B-207463

December 27, 1984

The Honorable Richard L. Ottinger
Chairman, Subcommittee on Energy,
Conservation and Power
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

This is in response to your joint request of May 11, 1984, along with Chairman John D. Dingell, House Committee on Energy and Commerce for our opinion on several questions related to the Department of Energy's (Energy) new Utility Services Contract for uranium enrichment services. Specifically, you asked:

1. What obligations have been and will be incurred by the Government as a result of the issuance of the Utility Services Contract and by any further execution of the contract?

2. What is the legality and propriety of the Department's actions with regard to the unilateral establishment of a ceiling price and implementation of accounting changes?

3. Is it within generally accepted accounting principles and/or the statutory requirements governing this program to:

   (a) "write off" approximately $1.2 billion of Government investment in enrichment equipment, and

   (b) to defer the recapture of depreciation expenses to an unspecified future date?

In addition, you subsequently informally asked that we include in our discussion (1) Energy's revaluation of its uranium feed stock from market price to acquisition cost and (2) whether any of Energy's foregoing actions were subject to the provisions of the Administrative Procedure Act.

We requested Energy's comments on these questions, and have taken their responses into consideration in formulating our answers.

After carefully researching and analyzing the issues you posed, we have very serious concerns about the actions Energy has taken associated with its new Utility Services Contract, both substantively and procedurally. Before providing the results of our research and analysis, it is important to set
in perspective the fundamental problems which have developed over the last several years for the uranium enrichment program. The market environment in which Energy's program must operate today is considerably different from the one which existed in the early 1970s when the Congress provided that the Government's prices for enrichment services be based on recovering the program's full cost.

The lower prospects for growth in the nuclear power industry coupled with foreign competition and the emergence of a secondary market for enriched uranium are all affecting the program. U.S. prices in the past few years have been the highest in the world, and the program's competitive position has been steadily deteriorating. Because of these conditions, we have stressed in past testimony before the Congress, including the Subcommittee on Energy Conservation and Power, the need for the executive branch and the Congress to reexamine the fundamental purpose and structure of the uranium enrichment program. We suggested that such a reexamination must consider our nation's objectives for serving the domestic and international uranium enrichment markets and provide adequate flexibility in pricing policies to allow effective competition with foreign suppliers.

In summary, we find that Energy's actions with regard to the new Utility Services Contract were not in compliance with applicable statutory principles; specifically, the Administrative Procedure Act, 5 U.S.C. § 551 et seq., the Department of Energy Organization Act, 42 U.S.C. § 7191(b)(3), and the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v).

In addition, while accounting changes made by Energy to reduce the reported cost of enriching uranium are generally in accordance with published Generally Accepted Accounting Principles (GAAP), the reduced price arrived at as a result of the changes would violate the Atomic Energy Act's provision requiring cost recovery for the uranium enrichment program.

Background

Uranium enrichment is a process used to increase the concentration of the fissionable uranium-235 isotope found in natural uranium to the levels required for the uranium to be used in various applications. Since 1969, the Federal Government—through the former Atomic Energy Commission, the former Energy Research and Development Administration, and now Energy—has operated enrichment plants primarily to enrich customer-owned uranium for use as a fuel in domestic and foreign nuclear power reactors. Energy's plants also provide enriched uranium for research and defense applications.
At first, the United States basically had a monopoly in the enriched uranium market. Beginning in the mid-1970's, competition developed as two European consortia and the Soviet Union began supplying enrichment services. Competition from foreign suppliers reduced Energy's share of the foreign market from 100 percent in the mid-1970's to its current level of about 35 percent. Coupled with this new competition was a downturn in the prospects of the domestic nuclear power industry as a result of reduced consumer demand for electricity and concern over nuclear proliferation, health and safety issues. As a result, many nuclear power plants were delayed or cancelled. 1/

By the late 1970's, both foreign and domestic utilities found themselves committed to long-term contracts for enrichment services they no longer needed. According to Energy's estimates, a worldwide surplus of about 39 million separative work units (SWU's) now exists, which represents nearly four times Energy's total enrichment production during fiscal year 1983. This, in turn, had led to the emergence of a secondary market for enriched uranium selling at discounted prices.

Throughout this period Energy has been statutorily required to break even on its enrichment activities—that is, to recover its costs over a reasonable period of time but not to make a profit. 42 U.S.C. § 2201(v). Changing world market conditions have made this increasingly more difficult. During the 1980's Energy's prices for enrichment services have generally been the highest in the world—$138.65 to $149.85 per separative work unit (SWU). Foreign suppliers reportedly are providing comparable services at prices ranging from $100 to $117 per SWU, and prices on the secondary market have been as low as $90 per SWU.

