting the ground rules for the order of business.
 - The importance of confidentiality of material and discussions.
 - The value of their findings and observations.
 - The importance of evaluating quality and impact of both publication and nonpublication contributions when considering an employee's package.
- During the panel process:
 - o Poll panel members on their agreement or disagreement with each first-level panel recommendation.
 - o Review and discuss all packages:
 - If the panel agrees with the first-level panel recommendation, then the first-level panel scores are retained and the second-level panel adds additional comments and feedback to the employee on the original feedback form (Individual Panel Results Form, exhibit A-5 or exhibit B-5).
 - If the panel agrees with the first-level panel recommendation, but disagrees strongly with a specific factor score, then they rescore that factor and edit the feedback for that factor to reflect the new consensus score. The second-level panel adds additional comments and feedback to the employee on the original feedback form (Individual Panel Results Form, exhibit A-5 or exhibit B-5).
 - If the panel does not agree with the first-level panel recommendation, the package must be rescored, and the original feedback form (Individual Panel Results Form, exhibit A-5 or exhibit B-5) must be amended to support the new consensus scores.
- At the close of the panel process:
 - o Re-emphasize the confidentiality of the panel discussion and results. Panel members are counseled not to discuss the panel deliberations or results. Emphasize that it is a line management responsibility to provide the panel feedback to employees.
 - o Ensure that final documentation of the panel results is completed or disposed of in accordance with Bureau guidelines.
 - o Counsel panel members to shred papers and delete digital files of all panel-related materials and notes, including RDSR packages and worksheets. CDs and DVDs containing RDSR packages or individual notes should be destroyed.
 - o Ensure RGE-EDGE Coordinators distribute final feedback forms (Individual Panel Results Forms—exhibit A-5 or exhibit B-5) to the Science Center Directors or National Capability Managers with instructions to give to the scientists as soon as possible. Send copies to the appropriate Regional Director or Associate Director and OHR.

Second-Level Panel Members

- Review and score each package before the panel meets.
- Be prepared to participate in panel discussions for each scientist being reviewed.

Second-Level Panel Lead Presenters

- Become familiar with all documentation in the RDSR packages that you have been assigned, and make appropriate contacts to obtain a more in-depth perspective. You may not contact the person who is being reviewed. Things to note are the completeness of the RDSR and documentation of the research assignment, position description, first-level panel results, and the scientist's contributions to and impact on the scientific leadership of the Bureau and the greater scientific community.
- The lead presenter will introduce the scientist and his or her RDSR package to the panel and will lead the panel discussion.

CHAPTER 6
DOCUMENTATION

Preparing panel documentation and providing constructive, accurate, fair, and timely feedback are critical components in the panel process.

Forms that are used by the Panel

All forms noted in this section are included in appendixes A (for RGE reviews) and B (for EDGE reviews).

The Individual Summary Evaluation Score Form (exhibit A-4 or exhibit B-4) provides a recommended format for RGE-EDGE Coordinators to use when recording initial scores during the panel process. The format may be replicated on a blackboard, computer display, and so forth. If a hard or electronic copy is created during the panel process, it must be destroyed at the end of the panel process.

The Individual Panel Results Form (exhibit A-5 or exhibit B-5) must be completed for every individual who is reviewed. This form documents the panel's assessment of the scientist in relation to the four factors and shows the final consensus score by factor and a description for each factor in relation to the consensus score. OSQI will send the final feedback form to the appropriate Science Center Director or National Capability Manager, with copies to the appropriate Regional Director or Associate Director and OHR. The Science Center Director or National Capability Manager will share the results with the employee in their original form. This form also may be used by panel members to document their initial individual ratings and comments for each scientist who will be reviewed prior to the panel meeting. All notes and unofficial feedback paper and digital copies of this form must be destroyed at the end of the meeting.

The Panel Recommendation Summary Form (exhibit A-6 or exhibit B-6) lists all individuals reviewed by the panel alphabetically, sorted by grade, noting the final recommendation of the panel.

Maintenance of Panel Files

The panel results are considered confidential and, as such, should be managed accordingly. The OHR maintains the official copy of the Individual Panel Results Form. OSQI maintains copies of all Individual Panel Results Forms and the most recently received version of the Research and Development Scientist Record for all active research and development employees.

