

LC 1092

# The NBS/DOE Energy-Related Inventions Program

## Synopsis of Evaluation Process



Office of Energy-Related Inventions

U.S. Department of Commerce

National Bureau of Standards

National Engineering Laboratory

Washington, D.C. 20234

## 1 Initial Contact

When inventors contact or are referred to the National Bureau of Standards' Office of Energy-Related Inventions (OERI), they are sent information on the program including two copies of an Evaluation Request form (NBS-1019). Upon receipt of one signed NBS-1019 and documents disclosing the invention, NBS sends an acknowledgment to the submitter.

## 2 Disclosure Review and Analysis (DRA)

Based on the order in which they are received, disclosures are reviewed to determine if they are complete, understandable, technically sufficient, and within the scope of the program. Disclosures meeting these requirements are then accepted for first-stage evaluation.

If a disclosure is determined to be incomplete, insufficient, or unclear, the inventor is given the opportunity to improve the disclosure by submitting additional material. The new material is reviewed according to the date received by OERI.

Disclosures which do not meet the requirements are not accepted for evaluation. A letter is written informing the inventor. Such disclosures are classified as one of the following:

- Not energy-related
- Nuclear energy-related
- A proposal to invent, i.e., no invention yet involved
- Being of insufficient technical depth or detail
- Obviously technically flawed, e.g., perpetual motion
- Requiring excessive feasibility analysis
- Unclear or with communication difficulties

### 3 First-Stage Evaluation

After passing a Disclosure Review and Analysis an inventor's disclosure proceeds to a First-Stage Evaluation. This step consists of a series of independent and successive reviews by technical experts inside or outside the National Bureau of Standards. Dependent upon the complexity and/or volume of each disclosure, a review may require up to eight hours. Evaluation is restricted to consideration of disclosure material and pertinent references, and no testing is performed by OERI.

For each review the disclosure is sent to an evaluator in the appropriate field. The evaluator assesses the adequacy, completeness, and logic of the disclosure. The evaluator also considers the validity of the technical assumptions and statements made in the disclosure, the potential for energy savings, and the commercial feasibility, economics, and practicality of the invention. Although no patent searches are conducted, the evaluator appraises the uniqueness of the invention or idea with respect to the state-of-the-art.

The evaluator provides NBS with brief, written comments and a recommendation for or against support. The opinion is informal and is considered only advisory and not meant for release outside OERI.

After each review, an OERI staff engineer considers the invention in light of the reviewers' opinions and does one of the following:

- writes a letter to the inventor summarizing the evaluation findings if the invention is not to be recommended to the Department of Energy (DOE);
- selects an appropriate expert to conduct an additional review if needed; or

- initiates action to perform a "Second-Stage Evaluation" (see section 4) if the invention shows promise or a more in-depth review is required.

First-stage evaluation is considered to be a screening effort to identify promising inventions appropriate for second-stage evaluation. At least two independent reviews are scheduled to make sure that no worthwhile invention is overlooked. The results of the first review are not made known to the second reviewer. Integration of results is performed by an OERI staff engineer.

The only exceptions to this basic policy of at least two reviews per disclosure are when the invention disclosure could have been rated unacceptable or out of scope during disclosure review and analysis (section 2); or when the invention is obviously and entirely, "old" technology, i.e., rediscovery or repetition of well-known ideas.

## 4 Second-Stage Evaluation

This stage entails an in-depth analysis which may require as little as one day or as much as eight weeks.

For each invention reaching second-stage evaluation, an OERI staff engineer is assigned as "coordinator." It is the coordinator's function to make sure that the invention receives a satisfactory evaluation of both technical and commercial feasibility. The coordinator is responsible for selecting the second-stage evaluator(s), communicating any special evaluation requirements, and providing assistance in any area outside the scope of the evaluator(s).

When second-stage evaluation is begun, inventors will be notified. They will be given

the name of the coordinator who may be contacted at any time for any reason.