Energy has advised us that its most pressing needs were to stabilize the Department's market share, provide for an orderly reduction of excess world inventories of enriched uranium, and control program expenditures to match anticipated revenues. One of the steps Energy took to meet these objectives was the new Utility Services Contract.

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1/ For elaboration of information in this and the succeeding two paragraphs, see Information on DOE's Costing and Pricing of Uranium Enrichment Services, GAO/RCED-84-156, April 25, 1984, and Lost DOE Sales to the Secondary Enriched Uranium Market Have Resulted in Reduced Revenues, GAO/RCED-84-76, January 26, 1984.
You informally indicated that in response to question 1 you wanted an articulation of the major features of the new contract. Energy lists the major features of the contract as:

1. Permitting the customer the flexibility to purchase between 70 and 100 percent of its annual enrichment "requirements" from Energy and up to 30 percent of its needs from other sources;

2. Providing a reduced leadtime to firm up delivery quantities (180 days in advance of delivery as opposed to 6 years);

3. Increasing the period of time required for notice by the customer to Energy for termination without penalty;

4. Providing the customer the flexibility to select the tails assay within a given range; and

5. Providing price protection to the customer in the form of a guaranteed long-term price ceiling.

Energy offered the new Utility Services Contract to customers on January 18, 1984. As of November 6, 1984, 44 of Energy's 51 domestic customers had converted to the new contract, and 28 of Energy's 35 foreign customers had converted.

The basic issue involved in your other questions is whether Energy's actions associated with the new Utility Services Contract were in compliance with the statutory constraints under which Energy must operate the uranium enrichment program.

Propriety of Energy's Unilateral Actions

In providing enrichment services to its customers, Energy is required under subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), to price its services so that the Government's enrichment costs will be recovered over a reasonable period of time. In addition, the same statutory provision requires Energy to establish criteria...

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[2/ Energy's description of the purpose and anticipated impact of each major feature is included as Appendix I to this letter opinion.]
setting forth the terms and conditions under which enrichment services will be available, and requires Energy to submit the criteria, and any changes therein, to the appropriate congressional authorizing committees for a 45-day review period prior to their taking effect. See also, H.R. Rep. No. 1702, 88th Cong., 2d Sess. 31 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 31 (1964). Of course, the criteria must be in accord with the statutory requirements of the program, and the enrichment contracts must be in accord with the statute and criteria.


Before issuing its new Utility Services Contract, Energy did not make any amendments to its uranium enrichment service criteria, and consequently made no provision for the 45-day review period before the appropriate congressional authorizing committees. In addition, Energy made no attempt to comply with the administrative procedures prescribed in the Administrative Procedure Act, supra, or the Department of Energy Organization Act, supra, regarding any aspect of its Utility Services Contract. Energy asserts that neither the development of the new contract, the pricing provisions nor the accounting principles associated with the Utility Services Contract required amendments to the criteria or compliance with these statutory administrative procedures. Moreover, Energy asserted that the Utility Services Contracts are more akin to customer-tailored individual applications resulting from customer-specific negotiations rather than contracts of general application. In essence, therefore, Energy's actions regarding the Utility Services Contract were taken unilaterally, save consultation with its utility customers, and did not formally involve the Congress or other affected parties, such as the uranium mining and processing industries, public interest groups, utility rate payers, the taxpaying general public, etc.

Criteria

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, provides that Energy "shall establish criteria in writing setting forth the terms and conditions under which services provided under this subsection shall be made available." (Emphasis added.) "Included among these 'terms and conditions' would be such matters as the charges for enrichment services, the conditions under which such services would be offered, and the general features of standard contracts for uranium enrichment services." (Emphasis added.) H.R. Rep. No. 1702, 88th Cong., 2d Sess. 16 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess. 16 (1964). Thus the criteria are to include the general features of standard contracts for uranium enrichment services.

The current uranium enrichment services criteria appear at 44 Federal Register 28875 (May 17, 1979). They include many guidelines on contract features in general terms, which must or may be included in Energy's uranium enrichment contracts in more detail. Examples are provisions concerning advance contracting, fixed commitments, advance payments, delivery schedules, chemical form and specifications of feed material, the basis on which charges for enriching services will be calculated, a customer option to acquire tails material, termination by either Energy or the customer, delivery, transfer of title, and others.

