FEDERAL LOAN GUARANTY PROGRAMS

Management Report

Task III, Item 005

**TAB I: Electric and Hybrid Vehicle Research,
Development, and Demonstration Project**

TAB II: Geothermal Loan Guaranty Program

**Prepared for the
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**by
Harbridge House, Inc.**

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INTRODUCTION

This project was originally conceived as a sequel to a general study on financial incentives to R&D investment sponsored by the National Science Foundation in early 1975. At the time a single technology – energy – and a single incentive – loan guaranties – appeared to be emerging from the pack as the dominant technological concern of our age and the principal government device to encourage private investment in new energy technology. Two years later national concern about energy production and conservation has, if anything, deepened; however, the governmental infatuation with the guaranteed loan has chilled slightly and has been politically sidetracked in some instances. The upshot of a change of congressional and executive leadership has been a shift in direction from production of energy to conservation of energy, and a total preoccupation with the cost of everything that government does.

Whatever might have been anticipated at the time that this project was conceived, within the next 12 months the Energy Research and Development Administration will have direct loan guaranteeing authority from two legislative sources: the Geothermal Energy Research, Development, and Demonstration Act of 1974 and the Electric and the Hybrid Vehicle Research, Development, and Demonstration Act of 1976. The former was operative at the time the project began. The legislation was detailed, the regulations had been published in the Federal Register, the bureaucracy was fully staffed, and the program was off and running. By contrast, the Electric and Hybrid Vehicle loan guaranty program was passed during the course of this study, its legislative mandate a mere skeleton, its aggregate authority limited and program management in its infancy.

The obligation of Harbridge House was to apply the empirical knowledge that it had gained to selected program areas. Considering the status of the two programs above, we decided to engage in two wholly dissimilar management exercises. With respect to the geothermal program, we have offered specific observations and discrete guidelines which may be of assistance to program officials in their management of the program. The Electric and Hybrid Vehicle exercise is wholly abstract. Whereas in another task of the project we have created a managerial tool for cost effectiveness, in this task we have attempted to apply this tool to a specific project. In a sense, what we have written large in the language of economics we have attempted to reduce to scale in the language of management. The theoretical underpinnings of this exercise will have been detailed in both the preliminary and final reports of this project.

ELECTRIC AND HYBRID VEHICLE RESEARCH, DEVELOPMENT, AND DEMONSTRATION PROJECT

Loan Guaranties and EHVP

This discussion focuses on the use of loan guaranties in support of the objectives of the Electric and Hybrid Vehicle Research, Development, and Demonstration Project (EHVP). It considers two aspects of loan guaranties:

- How is the loan guaranty, as an incentive device, best integrated into an overall project strategy?
- To what extent can cost-effectiveness measurements be introduced to the loan guaranty review and approval process?

Figure 1 portrays the major elements of the Electric and Hybrid Vehicle Research, Development, and Demonstration Project and the schedule for the acquisition of demonstration vehicles. The first three blocks below the time scale signify three principal kinds of effort encompassed by the Electric and Hybrid Vehicle Project: research and development; demonstrations (encompassing the development of performance standards, the acquisition of test vehicles, and the demonstration projects themselves); and auxiliary activities such as special studies and data dissemination that are required to ensure success of the project. For convenience, the time scale stops at six years (the outside date for delivery of Phase II vehicles); the activities themselves, however, will continue beyond that point.

The lower part of the chart portrays two special incentive authorities given to ERDA Administrator for the project; small business planning grants (presently planned for use over a four-year period) and loan guaranties (authorized for a period of five years from enactment of P.L. 94-413, the Electric and Hybrid Vehicle Research, Development, and Demonstration Act of 1976).

With respect to loan guaranties, the following preliminary observations are in order. First, there is an emphasis on small business. The loans to be guaranteed are those made by lenders to "qualified borrowers, primarily small business concerns . . ." This same emphasis is seen in other provisions of the Act: a reasonable portion of research development and demonstration funds available under the Act must be reserved for contracts with small business, and planning grants are available to qualified small business firms which require assistance in developing proposals and entering into such contracts.