OSQI also maintains panel files that include panel dates, panel membership, and the panel recommendation summary form. A copy of this form should be sent to the OHR.

The purpose for retaining the copy of individual and panel records is to ensure that the U.S. Geological Survey is able to reconstruct the panel records, if needed, for administrative purposes.

THE FEEDBACK PROCESS

Ensuring that all employees evaluated by an RGE or EDGE panel get constructive and timely feedback is a critical part of the evaluation process. Whether providing positive feedback on an upcoming promotion, instructions on how to focus for the next review cycle, or guidance on how to improve current performance, employees should have timely closure.

Panel Feedback

Panel findings are considered recommendations to management. Therefore, all panel recommendations are forwarded by OSQI to the employee through the Science Center Director or National Capability Manager with a copy to the appropriate Regional Director or Associate Director and OHR. Within OSQI, RGE–EDGE Coordinators are responsible for forwarding feedback to all appropriate recipients.

Feedback is recorded on the Individual Panel Results Form (exhibit A–5 for RGE reviews or exhibit B–5 for EDGE reviews), which provides the consensus scores by factor and as a total, a summary of the employee’s panel results in relation to each factor, recommendations or other comments regarding the employee’s career record, and the panel’s classification recommendations.

Panel feedback should be accurate, meaningful, constructive, and realistic. Feedback may include recommendations for the supervisor and (or) the employee. Recommendations to the employee should be within the authority of the employee to carry out or pursue.

Management Feedback to Employee

Discussing panel recommendations with an employee is an extremely sensitive area and must be handled with discretion, good judgment, and common sense. It should also be done in a timely manner.

Comments should be provided to the employee in a personal meeting, so that the panel comments can be placed in the right context. Such context may include consideration of information or conditions about which the panel may have no knowledge and other mitigating factors. At times, panel findings may require that negative or very critical feedback be returned to the employee. Regardless of the message, it is expected that all panel feedback will be presented in a constructive manner. The panel results should be provided to the employee in their original form.

If the panel comments cannot be delivered to the employee personally in a timely manner, it is best to provide them with the results and schedule a follow-up meeting.

Managers and supervisors should review the panel comments on the Individual Panel Results Form before sharing with the employee to ensure that the feedback to the employee is constructive and that any recommendations made by the panel are realistic. In rare instances, where in the opinion of a manager or supervisor the panel comments are unclear or the recommendations are outside the scope of the employee’s authority, they may discuss the comments with an RGE–EDGE Coordinator or the Deputy Director of OSQI.

Panel findings are to be relayed through management to the employee as soon as possible. Follow-up on promotion recommendations is the responsibility of the supervisor, who should prepare the new position description and initiate the personnel action for processing the promotion. Documentation to the personnel

office should include the updated position description and Individual Panel Results Form.

CONVERSION TO A RESEARCH OR DEVELOPMENT POSITION

There are two mechanisms by which an employee may enter a research or development position:

- Management may establish a new position. The position would then be announced providing equal opportunity to all qualified candidates.
- Alternatively, management may recognize that an employee's operational position is evolving over time to include a major research or development component. If the supervisor or the employee believes that the position has evolved to be research or development and meets the criteria described below, the employee may apply for conversion to a research or development position by requesting a panel review. In this instance, the following guidance applies.

Positions Evolving from Operations to Research or Development

If the movement of an employee from an operational position to a research or development position involves moving to a position with a higher career ladder, that is, higher full performance level, than previously held, then some form of competition, vacancy announcement, or review by an RGE or EDGE panel is required under Merit Promotion procedures. Once an employee's position has begun to evolve to research or development, the employee should discuss with his or her supervisor if conversion to a research or development position is appropriate. If the supervisor agrees that conversion is warranted then the employee should apply for conversion to a research or development position. The panel-review process satisfies the need for competition.