However, the Utility Services Contract contains provisions that either conflict with or are not specifically authorized by the existing uranium enrichment services criteria. For example, the existing criteria provide that "The primary contracting vehicle for DOE [Energy] to supply enriching services for nuclear power reactors on a long-term basis shall be a Fixed Commitment Contract." 44 F.R. 28875, 28876 (May 17, 1979). Yet in testimony before congressional committees Energy has repeatedly referred to the Utility Services Contract as a requirements-type contract.3/ The current criteria also provide that "Termination charges per kg unit of separative work will be established on a basis of recovery of the costs which the DOE [Energy] estimates may arise from terminations by customers." Id., at 28877. Yet we see no

evident relationship between Energy's costs upon customer termination and the penalties assessed customers for termination in the Utility Services Contract. Rather termination penalties under the Utility Services Contract seem to be dependent on the period of notice that the customer has given Energy prior to termination. For example, with 10 years notice the customer is assessed no penalty; with 9 years notice, a 10 percent penalty; with 8 years notice, a 20 percent penalty; with 7 years notice, a 30 percent, etc., down to with less than 1 year notice, a 100 percent penalty. This appears to be a simple mathematical computation unrelated to actual costs incurred by Energy, but which acts as a deterrent to termination on short notice. In addition, the existing criteria make no specific provision for a customer Variable Tails Assay Option or a guaranteed ceiling price, both of which are contained in the Utility Services Contract.

You express particular concern about the guaranteed ceiling price. The guaranteed ceiling price provision in the Utility Services Contract is a guarantee by Energy to its customers that it will not charge a price higher than $135 per SWU for the next 10 years, and that Energy will not increase its price above this maximum without 10 years advance notice to its customers. These are coupled with a customer's right to cancel its long-term contract with Energy without any termination penalty if 10 years advance notice of cancellation is provided to Energy. The net effect is that with timely notice a customer can cancel out without penalty any time Energy raises its ceiling price, and Energy is locked into the $135/SWU ceiling price for at least the next 10 years.

A guaranteed ceiling price is a very material provision of a contract, particularly when the ceiling price appears to be below Energy's current costs of providing enrichment services and Energy's program statute requires recovery of its costs over a reasonable period of time. Energy itself recognizes its importance by advising us that if the provision were struck down, Energy would renegotiate all of the Utility Services Contracts and reexamine its whole program. Yet we did not find and Energy does not claim that the uranium enrichment services criteria contain any provision specifically authorizing guaranteed ceiling prices. Rather, Energy, without pointing to any specific language in the criteria that might cover a guaranteed ceiling price, seems to rely on the purpose of the Atomic Energy Commission's (AEC) criteria modifications in

4/ The contract does provide for adjustment of the ceiling price but only to reflect changes in Energy's unit costs for electricity and the purchasing power of the dollar.
1973, namely, to provide greater flexibility, as justification for permitting new contract provisions without amending the criteria. We find Energy's argument troubling as a general matter, and particularly unpersuasive regarding a guaranteed ceiling price.

It is accurate that in 1973 the AEC, a predecessor agency of Energy, did attempt to make the uranium enrichment services criteria contain more general, generic terms and conditions than had been in the earlier criteria. However, the AEC's effort was largely unsuccessful. Our analysis of the events in 1973 supports neither a conclusion that Energy has unrestricted flexibility in what it places in its enrichment contracts nor that Energy can bypass amending its criteria before including a new feature in its contracts, particularly a guaranteed ceiling price.5/

In 1966 when the first uranium enrichment services criteria were established, they specifically provided for a guaranteed ceiling price. 31 F.R. 16479, 16480 (December 23, 1966). On the initiative of the AEC, this guaranteed ceiling price provision was purposely deleted by the 1973 amendments to the uranium enrichment services criteria. The AEC's rationale was that a guaranteed ceiling charge could preclude compliance with the statutory directive to recover the Government's costs over a reasonable period of time should the Government have to undertake the construction of additional enrichment capacity.6/

Now some 11 years later, the AEC's successor agency claims those criteria permit a guaranteed ceiling price, without pointing to any specific section of the criteria to support its position. Since there have been no relevant changes to the criteria in the intervening 11 years, we find Energy's position unpersuasive. Moreover, the concern which prompted the AEC to delete the guaranteed ceiling price provisions from the criteria in 1973 is still applicable today, namely, the fear that a guaranteed ceiling price could preclude compliance

5/ A more comprehensive review of our analysis of the legislative history of the 1973 amendments to the uranium enrichment services criteria appears as Appendix II.

with both the statutory and criteria directive to recover the
Government's costs over a reasonable period of time. This is
particularly of concern in a competitive international uranium
enrichment market and while the Government is undertaking the
construction of additional enrichment capacity.

Energy also asserts that in several instances over the
past years, it and its predecessors have made changes in pric-
ing methodology without amending the uranium enrichment
services criteria. They state that these changes all had a
significant impact on the definition of costs, were consistent
with the criteria, were not considered to be "general fea-
tures" required to be in the criteria and were made known to
Congress after the price which reflected the change was
announced. However, we find that each of these actions would
have been covered within the specific terms of the existing
criteria, and accordingly cannot be considered valid
precedents for Energy's current actions.

In summary, we conclude that Energy should have amended
its uranium enrichment services criteria to conform them to
the anticipated provisions of the Utility Services Contract,
because the new contract includes provisions that either con-
flict with or are not specifically authorized by the current
criteria.