A second point to be noted is that the guaranty authority, while extending to many kinds of undertakings, is not commensurate with all the private sector activities contemplated by the Act. It covers loans for research and development related to EHV technology; for prototype development of vehicles and parts; for construction of capital equipment related to research, development, and

**FIGURE 1
EHVP PROFILE**

Fiscal Year and Appropriation Authorization in Millions of Dollars (P.L. 94-413)

P.L. 94-413
Enacted ▲

FY 77 (30)	FY 78 (40)	FY 79 (25)	FY 80 (20)	FY 81 (45)	FY 82
CY 77	CY 78	CY 79	CY 80	CY 81	CY 82

Reports/Studies/Data Dissemination/Technology Transfer

DEMONSTRATION

Standards ▲

Amended Standards ▲

Vehicle Acquisition ——— Phase I ———→
2,500 Vehicles

————— Phase II ———→
5,000 Advanced Vehicles

Demonstrations —————→

RESEARCH AND DEVELOPMENT (Small Business Funding Reserve)

SMALL BUSINESS PLANNING GRANTS

LOAN GUARANTY AUTHORITY

Guaranties for:

R&D (EHV Technology)

Prototype Development (EHV and Parts)

Capital Equipment (R&D, Production of EHV and Components)

Initial Operating Expenses (Development/Production of EHV and Components)

production of vehicles and components; and for initial operating expenses associated with development and production. It does not cover demonstration activities per se – that is, operations and maintenance of vehicle fleets.

How is the loan guaranty, as an incentive device, best integrated into an overall project strategy? Section III B, Cost-Effectiveness of Loan Guaranty Programs, and Appendix H to the final report provide a framework for addressing this question. The methodology described therein proposes a two-step application of cost-effectiveness criteria. The first step involves the evaluation of alternative program development strategies (project development strategies for EHVP). Once the optimum program development strategy has been chosen, the analysis proceeds to the selection of specific new venture opportunities from among proposals received.

In the case of the Electric and Hybrid Vehicle Project, evolution of a program development strategy involves several kinds of assessments, for example:

- Determination of technological progress on different fronts (for example, energy storage technology, vehicle control and propulsion systems, manufacturing processes for critical material and components).
- Analysis of the research, production, and financial capabilities of interested component and vehicle manufacturers, including their perception of the potential market and thresholds for investment.
- Identification of principal issues relating to consumer acceptance that must be addressed in demonstration projects (assuming attainment of basic performance standards).

Out of these assessments will come a development strategy that reflects ERDA's decision on the distribution of program attention among competing technological processes or among technologies at different stages of the RD&D cycle as well as on the mode of program attention appropriate for different sectors or program elements – that is, direct research contracts; organization of information exchanges and technology diffusion by ERDA itself; and use of incentives such as loan guaranties and planning grants. Once the optimum program development strategy has been defined (or, as the program unfolds, redefined), the groundwork has been laid for evaluation of specific new venture opportunities.

Given the two-step methodological approach outlined above, how is the loan guaranty authority provided under P.L. 94-413 employed? To illustrate, let us assume a certain level of program commitment to advancing the state of the art in vehicle control technology, a corresponding dollar budget allocation for research and development, and a target reservation of funds for small business. (Emphasis is placed on small business in this example because of the two statutory provisions mentioned earlier; a reasonable portion of R&D funds are to be reserved for small business, and loan guaranties go primarily to such concerns.)

Proposals from private concerns to conduct research and development in the field of vehicle control technology may, on the one hand, address specific technical problems which are the subject of different ERDA RFP's, or, on the other, may respond to a more general solicitation that encourages wider ranging research efforts or system development work. In either case, criteria for measuring new venture effectiveness can form the basis for contract award.

It seems reasonable to regard any firm that is successful in competing for an R&D contract as a qualified borrower, should the firm need a loan guaranty, for the Act defines a qualified borrower as one who has presented satisfactory evidence of an interest in EHV technology and who is capable of performing in an acceptable manner. With respect to such companies (that is, holders of R&D contracts), a reasonable policy for ERDA would be to routinely take affirmative action on loan guaranty requests, at least for small business, provided the financial criteria and other conditions of Section 10 (d) of the Act had been satisfied.¹

Since most R&D contracts are of the cost reimbursement type, situations calling for additional financing to supplement contract payments may be infrequent. If the initial R&D effort is successful, however, and the project moved from the "venture initiation" to the "gestation" phase, the financial requirements will probably increase. An extension of the ERDA policy described above would be to administratively reserve guaranty authority to cover cases of successful R&D contractors who wished to move further toward the production phase using private sources of capital.