The Application Process

- Operational scientists must request admission to the USGS RGE–EDGE review process from their supervisor.
- The supervisor must review the work of the employee and make the following assessment:
 - If he or she concurs that the work described is the officially assigned, regular, and recurring assignment, then the supervisor must inform the RGE–EDGE Coordinators (rge-edge@usgs.gov) that the scientist is requesting conversion to a research or development position through the panel-review process.
 - If the supervisor agrees that the work is part of the official assignment, but is unsure or does not believe that the work is research or development in nature, the supervisor must still forward the scientist's name to the RGE–EDGE Coordinators for review by a panel. The panel will then determine whether the work is research and development in nature.
 - If the supervisor does not agree that the work is part of the official, regular, and recurring assignment as described in the PD or as officially assigned, then he or she must discuss this with the employee. The research panel process is not appropriate for review of work that is not a management-endorsed or management-approved assignment.
- Research and development conversion candidates: Candidates will be notified by OSQI when they will be reviewed and how and when to submit their review packages. The candidate's supervisor must prepare a memorandum that is submitted with the candidate's review package. The memorandum should

include the supervisor's assessment of whether the scientist's work is research or development in nature, the temporary or continuing nature of the work that is being proposed as research or development, and the percentage of work-time devoted to the research or development assignment.

The Role of the Supervisor and Science Center Director or National Capability Manager in Position Management

A major part of a supervisor's and Science Center Director's or National Capability Manager's job is to decide what work is to be performed in an organization and by whom. The supervisor and Science Center Director or National Capability Manager must decide whether the work proposed as research or development is necessary to the work of the organization. Factors that should be considered in the decision process include current and future funding, program needs and direction, available work and personnel, and benefit to the organization. An employee's desire and ability to perform research or development work are not the sole factors considered in the decision process.

Potential Outcomes from the Panel Findings

- If the work is determined by the panel to be research or development in nature, the predominant activity of the position, and the same or higher grade than the employee's operational assignment, the position is designated research or development, placed in the 4-year panel-review process, and assigned a career ladder of a GS-15.
- If the work is determined by the panel to meet the definition of research or development, not to be the predominant activity but a major duty (25 percent or more of the employee's time), and the research or development component is evaluated to be at the same or lower grade as the operational component of the position, the position remains at grade and as operational. In this instance, the position would remain designated as operational because the operational work is the predominant and (or) grade-controlling assignment. (Example: A GS-12 operational scientist performs work identified as research 30 percent of the time at the GS-12 level. The position would remain GS-12 and operational. Any future request for review of the research work through the panel process would be as a "new" applicant.)
- If the work under review is evaluated as research or development, is a major duty (25 percent or more of the employee's time), and is evaluated at a higher grade than the operational component of the position, the position is designated as research or development, placed in the 4-year panel-review process, and assigned a career ladder of a GS-15.

Calculating the Percentage of Time in Research or Development in a Mixed Position

It is the supervisor's responsibility to determine the percentage of time an employee should spend on various types of work. The determination is made by looking at the work performed in terms of hours, days, weeks, or months over an extended period of time (for example, a year or more). The decision may not always be clear-cut. Because classification decisions are based upon this assessment, the supervisor must make every reasonable effort to accurately make this determination. Difficult determinations should be discussed with the servicing HR Specialist.

Supervisor and Management Options as a Result of Panel Recommendations to Place the Employee in a Research or Development Position

The supervisor, in conjunction with his or her senior management, must decide whether the research or development work being performed is necessary to the mission of the organization and whether there are sufficient resources to support a new research position. There are several scenarios that could occur:

- The supervisor may decide that the employee's work is necessary to the mission of the organization. The employee would then be placed in a research or development position in accordance with the panel outcomes described above.
- The supervisor may decide to authorize continued performance of research or development work even though it is performed 25 to 50 percent of the work-time and is not grade-controlling. If the research or development component continues to grow in percentage of time or becomes a grade-controlling duty in the position, the job can be considered for conversion or promotion in a future panel.
- The supervisor, with the concurrence of the Science Center Director or National Capability Manager, retains the right to reassign work or reallocate the portion of research, development, or operational work of any position at any time based on changing project needs, decreases in funding, or new mission and goals.

Requirements for a Research Grade Evaluation or Equipment Development Grade Evaluation Review if Work has Evolved from Operational to Research or Development

It is not only the supervisor's right to require a review; it is also his or her responsibility to ensure that the employee is being paid appropriately for work performed.

SPECIAL ISSUES IN QUESTION AND ANSWER FORMAT

Position Management for Research and Development Positions

What is the USGS guiding principle on position management for research and development positions?

It is the USGS Guiding Position Management Principle for research and development positions that new research and development positions be established only if it is management's intent that the employee will spend at least 50 percent of his or her time on research or development work.