**Administrative Procedures**

We recognize that in the past uranium enrichment con-
tacts and prices have been governed by the procedures set
forth in subsection 161(v) of the Atomic Energy Act of 1954,
as amended, 42 U.S.C. § 2201(v), discussed above. However,
with the enactment of the Department of Energy Organization
Act (Organization Act), 42 U.S.C. § 7101 et seq., in 1977,
additional requirements are applicable to the program. Sub-
section 501(a)(1) of the Organization Act, 42 U.S.C.
§ 7191 (a)(1), provides that the provisions of the Administra-
tive Procedure Act (APA), 5 U.S.C. § 551 et seq., apply to
rules, regulations or orders associated with programs trans-
ferred to the Secretary of Energy by the Act. This would
include the uranium enrichment program. This requirement is
over and above that contained in subsection 161(v) of the
Atomic Energy Act of 1954, as amended, supra.

Ordinarily "matter relating to agency management or
personnel or to public property, loans, grants, benefits, or
contracts" would be exempt from APA procedures by virtue of
5 U.S.C. § 553 (a)(2). These categories would likely encom-
pass many aspects of the uranium enrichment program, and thus
exempt them from APA procedures. However, subsection 501(b)(3) of the Organization Act, 42 U.S.C. § 7191(b)(3), states:

"For the purposes of this Act, the exception from the requirements of section 553 of Title 5 provided by subsection (a)(2) of such section with respect to public property, loans, grants, or contracts shall not be available."

Accordingly, at least some aspects of the uranium enrichment program are now subject to the procedures prescribed in the APA that had not been covered by those procedures prior to 1977.7/

Moreover, for those elements subject to the APA, subsections 501(b) and (c) of the Organization Act, 42 U.S.C. §§ 7191(b) and (c), also set forth applicable procedures, some of which are duplicative of the APA but others of which are more stringent than the APA. These subsections provide, in part:

"(b)(1) * * * notice of any proposed rule, regulation, or order * * * shall be given by publication of such proposed rule, regulation, or order in the Federal Register. Such publication shall be accompanied by a statement of the research, analysis, and other available information in support of, the need for, and probable effect of, any such proposed rule, regulation, or order. Other effective means of publicity shall be utilized as may be reasonably calculated to notify concerned or affected persons of the nature and probable effect of any such proposed rule, regulation, or order. In each case, a minimum of thirty days following such publication shall be provided for an opportunity to comment prior to promulgation of any such rule, regulation, or order.

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7/ We acknowledge that the uranium enrichment services criteria and amendments thereto prior to 1977 clearly are not affected by virtue of the savings provision in subsection 705(a) of the Organization Act, 42 U.S.C. § 7295(a).
"(c)(1) ** * If the Secretary determines that a substantial issue of fact or law exists or that such rule, regulation, or order is likely to have a substantial impact on the Nation's economy or large numbers of individuals or businesses, an opportunity for oral presentation of views, data, and arguments shall be provided.

"(2) Any person, who would be adversely affected by the implementation of any proposed rule, regulation, or order who desires an opportunity for oral presentation of views, data, and arguments, may submit material supporting the existence of such substantial issues or such impact.

"(3) A transcript shall be kept of any oral presentation with respect to a rule, regulation, or order * * *."
December 7, 1984, in the Federal District Court for the District of Colorado, Western Nuclear, Inc. et al v. Huffman et al., Civil Action No. 84C-2350, based at least in part on Energy's failure to comply with these procedures in relation to the circumstances surrounding the Utility Services Contract.

GAO's Concern

Aside from the strictly legal view of these issues, GAO is concerned that Energy's unilateral actions in offering the Utility Services Contract deprived the Congress and other affected parties (such as the uranium mining and processing industries, public interest groups, utility rate payers, the taxpaying general public, etc.) from meaningful participation in the decisionmaking process. Important policy issues were involved affecting the operation and financial commitments to the program for many years into the future. Congress should have been fully informed about them and been involved in determining the policy direction that the program takes. In addition, all affected segments of the industry, as well as interested parties from the public, should have had an appropriate opportunity to participate in the process.

Accounting Changes

Energy set the dollar amount of the guaranteed ceiling price in its new Utility Services Contract with an eye to market conditions and the prices of its competitors rather than on the basis of cost recovery. In fact, the ceiling price, $135/SWU, is both lower than the price that had been charged under prior contracts and lower than current costs when calculated as Energy has traditionally calculated them. In an attempt to achieve this low price and remain in compliance with the statutory requirement that Energy recover its costs from the uranium enrichment program, Energy has planned two significant accounting modifications for pricing purposes, after consultation with a public accounting firm. The first is a write-off for both financial statement and pricing purposes of $1.2 billion of certain portions of its undepreciated plant and capital equipment. The second is the revaluation for pricing purposes of its uranium feed stockpile from market price (approximately $40 per pound) to acquisition cost (approximately $9 per pound).