A second group of firms that may seek loan guaranties are those who are not prime contractors to ERDA. These in turn subdivide into companies that are subcontractors to ERDA prime contractors in the EHV field and firms otherwise interested in EHV technology. To the extent a subcontractor is called out for a key role in the prime's effort (for example, the sub was called out in the prime proposal as an essential member of the prime's "team"), that firm could logically be moved to the first group above. It would be considered in the same category as a prime R&D contractor -- that is, it is a "qualified applicant" and ERDA will routinely approve a loan guaranty request subject to the requirements of Section 10 (d) of the Act.

Among all other firms in the second group, the identification of qualified borrowers and the selection of those new ventures that will be supported by ERDA loan guaranties could be handled by use of the cost-effectiveness scoring procedures described in Appendix H to the final report. There will be some

¹ Planning grants authorized for small business might be construed to cover financial analysis and related services bearing on the need for capital, immediately or later, and the desirability of a loan guaranty.

uncertainty regarding the number of ventures which will be proposed to ERDA for project support from time to time. Accordingly, it may be desirable to modify the procedures described in the final report and in Appendix H to approach more closely conventional project management techniques. A minimum threshold for project support can be created by establishing a cost-effectiveness score which must at least be equaled. Projects would then be evaluated on receipt, until the fiscal year guaranty limit has been reached. Alternatively, commitments to project support could be made periodically, with support being granted to those ventures which rank highest and, combined, absorb the authorization limit set for the period.

In the methodology and example given in Appendix H to the final report, the cost-effectiveness equation is

$$\text{Cost-Effectiveness Score} = \frac{\text{Expected Effectiveness Value}}{\text{Expected Cost Value}}$$

The numerator (Expected Effectiveness Value) is the product of two values. In the example given one of these is the increment to energy supplies projected to result from the project being measured. The second is a weighing factor that reflects ordinally measured effectiveness values – for example, will the project increase ease of entry into the energy production (conservation) industry? (See New Venture Criteria 1A and 1B, in Appendix H.) The denominator similarly combines two values: one of these is investment cost and the other reflects ordinally measured "cost" values. (See New Venture Criteria, 2A-F and 3A-D, in Appendix H, and Exhibit IV of the appendix to the final report.) The discussion below deals with the application of the scoring methodology to EHV new venture proposals in terms of the four values just listed.

Expected Effectiveness Value

Demonstrations of commercial feasibility of electric and/or hybrid vehicles depends on the attainment of several specific goals that will be reflected in vehicle performance standards. The standards will relate to such vehicle characteristics as:

- Range
- Speed
- Durability
- Safety of Operation
- Producibility
- Maintainability

Some of the goals associated with specific characteristics are more easily quantified than others. Some new ventures, for example, may be part of a program aimed at increasing vehicle range or speed by specified amounts and the expected increments of range or speed can serve as a measure of effectiveness. Other vehicle characteristics (for example, maintainability or safety of operation) are not as easily quantified. One approach to quantification in such cases would involve:

- (i) A determination of the program importance of such characteristics, relative to range and speed, and assignment of an equivalent value range for the characteristic.
- (ii) Assignment of a specific value with the range for a new venture related to that characteristic, based on ordinal ranking.

For example, let us assume vehicle speed is the reference point in the ranking system, and that an increase of 20 mph over Phase I performance is the EHVP objective for Phase II. If maintainability has a relative importance of .5, then the top value for that characteristic would be 10. A specific new venture related to maintainability that was under consideration might have above-average potential and a score of 7.

The approach to effectiveness scoring outlined above is a means of putting a variety of proposed projects, dealing with different facets of EHV technology, on an equivalent basis. The basic numerative value is generally representative of New Venture - Criterion 1B, in the methodology described in Appendix H. Once this value has been determined, a weighting factor reflecting New Venture Criterion 1A could be assigned.

Expected Cost Value

The denominator in the scoring equation is also the product of two numbers. One of these is a measure of investment costs, and, in the scoring technique described in Appendix H of the final report, is the inverse of the project percentage rate of return on investments. The investment figure then would be multiplied by a weighting factor that reflects the ordinally measured "cost" value listed in Exhibit IV of the appendix. In the rank-ordering shown in Exhibit IV, the most significant factor is "% of FY authority absorbed by Guaranty." As the size of the guaranty increases, overall cost-effectiveness decreases. A second group of factors relate to risk and impact of default. It may be that for ranking of EHVP new ventures involving a number of small businesses, the number 3 and number 4 factor groups shown in Exhibit IV in Appendix H would shift in order of importance. That is, the overall impact on capital markets may be slight, while at the same time there is need for special efforts by ERDA in its overall management of the project to ensure an infrastructure that will facilitate market penetration by these firms.