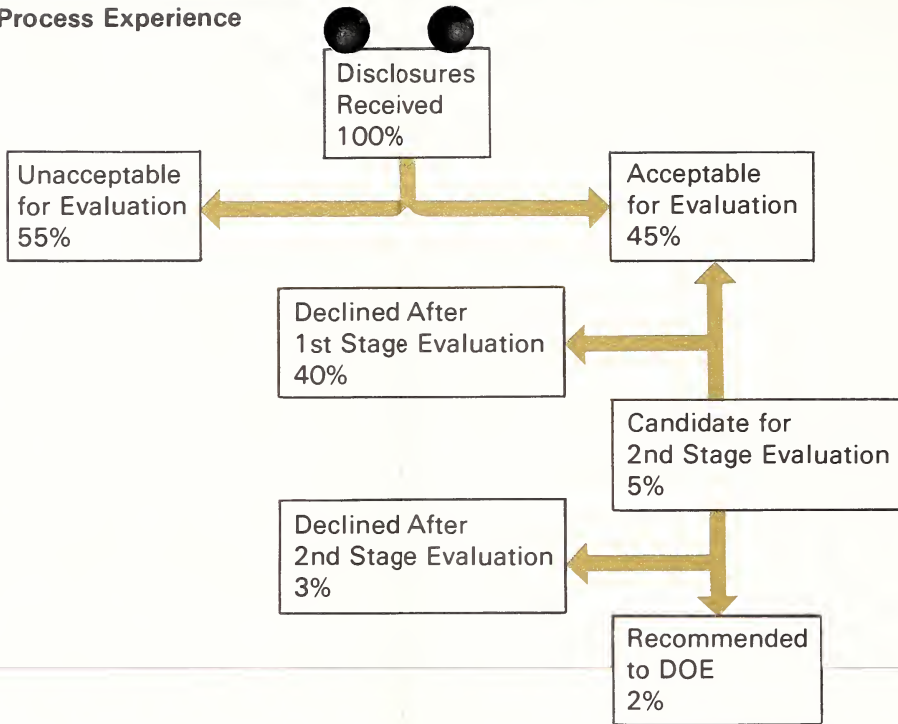
Second-stage evaluators are encouraged to contact the inventor for additional information or data as required. Normally, testing is not conducted as part of the second-stage evaluation. If a model is available, however, the evaluator and the OERI coordinator may visit the inventor for a demonstration.

The second-stage evaluation normally includes:

- Reexamining the validity of technical assumptions and statements made in the disclosure, analyzing claims, and establishing their accuracy;
- Determining the uniqueness of the invention, which may require a patent or literature search;
- Defining the developmental process (e.g., research, design, test, production, marketing) required to bring the invention into use, and identifying difficulties to be resolved or barriers to eventual utilization;
- Identifying the precise nature of the energy savings to be made if the invention were to be utilized, and identifying existing devices, processes, or methods which would be replaced, modified, or affected.

A formal report is submitted by the evaluator. The report is reviewed by the coordinator, and other OERI staff as required, and a decision made whether or not to recommend the invention to DOE. The inventor is notified of the decision and sent a copy of the evaluation report.

## Evaluation Process Experience



The percentages shown in the above chart reflect the operating experience of OERI. The chart shows that of every 100 inventions submitted for evaluation, about 2 are recommended to DOE.

## Notes

- A first or second-stage reviewer or evaluator may be a private consultant; a faculty member of a university; a staff member from one of several firms under contract to OERI; or an engineer or scientist on the staff of OERI, NBS, or another Government agency.
- Normally, processing times in OERI should be 2-4 weeks for disclosure review and analysis; 6-12 weeks for first-stage evaluation; and 8-16 weeks for second-stage evaluation. However, in some instances additional time may be required depending upon the complexity of the invention.
- The submitter of an invention disclosure may obtain a status report on the progress of the evaluation by writing to OERI or by calling 301-921-3694. If there are technical questions after an evaluation is complete, the submitter may also call this number to make arrangements to talk to an evaluator.

## DOE Support Program

Upon receipt of a recommendation from NBS, the DOE Inventions Support Office writes to the inventor describing the procedures within DOE and requests information on the type of support desired. The inventor's response to this inquiry is treated as a preliminary proposal to DOE.

An invention coordinator from this office will consider the inventor's response, the NBS recommendation, and a technical review of the response by a DOE employee actively working in technology development closely related to the nature of the invention. The coordinator will then decide whether Government support is warranted and, if so, what type of support will be provided. The program provides one-time-only support to assist the inventor in developing the invention for eventual commercialization. Although the primary method of support is through a direct grant to the inventor other types of assistance include:

- Testing the invention
- Inviting the inventor to participate in an upcoming competitive solicitation.
- Negotiating a contract directly with the inventor, where appropriate.

The DOE has provisions for waiving the Government's right to title in grants for the development of NBS-evaluated inventions.

Finally, the DOE provides administrative support and advice to aid the inventor as required and requested.