8/ Energy estimated that the current average market price was about $40 per pound. This average includes a low of about $17 per pound for uranium which is offered on the spot market. We made no independent review to verify this estimate.
You asked whether these accounting modifications were (1) in accordance with Generally Accepted Accounting Principles, and (2) permissible under the statutory requirements governing the program.9/

While the write-off of a portion of Energy's undepreciated plant and capital equipment attributable to unused capacity is in accordance with Generally Accepted Accounting Principles, the proportion used by Energy is not. Moreover, such action is not in accord with the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), requiring cost recovery for Energy's uranium enrichment program. Therefore, we conclude that the write-off would constitute a violation of the statute.

Background

Energy's existing uranium enrichment capability consists of three plants, located at Oak Ridge, Tennessee; Paducah, Kentucky; and Portsmouth, Ohio. These plants use an enrichment process known as gaseous diffusion. They were originally built in the 1940's and 1950's to satisfy military needs. Many military requirements, however, were satisfied through the accumulation of stockpiles of enriched uranium. With the development of the civilian use of nuclear power, the uranium enrichment program has been increasingly operated for the benefit of civilian customers.

In the beginning the Government was the sole source of enriching services to its civilian customers and the sole owner of nuclear materials in light of proliferation implications. Enriched uranium was leased to customers. This changed as a result of the enactment of the Private Ownership of Special Nuclear Materials Act, Pub. L. No. 88-489, approved August 26, 1964, 78 Stat. 603. Beginning in 1969, that act authorized toll enrichment, under which the AEC (now Energy) provides a service by enriching privately-owned uranium for a fee based on the amount of separative work required. In conjunction with this change to the civilian nuclear market, the three gaseous diffusion plants and the stockpile of uranium feed were transferred to what is now known as the uranium enrichment program.

9/ You had also requested that we address the propriety of deferring the recovery of depreciation to an unspecified future date. Energy reported to us, in part, that deferral "is not the most appropriate accounting treatment for this particular set of circumstances." Since Energy is no longer proposing the deferral of these expenses, we will not address this issue.
The Government is required to recover its costs for the uranium enrichment program over a reasonable period of time. 42 U.S.C. § 2201(v). The unit price for separative work is to be calculated to satisfy the statutory mandate. The program's costs include, among many other things, the depreciation on plant and capital equipment and the value of Government uranium feed used, if any.

The undepreciated balance on the original three gaseous diffusion plants as of fiscal year 1971 was approximately $1 billion, and $700 million of this had already been recovered from customers by fiscal year 1983 as a part of their toll enrichment fees. Rather than the original costs, however, the primary unrecovered depreciation associated with these three plants stems from plant modifications undertaken in the 1970's to increase their efficiency and capacity, specifically to benefit civilian customers. The original plants have been improved (Cascade Improvement Program or CIP) and uprated (Cascade Uprating Program or CUP) at a cost of over $1.5 billion.

These three gaseous diffusion plants have operated at or less than 41 percent of production capacity since including 1980, because of competitive conditions in the world uranium enrichment market. However, Energy used about 74 percent of its uranium enrichment plant and equipment to operate at 40 percent of production capacity. Energy expects to continue to operate these gaseous diffusion plants at this or lower levels in the future. Consequently, in its fiscal year 1984 financial statements Energy plans to write off 60 percent of the book value of the plant and capital equipment associated with these three gaseous diffusion plants or approximately $1.2 billion. Our understanding is that this program cost has been already excluded from the pricing formula used to calculate the $135/SWU ceiling price. Therefore, it will not be recovered from program customers, but will be considered a sunk cost to be borne by the taxpayers.

In addition, Energy is now building another enrichment plant at Portsmouth, Ohio (GCEP) and is developing two advanced technologies--Atomic Vapor Laser Isotope Separation and Advanced Gas Centrifuge. Energy plans to use one of the advanced technologies to replace some diffusion plant

10/ Annual financial statements have been prepared for the uranium enrichment program only since fiscal year 1971.

11/ Information in this paragraph was obtained from Information on Repayment of the Government's Uranium Enrichment Program Costs and Audits of that Program's Financial Statements, GAO/RCED-84-190, August 10, 1984.
capacity. When this occurs, an additional large write-off of the book value of one or more of the gaseous diffusion plants may be expected. In addition, if the Atomic Vapor Laser Isotope Separation technology is ultimately chosen as the replacement technology over the Advanced Gas Centrifuge, Energy may need to write-off the $2.1 billion already spent on the GCEP facility.