GEOTHERMAL LOAN GUARANTY PROGRAM

INTRODUCTION

The Geothermal Energy Loan Guaranty Program is, at this time, the most fully developed energy-related guaranty program in existence. Not only does it possess a comprehensive set of final regulations, but it also has a functioning operations program through the office at ERDA/SAN.

For these reasons, it is at once both easy and difficult to study the policies and procedures of the Program. The simpler aspect of such an effort necessarily rests with the administrators and staff in ERDA's Geothermal Division, in large part because they are in constant contact with and apprised of all of the rapidly changing parameters affecting the Program's functioning; they are, in fact, the experts in the area of day-to-day operations and problems. The more difficult task concerning front-line needs thus necessarily falls within the realm of the outsider studying the process.

The other side of the coin, however, concerns the value of an outside expert as one who is able to assimilate the information generated by the program's operations with an overview and perspective practically unavailable to the people in the Geothermal Division. It is to the outsider's advantage that he is able to provide fresh insight into established programs, through knowledge he has gained in studies of community beliefs, fears, and expectations; empirical research into the history and operations of other programs; and newly emerging information about relevant program development.

Accordingly, this report is neither an abstract statement of what might be created on a clean slate nor a summary of everyday operational problems and their immediate resolutions. Rather, it is an overview of a large number of existing program elements which, in the opinion of the financial community or the historical record of predecessor loan guaranty programs, can be seen to be (or have potential to become) troublesome. Included are relevant administrative, regulatory, and managerial guidelines, commentary, and ideas.

How many of the points raised here have been discerned and addressed internally by the Geothermal staff is not of critical import, it should be noted, in view of the fact that the perspective of the comments we have raised is one which is not available to the staff and presentation of the issues in this manner can go far toward a broader understanding of, and approach to, problems encountered in the Program's administration.

ISSUES

Eligible Loans and Priorities

In conjunction with Section 105(e)(3) of the Geothermal Energy Research, Development, and Demonstration Act of 1974,¹ Section 790.4 of the Regulations² declares as ineligible "a project which is to be financed through the tax-exempt loans to any public agency..." This provision in effect would preclude the participation of such bodies as municipalities and tax-exempt public corporations such as utilities. Although it has been the subject of some criticism, for example, by the American Public Power Association and the Public Power Council, both of which commented adversely at the Hearings,³ it is on the whole a valid reaffirmation of the basic principles of the geothermal legislation.

As pointed out in the body of the final report, the granting of a loan guaranty to the endeavors of a tax-exempt body would go a long way toward providing a disequilibrium in municipal and federal financial markets. Not only would the debt instruments issued by these bodies become much more desirable to investors than other municipal and public corporate notes and bonds, but they would also be even more valuable than standard Treasury notes. This fact would tend to skew the demand for commercial paper, which in the ordinary course of events is required for the normal operation and maintenance of municipal and public affairs.

For these basic reasons, it would be wise for the Geothermal Program administrators to steer a firm course away from the granting of loan guaranties to tax-exempt bodies.

Guaranty Criteria (Interest Rates)

While the language of Section 790.6(g) of the Regulations has, on its face, suggested to some readers that there is a necessary preclusion of variable interest rates, the actions of the Administrator in accepting his first three loan guaranty arrangements based on a rate which varies with the prime rate would seem to dispel any worries of limiting language which might prohibit the charging of a variable interest rate. This practice, however, should not be taken as final authoritative word on the interpretation of the language; it would be wise,

¹ P.L. 93-410, 30 U.S.C. § 1101, et seq. (Hereinafter referred to as "Act" or "Geothermal Act.")

² 10 C.F.R. Part 790 (Geothermal Energy Research, Development, Demonstration, and Production).

³ Geothermal Energy Research, Development, and Demonstration Act of 1974 – Oversight Hearings-Loan Guaranties Hearings before the Subcommittee on Research, Development, and Demonstration of the Committee on Science and Technology, U.S. House of Representatives, 94th Congress, 1st Session (October 16, 1975). (Hereinafter referred to as "Hearings" or "Geothermal Hearings.")

therefore, to amend the Regulations to explicitly allow or even encourage variable interest rate provisions.