The Bureau's intent is that new research and development positions should not be established unless the employee can devote 50 percent or more of his or her time to pursue research or development work. While operational positions may evolve to include less than 50 percent of the time dedicated to research or development, it is generally difficult for employees to progress in research and development without the predominant part of their positions dedicated to those pursuits.

In some situations where research and development positions evolve from an employee's operational assignment, there may be exceptions to the position management philosophy. Employees who believe they are currently spending 25 percent or more of their time in research or development, feel that the work will remain a major component of their job (25 percent or more), and believe that the work is at a higher grade than their current operational assignment, may apply for review for conversion to research or development.

Mixed Positions—Research or Development and Operational Science Positions

What is a mixed position?

A mixed position is one that performs two or more significantly different types of work. For purposes of this guidance, a mixed position may perform research or development work and other work with a different classification, such as operational science work or organizational management activities. The different work must be evaluated using the appropriate evaluation tools. The research or development work is evaluated using the RGE-EDGE panel-review process. Operational science work is evaluated using the appropriate Office of Personnel Management classification standard.

How does a panel handle a mixed position?

The panel evaluates only the research or development portion of the position but needs to understand the scope of the whole position to give proper weight to the recency of the work.

Who evaluates the operational portion of the work?

It is the responsibility of the servicing HR Office to evaluate the operational portion of the work.

Do panels always know when they are looking at a mixed position?

Some panels have difficulty distinguishing between research or development and operational work. Panels should discuss any questions regarding the nature of the work with the supervisor and obtain position classification advice from the panel's HR Specialist.

Understanding the Research and Development Career Ladder

What is a career ladder?

A career ladder identifies the range of grades for a position to which an employee may be promoted

noncompetitively. Reassignment from a position with one career ladder to a position with a higher career ladder requires competition, such as a vacancy announcement, or comparable competitive process, such as the RGE–EDGE panel-review process.

What is the Research and Development career ladder in the USGS?

In the USGS, the career ladder for research and development positions is GS–15. This career ladder designation recognizes that (1) research and development positions are open-ended and (2) the grade level assigned to the position is to a great extent dependent upon the incumbent, in other words, what the scientist brings to the position and how he or she develops the research or development opportunity.

Am I guaranteed a promotion to the top of my career ladder?

There is no guarantee that any employee will be promoted within his or her career ladder or that he or she will attain GS–15. There are multiple factors that impact advancement for research and development employees. Some of these factors depend on the individual, and include the individual’s creativity, capability, and stature within the scientific community. Other factors are more organizational in nature and include the direction of the Bureau programs, available work, or the termination or reduction of activities due to available funding.

Evaluating Classified Work in the Panel Process

If the panel is evaluating someone whose critical body of work is classified, how can the individual be reviewed?

A number of USGS employees perform work on classified sites or on classified issues. These employees may be successfully evaluated by panels that don’t have access to the classified documents. The critical issue for any research or development review is the relevance and impact of the work. For those whose work is classified, supervisory input on the impact of the work becomes critical to the review. The supervisor also may obtain testimonials from knowledgeable individuals who can attest to the scope, impact, and quality of the employee’s classified work. Information on how the work is used, the impact on cooperators, and general information on the relevance of the work in a larger context can be obtained without access to classified information. Scientists who conduct classified work are allowed to submit letters of support with their package that describe the importance and impact of their classified research contributions. Primary reviewers become critical players in the panel process and will most likely need to have more extensive conversations with the supervisor and clients to ascertain the scope, impact, and relevance of the body of work.

SENIOR SCIENTIST REVIEW PROCESS

The Senior Scientist Review Panel is the Bureau-level panel that reviews all individuals recommended for assignment to a ST position and all current STs for maintenance of ST status. The Senior Scientist Review Panel is scheduled to meet every 2 years.

Allocations for ST positions are managed and tightly controlled by the Office of Personnel Management. Individual agencies can request ST allocations on an “as-needed” basis or during the biennial review of Executive Resource Allocations. Requests for allocations must be approved by the Assistant Secretary for Water and Science and the Executive Resources Board prior to being submitted to the Office of Personnel Management. The Department of Interior (DOI) manages ST allocations, all of which are filled by USGS scientists.

Panel Evaluation Process

Composition of the Senior Scientist Review Panel

The USGS Director or his or her designee chairs the Senior Scientist Review Panel. Panel members include the at least one Associate Director, one Regional Director, one current ST, the Director of OSQI, and a technical representative from the OHR. The chair has the option of including additional panel representation, as appropriate.