Generally Accepted Accounting Principles and Pricing

Generally Accepted Accounting Principles (GAAP) set forth reporting requirements for external, general purpose, financial statements. While financial statements in accord with GAAP can provide information for pricing decisions, GAAP do not provide the rules or specific guidance governing the pricing of goods and services. The recovery of depreciation is a pricing issue and is, in this instance, not governed by GAAP. Energy's pricing guidance emanates from the Atomic Energy Act of 1954, as amended, its legislative history and history of implementation.

In the context in which the issue is posed here, there are indeed two separate questions. Moreover, the question of whether or not GAAP allows Energy to report on its financial statements an accounting adjustment writing-off significant portions of its plant and equipment is probably not relevant to whether or not Energy violates a congressional mandate when it establishes a price which does not recover the cost of the Government's investment in uranium enrichment facilities. In the context here, the latter is the more important of the two. Thus, if Energy's program statute requires full cost recovery of the Government's investment, Energy cannot use a financial statement adjustment to justify excluding these costs from its pricing formula. That is what we ultimately conclude. Accordingly, the following discussion of GAAP and the write-off describes only what may be permissible without consideration of statutory pricing constraints.

GAAP and the Write-Off

Generally Accepted Accounting Principles currently give no specific guidance for accounting for the inability to fully recover the carrying amounts of long-lived assets. While the Accounting Standards Executive Committee, an advisory board of the American Institute of Certified Public Accountants (AICPA), did conclude that the inability to fully recover the carrying amounts of long-lived assets should be reported in the financial statements, it did not specify criteria for determining whether or not an unrecoverable decline in asset value had occurred or the amount of the decline. Since no
specific criteria exist, one must decide whether or not a write-down of a long-lived asset is appropriate based upon the circumstances of each case. According to the AICPA, some possible indicators of an inability to fully recover carrying amounts of long-lived assets that one should consider are:

- a reduction in the extent to which a plant is used,
- a dramatic change in the manner in which an asset is used,
- a substantial drop in the market value of an asset,
- a change in law or environment,
- a forecast showing lack of long-term profitability, and
- costs in excess of the amount originally expected to acquire or construct an asset.

While Generally Accepted Accounting Principles allow write-downs of long-lived assets to recoverable value, the literature is presently being interpreted to permit or require write-downs of long-lived assets only in rare situations. The asset write-down must result from clear indications of permanent impairment of asset value. Otherwise, write-downs of long-lived assets might be used to achieve objectives other than adhering to Generally Accepted Accounting Principles.

Applying only the GAAP, in our opinion, the Department of Energy could recognize (report) the inability to fully recover the carrying value of its uranium enrichment plants. Two of the indicators of the inability to fully recover the carrying amounts of long-lived assets, noted previously, apply. First, two changes in the environment, an overall decline in the growth of nuclear power, and new foreign competition, occurred in the past decade. Secondly, in fiscal year 1983, Energy used 74 percent of its uranium enrichment plant and equipment to operate at about 40 percent of production capacity. Moreover, Energy expects its plants to continue to operate at this or lower levels in the future.

However, while we agree that the Department under GAAP may write-down the carrying value of its uranium enrichment plants for financial statement purposes, we do not agree with Energy's measurement of the value of its uranium enrichment plants. Based upon its plants operating at 40 percent of
production capacity, Energy believes it should write-down the carrying value of its uranium enrichment plant and equipment by 60 percent. In our opinion, the percentage of plant and equipment in use, 74, rather than the percentage of production capacity, 40, should serve as the measurement of asset value. Thus, assuming a continuing 74 percent use of plant and equipment, Energy's write-down of its plant and equipment should more appropriately be 26 percent rather than 60 percent. Additionally, the adjustment must be reported as an unusual or infrequent item (not an extraordinary item) on the program's income statement. It cannot be made directly to the equity accounts without having been reported on the income (profit and loss) statement.

Reporting the write-off in the income statement defeats Energy's pricing objective of keeping costs within the $135/SWU ceiling price. When Energy calculates its prices, it includes any profits or losses that have accumulated through the end of the preceding year in its pricing formula. Because the $1.2 billion write-off, under GAAP, should be reported in the income statement, it would result in a significant program loss. This loss in turn should be included in any future pricing calculations, and would increase the price above the $135/SWU ceiling, thus defeating Energy's motivation for writing-off these unrecovered costs.

In addition, under GAAP Energy should revise the estimated useful service life of its uranium enrichment gaseous diffusion plants to better conform to management intent and environmental conditions. When an originally selected useful life for an asset turns out to be sufficiently incorrect that future years' reported income will be materially misstated, GAAP requires that an entity correct the useful life and spread the book value remaining at the date of change over the remaining revised useful life. If such an adjustment is not made, the introduction of advanced enrichment technologies will make existing gaseous diffusion plants obsolete before they are fully depreciated. And, Energy will again face large write-offs of the undepreciated asset base.