Guaranty Criteria (Generally)

Comments were submitted to the Oversight Committee from several sources, for example, the San Diego Gas and Electric Company and the Union Oil Company, to the effect that Section 790.6 of the Regulations, pursuant to the statutory requirements of Section 104(a) limits the projects which can be financed through this mechanism to those which have a reasonable assurance of repayment, a good market, good management, and so forth. While it is true that, on their face, these requirements are at odds with the goals of the Act as set out in Section 104(a), it is believed that, at this time, in the advancement of geothermal power in the United States the relative safety of projects must be considered as the basis for development proceeds. Should several major projects fail, the progress of geothermal power, and the need for development of new energy sources, could be impeded by the failure of a large dollar value project. Assuming the desire to offer guaranties, already demonstrated by the Geothermal Office at ERDA-SAN, it seems that the criteria of Section 790.6 will not be unnecessarily limiting.

Guaranty Criteria (Supporting Information)

The views of the Bank of America, as stated at the Hearings, to the effect that Section 790.21(b) of the Regulations has the potential for creating a paperwork burden, are well received. That section permits the Manager to require information in addition to the 26 items enumerated in Paragraph (a).

In the course of our 1976 interviews, many persons with potential involvement in the Program expressed concern about the amount of paperwork required on the face of the Regulations. It was often suggested that, if before granting a guaranty the Manager needs more information (information not available in the business proposal), he can simply ask, with the eventual threat of the denial of a loan guaranty available to him.

Therefore, it is posited that wholesale permission to require the submission of information is unnecessarily burdensome to the Regulations. Of course, after the approval of the first three loans and as the Program proceeds into maturity, the amount of information necessary before the granting of a loan guaranty may decrease as the Administrator becomes more familiar with information necessary to support a loan guaranty application.

Project Cost Illustrations

It appears that, for the purposes of obtaining a guaranteed loan, Sections 790.22(b) and (c) of the Regulations may make it necessary to establish a separate accounting system. Some costs are allowable and others are not. The problem with this is that, while most companies would ordinarily follow "generally acceptable accounting principles" (GAAP), these requirements may be at variance with such principles. For example, GAAP requires some allocation of overhead.

Other forms of government accounting, including cost plus contracting, recognize that some overhead items may be allocated appropriately to a project. It appears burdensome to require one set of books for accountants, the SEC, and government procurement practices, while requiring a separate project accounting system for the Guaranteed Loan Program. It seems that if the expenses are legitimate, they ought to be allowed. If the expenses are not legitimate, the project's guaranty should be withdrawn and the offenders should be prosecuted. There is no reason for (b) and (c) to contradict the generally accepted accounting principles required by Paragraph (a).

Environmental Considerations

Under the terms of Section 790.23(b) of the Regulations, the Manager is directed to assess the potential effect of all phases of a project on the human environment, this in obvious compliance with the National Environmental Policy Act of 1969 (NEPA),¹ Section 102(2)(c). It is now beyond dispute that courts will give full and broadly based support to the theory holding that all agencies (certainly including ERDA and its Geothermal operations) must make a significant effort to prepare and file an Environmental Impact Statement covering all significant federal activities, for example, geothermal exploration and production backed by ERDA.

It would therefore be in the best interest of the Geothermal Program to start as soon as possible to train a staff whose function would be to comply with the NEPA requirements. Further, a second way of avoiding great potential difficulties would be to enter into meaningful and knowledgeable discussions and preparations with the environmental representatives of the governors of the states affected by guaranteed projects. Compliance with state environmental statutes and regulations will certainly prove a major factor in the ERDA geothermal work. So important is this consideration, it might be added, that amendment of the Regulations to require such consultation in advance of any loan guaranty should be an early order of business.

User Charges

It is beyond dispute that the user charges provided for in Section 790.31 of the Regulations are both essential and significant; the assessment of these fees, in fact, is recognized as important throughout the realm of loan guaranty programs as a whole.

Within 790.31 there are three basic issues which can be addressed: two of them are present implicitly, while one is explicitly provided for. In the former category the idea of "full costing" of expenses covered by the loan guaranty is critical. In the early years of any program (for example, geothermal loan guaranties) it is essential that there is an inflow of the maximum amount of funds to cover foreseen and unforeseen contingencies. Until such time as the

¹P.L. 91-190, 42 U.S.C. § 4321, et seq.

Geothermal Loan Guaranty Program can free itself from the requirement to approach Congress each year for more monies, problems such as a lessened attractiveness to investors caused by high guaranty fees should be made subservient to the more important issue of adequate funding for the Program itself. One must deal very conservatively with this problem.