Review of Sitting STs

All current STs are to be evaluated at least once every 6 years by the Senior Scientist Review Panel. The evaluation focuses on the contributions and stature of the scientist to ensure maintenance of ST status.

An ST’s manager may request that a current ST be reviewed during a review cycle prior to his or her scheduled review. A written justification describing the level, relevance, and impact of the individual’s research contributions will serve as a basis for the accelerated review and is submitted through the OSQI Director to the Senior Scientist Review Panel chair for review and approval.

Review of ST Candidates by the Senior Scientist Review Panel

The second-level RGE–EDGE panel may recommend ST candidates for review by the Senior Scientist Review Panel. Candidates must have been evaluated at 56 points or higher using the Research Grade Evaluation Guide and appropriate USGS checklist or 33 points or higher using the Equipment Development Grade Evaluation Guide and appropriate USGS checklist, and they must have achieved that rating for their two most recent panel reviews.

The goal of the two-panel cycle requirement is to ensure that all ST candidates possess a sustained record of accomplishment. Therefore, a minimum of 1 year and no more than 4 years must elapse between the two panel reviews. The RGE, EDGE, and ST Checklists (appendix A, exhibit A–3; appendix B, exhibit B–3; and appendix E, exhibit E–1) show the evaluation criteria for Factors 1 through 4 through the ST level.

Recommendation of ST Candidates for Senior Scientist Review Panel Review Outside the Bureau Panel Process

An Associate Director or Regional Director may recommend a scientist for Senior Scientist Review Panel review outside the normal Bureau panel recommendation and nomination process.

Nominations of this type are expected to be rare. An example of when this situation may occur is when a scientist is hired into the Bureau at a high level (GS-15) who has made such significant research contributions to the field of study prior to and since coming to the USGS that nomination to the Senior Scientist Review Panel should be considered as soon as possible versus waiting for the individual to undergo the two required panel reviews. Another example might be a scientist who, for whatever reason, has not been part of the RGE-EDGE panel process either due to being in a supervisory or managerial role or having a special assignment but has made outstanding research or development contributions to the field of study and has provided significant scientific leadership to the programs of the Bureau.

For a scientist to be nominated through this process, he or she must possess the first characteristic listed below in addition to one or more of the remaining characteristics.

- The scientist has an outstanding record of scientific achievements and is leading a specialized field of research or development in new directions. The scientist has numerous significant research or development accomplishments, including important publications and other technical contributions, of such high quality and impact that other scientists must refer to this work to remain at the forefront of the field.
- The scientist has received honors and awards from major national and (or) international organizations in recognition of scientific accomplishments and expertise.
- The scientist is sought as an advisor and consultant on scientific and technological programs and problems, which extend well beyond his or her field.
- The scientist serves as an advisor and mentor to recent graduates and professionals who seek opportunities to learn the latest methods and techniques or to gain critical skills and knowledge by working with a scientist of high stature.
- The scientist's personal competence has a significant impact on science, national policy, and the directions of programs within the Bureau.

The scientist must also meet the following qualification requirements:

- The Office of Personnel Management regulations require the candidate have at least 3 years of specialized experience in or closely related to the field in which the candidate will work. At least 1 year of this experience must have been in planning and executing difficult programs of national significance or planning and executing specialized programs that show outstanding attainments in the field of research or development.
- The USGS requires that at least 1 year of the specialized experience be at or equivalent to the GS-15 level.

A request for the Senior Scientist Review Panel review of a scientist outside the normal nomination process should be submitted as a memorandum to the OSQI Director. A copy of the nomination memo should be sent to the HR representative for coordination purposes. The OSQI Director will review the request and develop a recommendation for the USGS Director, who will make the final decision. The determination that a scientist should be reviewed by the Senior Scientist Review Panel in no way implies a recommendation for Bureau ST endorsement but is rather an agreement that the individual's research or development work and contributions are of such a level to warrant review by the Senior Scientist Review Panel.

The request should include:

- A description of the situation and why the employee should be considered outside of the established process.
- An analysis of how the scientist meets the ST nomination characteristics.

- Confirmation that the scientist meets all the regulatory qualification requirements.

Requests that are denied will be returned with a brief statement that explains the decision, such as the scientist does not possess the required characteristics and (or) that the scientist did have opportunities to participate in the Bureau panel process, and so forth.