Moreover, should Energy close any of its three gaseous diffusion plants, the Department must recognize the cost of the plant closing by writing-off the remaining value of the closing plant's facilities and recognize any remaining contractual liabilities in a manner consistent with generally accepted methods for reporting discontinued operations. In addition, Energy should then recognize the costs necessary to dismantle and decontaminate the closing plant, and should begin now serious consideration of whether and how these costs should be included in the program's rate base and pricing formula to be recovered from customers.
In summary, therefore, on the central issue we conclude that GAAP allows Energy to report on its financial statements an accounting adjustment writing-off the portions of its plant and equipment attributable to unused capacity not expected to be used in the future. However, the write-down more appropriately should be 26 percent, representing the percentage of plant and equipment not used, rather than 60 percent, representing the percentage of unused production capacity. In addition, under GAAP the adjustment cannot be made directly to the equity accounts without having been reported on the income statement. Moreover, Energy cannot use a financial statement adjustment to justify excluding these costs from its pricing formula.

Pricing Constraints

Subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2201(v), governing the toll uranium enrichment program, provides, in part, that prices for the program "shall be on a basis of recovery of the Government's costs over a reasonable period of time." In addition, subsection 4(c) of the existing uranium enrichment services criteria, implementing the statute, provides, in part:

"Charges for enriching services --

"(1) The charges for enriching services, in accordance with the Act, will be established on a nondiscriminatory basis and on a basis of recovery of the Government's costs over a reasonable period of time. ** *

"(2) DOE's charges for enriching services will be established on a basis that will assure the recovery of appropriate Government costs projected over a reasonable period of time. The cost of separative work includes electric power and all other costs, direct and indirect, of operating the enrichment plants; appropriate depreciation of said plants; and a factor to cover applicable costs of process development, DOE administration and other Government support functions, and imputed interest on investment in plant, working capital, and natural uranium contained in those inventories at the DOE enrichment plants needed to provide enrichment services. During the early period of growth of nuclear power, there will be only a small
civilian demand on the large DOE enrichment plants. These plants were originally constructed for national security purposes, but will be utilized in meeting future civilian requirements. In this interim period of low plant utilization, the DOE has determined that the costs to be charged to the separative work produced for civilian customers will exclude those portions of the costs attributable to depreciation and interest on plant investment which are properly allocable to plant in standby and to excess capacity." (Emphasis added.) 44 Fed. Reg. 28876, 28877 (May 17, 1979).

Energy considers that the writing-off of approximately $1.2 billion of unused capacity of its gaseous diffusion plants, so as not to require customer payment of its depreciation, is consistent with the cost recovery requirements of subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, and the quoted portions of the uranium enrichment services criteria. 12/ Energy lists as evidence of flexibility in the requirements (1) the use of the phrases "appropriate Government costs" and "appropriate depreciation of said plants," and (2) the example of the recovery of less than full depreciation during the interim period of early nuclear power growth.

We disagree with Energy. We believe these provisions cannot properly be interpreted in the abstract. The purpose, the subject matter, the context, and the legislative history, as well as the executive interpretation, are aids to be considered in construing a statute. United States v. Cooper, 312 U.S. 600, 61 S. Ct. 742 (1941). While the interpretation given a statute by those charged with its application and enforcement is entitled to considerable weight, it hardly is conclusive. Marin County v. United States, 356 U.S. 412, 78 S. Ct. 880 (1959). And we acknowledge that when the construction of an administrative regulation, rather than a statute is in issue, deference is even more clearly in order. Udall v. Tallman, 380 U.S. 1, 85 S. Ct. 792 (1965). Nevertheless, the persuasiveness of an administrative interpretation is dependent on the thoroughness evident in its consideration, the

12/ Energy also asserts that no amendments to the uranium enrichment services criteria were required. We do not address this issue here, because we agree with Energy that a criteria change was not needed. We too believe the language of the criteria is sufficiently flexible to encompass Energy's actions, if permissible under the statute.
validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade. Skidmore v. Swift & Co., 323 U.S. 134, 65 S. Ct. 161 (1944); Case & Co., Inc. v. Board of Trade of City of Chicago, 523 F.2d 355 (7th Cir. 1975).

After careful analysis of the statute and the criteria in this light, 13/ we cannot legally support Energy's position. We conclude that a write-off for pricing purposes of undeprecated plant and capital equipment, so as to obviate the need for customer payments of related depreciation as part of the fee for enriching services, violates the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, requiring cost recovery for Energy's uranium enrichment program.