A second point, implicitly a part of 790.31, is related to the existence of the Office of Management and Budget (OMB) Circular A-25. Contained therein is a statement of official government policy regarding the use of fees or charges involved with government programs providing one sector of the population with benefits greater than those enjoyed by the population as a whole, for example, loan guaranties. At this time the exact language of the Circular will not be addressed; suffice it to say that there is a requirement for the existence of such a fee as well as for the fee's being at a financially reasonable level. However, one potential problem which might be seen to arise with regard to A-25 concerns the efforts of the Federal Financing Bank (FFB) to participate in the ERDA Geothermal Loan Guaranty Program. Notwithstanding issues and questions sometimes raised, it would appear from the face of the Circular – as well as from government practice – that there is no reason why the Geothermal Program should treat the Bank differently from any other particular and identifiable individual, institution, or class of recipients. To be sure, the workload incurred by the Program staff is no less because the Bank is participating.

Concerning Section 790.31(c), the explicit statement that the Administrator shall annually evaluate the user charge with an eye toward amending it tends to provide a great deal of much-needed flexibility and adaptability in the Program. There would seem to be no reason why the charge could not be amended upward or downward given the proper circumstances. This fact should go far toward allaying the fears of the financial and investing communities as well as concerns expressed by Congress and other governmental bodies.

Reporting and Approval

In the Geothermal Hearings, the Rural Electrification Administration of the Department of Agriculture commented that "the extensive reporting requirements required . . . may discourage some lenders and result in increased capital costs for borrowers."¹ Our interviews frequently turned up negative comments on the amount of paperwork required by the Regulations. Sometimes comments were to the effect that the reporting requirements would raise the cost of the project; at times they suggested that no small venture could justify the overhead expense of preparing so many documents; and on occasion prospective participants stated that they did not wish to subject themselves to that much government scrutiny for so little benefit as a mere guaranty with little likelihood that the guaranty would ever be called upon. In light of the negative effects of these Regulations, a reexamination with a view toward simplifying or eliminating some steps and reporting requirements might well be undertaken. In their present form, Sections 790.33 to 790.35 of the Regulations limit the program.

¹Hearings at 206.

Of particular note is the requirement of Section 790.34 requiring the Manager to approve every disbursement. As one energy company manager said, "Do you know how fast government delays could hang things up?" Furthermore, remarks to that effect do not include any consideration of the cost of delay in a highly leveraged venture where there is a huge daily interest expense.

Although Section 790.34 is not per se unreasonable, suggestions were made to the effect that with close monitoring it would be unnecessary to approve individual disbursements.

Termination of the Guaranty

Under the Regulations [Section 790.36(a)(2)], non-compliance by either the borrower or the lender can result in termination of the guaranty. The most basic issue here is the disincentive this would give to the direct participant – either borrower or lender. This is a small problem, however, because the nature of these requirements is one based in compelling logic and plain necessity, one that can be accepted without pain by all.

On the other hand, when one looks at the position of the participation lender or holder in due course of the obligation, it is seen that they are less than enthusiastic about entering a venture in which their investments can be quickly wiped out because of the behavior of third parties over whom they can exert no direct control. Outside funds for guaranteed investments might be seen to dry up, as would the inclination of borrowers to participate. Thus one might wish to amend the requirement to make it more difficult for a termination to be triggered by the behavior of one of the principals.

There is, however, a strong case to be made for the retention, or even the strengthening of the rule. There is a need for some sort of a system of private inspection and approval of the actions of the primary participants.

The private policing system would come into play because of the obvious need for secondary funding sources by both parties and the concomitant interest the latter would have in a profitable venture. In a situation wherein the secondary contributor stood to lose either a portion or all of the investment in a project, he would tend to be quite wary about his oversight of the behavior of the borrower and lender as well as the ways in which this could jeopardize his interests.

Thus, the balancing of the advantages of reduced federal oversight and policing needs with those available through encouraged use of eager participation lenders is a prime requirement for the Program to undertake. There must be a broad geographical representation of participants (that is, beyond a few large West Coast banks) to allow for the resulting dispersal of geothermal projects and more national concern about geothermal energy. However, there must also be a lessening of federal red tape which, in its own way, keeps participants away from the Program. The balance will be found through experience, but the Program cannot afford to lose sight of the problem in the interim.

Assignability

Under Section 790.40(a) of the Regulations there must be the written authorization of the Administrator before a guaranteed loan may be assigned. This restraint is widely believed to be one of the principal limits on the flexibility of lenders, and therefore one of the main detriments of the Program.