ST Package Requirements

All ST packages submitted for review by the Senior Scientist Review Panel (candidates and current STs) will include an RDSR, the individual's three most significant contributions or publications, and letters of advocacy. The letters of advocacy provide a measure of internal and external impact of the individual's work.

- Five letters are required of all ST candidates: Three from peers outside of the USGS, one from a peer within the USGS, and one from the candidate's Associate Director or Regional Director, depending on whether the scientist is administratively in a Mission Area or a Region.
- Three letters are required for current STs: Two from peers outside of the USGS, and one from the individual's Associate Director or Regional Director, depending on whether the scientist is administratively in a Mission Area or a Region.

The scientist's peers are asked to address the following criteria (see appendix E, exhibit E-2):

- The nature and difficulty of the research or development problems being addressed.
- The relevance and impact of the individual's work on scientific advancement, resource management, and (or) public policy.
- The stature and leadership of the scientist in the scientific community.
- The creativity and originality in the scientist's approach to problem-solving.
- The record and significance of scientific productivity.

The Associate Director or Regional Director letter, as appropriate, should provide more comprehensive input that addresses the following seven criteria (see appendix E, exhibit E-3):

- The scope, depth, and breadth of the employee's research or development assignment.
- The degree of independence with which the research or development assignment, advisory services, and program support are undertaken by the employee.
- The impact of the individual's contributions on national policy, program direction, and (or) science.
- The degree of stimulation the scientist provides to colleagues or other individuals in the field of specialization or area of assignment.
- The demonstrated leadership of science within the field and peers in the Bureau.
- The employee's professional standing in the national and international community, including honors, awards, and services to professional societies.
- The quality of publications and other contributions of the scientist in the field of study.

Panel Outcomes

- Individuals recommended to the ST level by the Senior Scientist Review Panel are referred by the USGS Director to the DOI. Referral to the DOI should not be interpreted as final approval. All ST recommendations require the approval of the Assistant Secretary for Water and Science, the DOI Director of the Office of Human Resources and the DOI Executive Resources Board.
- Candidates who are not recommended for an ST position remain at the GS-15 grade level and continue with the normal RGE-EDGE review schedule.

- Candidates who were recommended by the Senior Scientist Review Panel for an ST position and who are not approved by the DOI for an ST position remain at the GS–15 grade level. They will need one additional RGE–EDGE second-level panel recommendation before they can be considered for an ST position by the Senior Scientist Review Panel.
- If the panel identifies more candidates than available ST allocations, the following will occur:
 - ST candidates will be ranked based upon the point ratings assigned by the Senior Scientist Review Panel and the impact to the Bureau mission, the field of study, and society at large.
 - Scientists scored by the Senior Scientist Review Panel at the ST level who are not referred to the DOI because of a lack of ST positions will be considered by the next Senior Scientist Review Panel. If the second Senior Scientist Review Panel does not recommend them, they will return to the regular 4-year review cycle.
 - A Bureau-wide queue will not be maintained for candidates not forwarded to the DOI due to the lack of ST allocations.
- Decisions of the Senior Scientist Review Panel are final.

If deemed appropriate by Bureau management, the Senior Scientist Review Panel may be convened at any time to make Bureau recommendations outside of the established review cycle.

Feedback Roles and Responsibilities

All scientists reviewed by the Senior Scientist Review Panel are to receive feedback.

For all individuals reviewed by the panel:

- The Human Resources representative provides a written summary of the panel discussion. The Senior Scientist Review Panel chair is responsible for reviewing the written feedback narrative to ensure it captures the panel discussion and is technically accurate. Panel feedback to the employee will not include panel scores.
- The panel feedback is to be provided to the employee by the USGS Director or designee.

For individuals being referred to the DOI for appointment to an ST position (in addition to the feedback provided above):

- The USGS Director or designee notifies the scientist of the Bureau’s intent to recommend his or her appointment to an ST position.
- The OHR coordinates the preparation of the DOI recommendation package with the nominee, and the nominee’s supervisor, for the USGS Director’s approval.
- The USGS Director or his or her designee notifies the employee’s supervisor when final approval is received from the DOI Executive Resources Board.

Questions regarding the ST process may be referred to the OHR, Executive Resources Office or the Director of OSQI.