Exhibit A–2.—Assessing the Four Factors in Research Assignments

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FACTOR I: Research Assignment

This factor assesses the nature, scope, and characteristics of the reseracher's current assignment. Panel members should consider (1) the scope and complexity, objectives, and means of accomplishment; (2) the problem breadth and depth; (3) number of unknowns and critical obstacles; (4) variety and depth of knowledge and expertise required to solve problems; (5) extent and complexity of the required validation process; (6) availability of related reseach studies; and (7) the expected impact of end results products or outcomes. This information is drawn from the Position Description or other project-related documents.

The evaluation of this factor should:

- Be based upon a sufficient span of time to reflect a typical assignment, not an isolated or atypical project.
- Reflect the assignment of the current job, not a summation of career assignments.

For the evaluation of scientists who are part of project teams, the panel should consider the individual's role on the team and credit the assignment in the following manner:

- The assessment of the assignment for Team Leaders/Project Chiefs should reflect the scope and character of the entire project being conducted by the team.
- The assessment of the assignment for a team member should reflect the specific project, nature, scope, and difficulty of the assignment conducted by the individual and the contribution of that work to the impact of the larger project.

FACTOR II: Supervisory Controls

This factor assesses the researcher's current level of independent performance and the technical and administrative guidance and control the supervisor exercises over research work. The evaluation must be based on the real control exercised, not simply an assessment of the number of face-to-face meetings. It is possible to have significant supervisory control with remote or minimal contact. Conversely, a large number of face-to-face meetings may occur because that is what the supervisor likes to provide, but in fact, very little supervisory intervention or direction may be required.

Panels should consider:

- The manner in which the supervisor assigns work;
- The researcher's freedom to determine a course of action;
- The scientist's opportunity for procedural innovation; and,
- The degree of the supervisor's acceptance of the recommendations, decisions and final products. How is the work reviewed?

The word "independence" has various meanings. At grade GS-11, independence means the incumbent is capable of performing responsibly in all phases of research, but with technical supervision—particularly review of work performed. At grade GS-12 and above, independence means the incumbent is capable of accepting responsibility for all phases of research, with limited technical supervision. When “independence” is applied to a member of a team where large problems cannot be separated into identifiable areas, it means the incumbent is fully participating as a professionally responsible member of a team in substantive aspects of the work or makes contributions that may be regarded as equivalent to independent performance and working alone is not required.

Note: Panel members will discuss the work described in the package and adjust their scores accordingly. The use of primary reviewers will also help to ascertain certain knowledge about employees. For example, a lower-grade employee's ability to "carve out" a piece of independent science from a larger project, whether an individual is a leader or a follower, the quality of manuscripts reviewed during the peer review process, and how much guidance or help must be furnished to get a manuscript ready for publication. Without this personal knowledge, a panel member can probably only assign an initial rating that is "normal" within a grade range. However, this rating, along with other factor ratings, can and should be adjusted as necessary based on information and discussion of the above types of considerations at the panel meeting. Supervisors should inform the panel chair about individuals who are presently working under closer than normal supervision so that this information can be weighed in panel deliberations.

FACTOR III: Guidelines and Originality

This factor measures the creative thinking, analysis, synthesis, evaluation, judgment, resourcefulness and insight characterizing the work currently performed. When assessing the guidelines that are available in the field (literature, procedures, instructions, precendent findings) consider the extent and nature of available written guides; the intrinsic difficulty encountered in apply guides; and, the degree of judgment required to select, interpret and adapt the guides.

The Research Grade Evaluation Guide (RGEG) points out that "in assessing the impact of creativity found in the position, the following considerations are important.

- The original and independent creation, analysis, reasoning, evaluation and judgment; and
- The originality in interpreting findings and translating findings into a form usable by others

FACTOR IV: Contributions, Impact and Stature

This factor assesses the total contributions, impact and stature of the researcher as they bear on the current research situation. (This factor is double weighted.)

Panels should consider the following:

Contributions: The researcher's contributions reflect the knowledge, skills and experience the incumbent brings to the position. The RGEG notes that while professional journal articles are an important product of research results for communicating scientific findings they are not the only outlet for communicating information and must be balanced with other forms of communication.

Impact: The researcher's impact is assessed by determining whether the work has had an impact on scientific and/or societal issues; has set new research directions; has developed new methods, techniques, or tools to be used by other researchers; and whether the work drives management and policy outcomes.

Stature: The researcher's stature is assessed by the recognition by the scientific community and/or society. Indicators of this recognition is evidenced by requests for expert advice/consultations; requests to exercise leadership on research teams or projects; invitations to serve on advisory boards; requests to organize or chair committees, workshops, or symposia; invitations to address scientific or professional organizations; invitations to write synthesis papers; recognition by professional societies and external groups; or honors and awards.

Timeframe:
The RGEG states that Factor IV "is intended to focus on the total qualifications, professional standing, and recognition and scientific contributions of a researcher, as these bear on the dimensions of the current research situation and work performance."

The RGEG places considerable emphasis on recency of accomplishment and states that "recent research or similar activity which assures maintenance of research competence is essential to full credit for past accomplishments." This is interpreted to mean that the total research career should be evaluated and then if lack of recency exists, full credit should not be given.

As a general rule, 3 to 5 years is the timeframe commonly used to assess recency. The timeframe is designed to recognize that some scientists will have no final product in any one rating year and should not necessarily be rated low because of this. Those employees who have part-time schedules or have broken time or intervening assignments should be judged over a broader span of time.

Balancing total contributions, contributions since last promotion, or contributions within the past 5 years, as evidence of recency of accomplishment involves highly subjective judgments. As the RGEG points out, "undue emphasis should not be accorded to mere number of publications; their quality and scientific significance, and especially the number of quality contributions, are more important." Each situation must be studied and evaluated on its own merits and an informed judgment reached.

In the U.S. Geological Survey and other Federal agencies, the means and methods of conducting and communicating research have changed. While journal articles are still an expected product for research results, they are not the only outlet for information and should be balanced with other forms of publication to ensure broad impact from the results of the work. Research journals are the traditional mechanism for ensuring science excellence through rigorous peer review and evaluation. USGS scientists must also exhibit scientific leadership in selecting other forms of communication and contribution that ensure the relevance of their work to customers, and the society. All contributions including publications, both internal and external, and non-publications of a scientist must be judged in terms of their relevance, quality, and impact, regardless of the form or expression of the work.

Technology transfer is defined as the process by which existing knowledge, facilities, or capabilities developed under Federal research and development funding are utilized to fulfill public and private needs. If technical assistance and technology transfer are reflected in the record, panels should consider if these activities are related to the research assignment and consider them as evidence of the employee's stature in the field.

Requests for technical assistance and (or) technology transfer should also be evaluated for their relevance to the specialty field. Panel members must make deliberate efforts to consider: (a) the impact of these activities on research in the field of expertise; (b) contribution to the resource and the customer; and (c) measurement of quality and quantity. To be credited, technical assistance and (or) technology transfer should be directly related to and derived from research accomplishments.