It would be well for Program administrators to seek to find an alternative means of protecting the government, for example, by having a blanket authorization to assign the note; this should be, however, coupled with restrictions that would come into play upon the occurrence of a subsequent condition, such as fraud, imposition of onerous terms, or basic inability to act as a lender.

Level of Guaranties (Percentage)

Section 201(c) of the Act limits the amount of the project which can be guaranteed to 75 percent of the total cost. Although this limitation requires that other funds be raised from other sources, it serves the purpose of requiring private parties to put some capital at risk. During the Hearings, Dr. Robert W. Rex, president of Republic Geothermal, Inc., suggested that the percentage guaranty be raised from 75 to 85 percent. While this would clearly be an incentive to use the Program, with the fixed amounts of funds available fewer projects could enjoy a guaranty. Since this statutory percentage has seen a great deal of congressional debate not only in this bill but also in other proposed pieces of legislation, it would be difficult to change. Indeed, as the percentage of guaranty is raised, prospective projects from the part of the spectrum least likely to succeed in financial terms would be drawn into the Program, endangering it overall. Thus, it would seem to be the wisest course to maintain the level of guaranty at its present percentage, at least during the first few years of the Program.

Level of Guaranties (Amount)

Section 201(e) of the Act limits the amount which may be guaranteed to \$25 million for one project and \$50 million for one borrower. While the desire to limit government largesse and "spread the wealth around" may be commendable, it is felt that this limitation unnecessarily hinders the size of projects which may be of tremendous value in developing geothermal power as a resource. The Administrator, having a great deal of technical expertise and the ability to examine proposals in detail, should enjoy the flexibility of being able to utilize his loan guaranty authority without such a restriction.

Note must be made, however, of the fact that the target community of the program must be taken into consideration in these deliberations. If there are to be a great number of smaller, newly created companies involved in the loan guaranty program, one must not lose sight of the fact that they are likely to be unable to handle very large amounts of money immediately. By giving them access to huge amounts of capital it may well be that the Geothermal Program is in fact encouraging them to expand beyond their capabilities, and thus ensuring the ultimate failure of their endeavors.

This factor, however, should be judged on a case by case basis; generally there should be as small an impediment to the free operation of the Administrator's discretion as possible. Statutory expansion of the parameters within which he may operate should be one of the near-term goals of the Geothermal Program.

Priorities

With the limited amount of funds available for the funding of Geothermal loan guaranties, the priority system incorporated in the Regulations may never prove to be used as a discriminator in the selection of projects. One may note, for instance, that of the three projects submitted thus far for guaranties, all have been priority (1). Though not necessarily a productive enterprise at this time, with the funds available for use under P.L. 93-410 a priority system might well be fruitful in some other application. Nonetheless, it can be seen that, under the priority system, as yet undeveloped areas of the country (a third priority under the regulations) are not likely to be developed. Thus, the system has the effect of encouraging the exhaustion of existing, known geothermal resources.

In addition, the priority system has the effect of putting some restrictions on the financial packaging of deals for the creation of geothermal power which a creative financier might put together.

Supporting Information

The Small Business Administration has taken the view that supporting information required for geothermal loan guaranties should be minimized. Interviewees available to Harbridge House made comments to similar effect. It might prove beneficial, now that three applications have been filed, to review those applications for the purpose of discovering which parts of the documentation were not, in fact, actually useful in the evaluation of the application. In addition, at this time it might prove useful to make inquiries of non-applicants to discover if they were discouraged by the requirements for documentation from making an application.

Full Faith and Credit

One of the most glaring omissions within the Geothermal Act is the lack of explicit recitation that the full faith and credit of the U.S. Government stands behind the Geothermal Program. In fact, the Regulations in Section 790.37(c) provide that "[upon] default... and to the extent that sufficient reserves exist in the Geothermal Resources Development Fund... the Manager shall... pay..." a statement which has caused no small degree of disquiet among the financial community.

While, as noted in the final report, there should be protection for the government in the event of a disclosure of fraud or misfeasance by any of the parties to a loan guaranty, there seems to be little other reason for the omission of the statement of full faith and credit. Although it does not seem to be

extremely important to some commentators, in the private community the written assurance given by such a statement goes far toward calming the fears of those who have reason to suspect that an existing fund within a program would not be sufficient to pay the full amount due upon default. For example, in the Geothermal Hearings, through the testimony of its President, Paul W. Eggers, Geothermal Kinetics puts itself on record as favoring "the legislative approach used in the loan guarantee provisions of the Merchant Marine Act of 1936 (46 U.S.C. § 1273) [which] would eliminate any doubt as to the ultimate payment of the guarantee."¹ The language of Section 308 of the Rural Electrification Act of 1936² is instructive:

SEC. 308. FULL FAITH AND CREDIT OF THE UNITED STATES – Any contract of insurance or guarantee executed by the Administrator under this title shall be an obligation supported by the full faith and credit of the United States and incontestable except for fraud or misrepresentation of which the holder had actual knowledge at the time it became a holder.

Proprietary Rights

The geothermal division of the Union Oil Company of California, during the Hearings noted a sensitive area which we heard about from many other sources. Union Oil suggested that a new Subsection (c) be added to Section 790.44 of the Regulations "which provides that any sensitive information furnished by the borrower to ERDA be returned when the loan is retired."³ In fact, reservations were often expressed about the ability of ERDA to protect sensitive information from prying eyes operating under the Freedom of Information Act. Not being aware of the outcome of the first request made to ERDA under the Freedom of Information Act with regard to one of the early geothermal loan guaranties, we do not know how the Administration has acted yet. However, that it was necessary to announce the receipt for the first request and to acknowledge that it was being turned over to ERDA lawyers for a determination is hardly the kind of security which engenders confidence. It is plain that the Administration cannot promise more than it can deliver.

Internal Revenue Service – Depletion Allowance

In his testimony before the Subcommittee on Energy Research, Development, and Demonstration, Mr. Eggers of Geothermal Kinetics, Inc., said that:

¹ Hearings at 78.

² 7 U.S.C. § 938, et seq.

³ Hearings at 319.

The Internal Revenue Service takes the position that geothermal steam is not a 'gas' within the meaning of the Internal Revenue Code sections 263(c), 611(a), and 613(b) and therefore is not eligible for percentage depletion or a deduction for intangible drilling costs. To date, only one court has considered the question and the Ninth Circuit has held in [Reich] v. Commissioner, 454 F.2d 1157 (1972), that geothermal steam is eligible for percentage depletion and intangible drilling cost deduction. The Commissioner has nonacquiesced and is challenging the decision in other circuits.¹

Perhaps when the question is presented to the Internal Revenue Service or another circuit court, ERDA may care to present a brief amicus curiae in favor of the position that these considerations should be available to geothermal projects.

Authorizations of Appropriations (Fund)

Section 304(c) of the Act requires annual appropriations to maintain the \$50 million fund at a level required to guarantee loans. This is, in effect, a non-revolving fund which requires replenishment each year, placing it more in the category of the operations of the Export-Import Bank as opposed to, for example, large loan guaranty programs such as MARAD.

The many suggestions offered that a revolving fund be created are well taken. The revolving fund would be within the Department of the Treasury and would permit the loan guaranty program to be self-sustaining. The establishment of such a fund, along with the concomitant guaranty in explicit language of the "full faith and credit" of the United States being behind the loan guaranties would go a long way toward improving the program's value in the financial community, thus assuring wider and more eager participation.

Financial Failure

It was pointed out by participants in the Hearings that:

It is very likely that many projects will be technically successful but will produce revenues inadequate to cover all costs. Consequently, a mechanism should be provided without invoking the default process, to permit the Administrator to write off enough of the guaranteed loan to reduce the cost of debt service to the point where cost and revenues will be in balance.²

¹ Hearings at 79.

² Hearings at 52.

This is an excellent suggestion because it allows a mechanism whereby the sometimes competing goals and desires of Congress vis-a-vis energy development and a self-sustaining program are in conflict.

It is fairly observed that the statute limits the latitude within which the Administrator can operate. For instance, it is not possible to convert a loan guaranty into an outright grant when the project fails in financial terms. While the Act on the one hand is designed to encourage novel scientific methods, new explorations, and the growth of geothermal power, the statutory limitation has the effect of restraining projects to the narrow bounds of commercially feasible, predictably profitable projects. Although the Act was designed to permit the financing of otherwise "unbankable" deals, Section 103 limits the latitude of projects which may be presented.

Federal Financing Bank

The Question of the Federal Financing Bank is an immensely complicated and rapidly changing one, and for this reason our commentary on the relationship between the Bank and the Geothermal Loan Guaranty Program would be limited to a reference to the background of the Bank provided in the final report. No more will be attempted at this time because of the nature of the situation; that is to say at the time of this writing there is ongoing negotiation between the Bank and the Program staff which, combined with the pending hearings by several committees in Congress, renders any attempted analysis or projection premature.