When the toll enrichment program was first authorized in the Private Ownership of Special Nuclear Materials Act, supra, the statutory pricing standard was not expressed in terms of cost recovery. Rather the original pricing standard for uranium enrichment services in subsection 161(v) of the Atomic Energy Act of 1954, as amended, was "on a basis which will provide reasonable compensation to the Government." 78 Stat. 603, 606. Moreover, the Joint Committee on Atomic Energy directed that the phrase "reasonable compensation to the Government" should be construed flexibly, to take into account not only (1) the Government's costs in providing enrichment services, but (2) the national interest in the development and utilization of nuclear power. 14/ In addition, in 1964 the Joint Committee on Atomic Energy deemed it consistent with this statutory standard for the AEC not to recover from customers depreciation attributed to shutdown portions of the diffusion plants, to meet the immediate problem of a substantial decline in enrichment services needed for military purposes. Id.

The first uranium enrichment services criteria were developed in 1966 under this flexible statutory standard. Each of the underscored items in the criteria above were adopted then and remain today. During the course of the congressional hearings on the proposed criteria, the AEC asserted

13/ A detailed staff study of the "Legislative History of Statutory Costing Provisions Governing the Uranium Enrichment Program" appears as Appendix III to this letter opinion.

that the basic policy was one of full cost recovery, with one exception. That was, not to charge full depreciation on excess capacity during an interim beginning period, since the plants had essentially been built for military purposes and the civilian market had not yet grown sufficiently to fully utilize plant capacity. The formula by which this partial depreciation exclusion was calculated became known as the Conway Formula. The formula required recovery of depreciation and interest costs only to the extent of the percentage of plant production capacity used plus 10 percent, but with a floor of 30 percent depreciation and interest recovery without regard to proportion of plant use. This standard was to be applied until plant use reached 75 percent of plant capacity, at which point 100 percent of depreciation and interest costs were to be recovered.

The flexibility of the language of the Private Ownership of Special Nuclear Materials Act, supra, was constrained by amendment in 1970. Section 8 of Public Law No. 91-560, approved December 19, 1970, 84 Stat. 1472, 1474, changed the basis of pricing for the toll enrichment program from "reasonable compensation to the Government" to "recovery of the Government's costs over a reasonable period of time." The effect of these changes was to narrow the permissible meaning of the criteria language on depreciation cost recovery and to preclude non-recovery of full costs for the toll enrichment program, except for the one situation where the Conway Formula was applicable.

Whatever may have been the flexibility ascribed in the past to the phrases "appropriate Government costs" and "appropriate depreciation of said plants" in the criteria, after the enactment of the 1970 amendment to subsection 161(v) these phrases were constrained by the coverage of the new statutory language. The criteria cannot be inconsistent with the statute which they implement. Even though these phrases in the criteria have not changed since 1966, their permissible interpretation has been constrained since their adoption by subsequent enactment of legislation on which they depend. Therefore, full cost recovery, including depreciation, was statutorily required after 1970 in every instance except where the Conway Formula is applicable.

15/ Uranium Enrichment Service Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. 31, 32 and 112 (August 2, 3, 4, 16 and 17, 1966).
Write-off

Applying these principles to the specific situation presented now regarding Energy's gaseous diffusion plants, we conclude that a write-off for pricing purposes of Energy's undepreciated plant and capital equipment attributable to unused production capacity violates the statutory mandate of subsection 161(v) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. § 2201(v), requiring cost recovery for Energy's uranium enrichment program.

We have been advised that Energy achieved 77.1 percent of production capacity from its gaseous diffusion plants in 1976. Since Energy achieved greater than 75 percent of production capacity, the interim period in which the Conway Formula applied thereby expired. Thereafter, in accordance with the Conway Formula, Energy should have recovered 100 percent of plant and equipment depreciation from customers regardless of the percentage of production capacity achieved in any given year. In fact, from 1977 through 1983 Energy did include 100 percent of depreciation in its prices, even though the percentage of production capacity never again reached 75 percent.

For fiscal year 1984 Energy is planning to disregard past practices and write-off undepreciated plant and capital equipment attributable to unused production capacity. This action will result in a shifting of approximately $1.2 billion in program costs from customers to the Government. This in effect constitutes a subsidization of the enrichment program in contravention of the Atomic Energy Act of 1954, as amended, and its legislative history. Since Energy is not authorized under subsection 161(v) and its implementing criteria to charge less than 100 percent depreciation in current market circumstances, we find the write-off of undepreciated assets to be legally objectionable. If such assets are to be written-off, Congress must amend the Act. A criteria change would not suffice, since the criteria must be in accord with the statute.

The nuclear industry is not threatened by current uranium enrichment market conditions. Indeed, the industry may be benefitting from the competition for enrichment services. Therefore, it is not the development of atomic power that is being impeded but the ability of the United States enrichment program to compete in the world market under its legislative structure. This situation does not fall within the one exception for which Congress approved less than full cost recovery.
Revaluation of Feed Inventory

The second change Energy made to attempt to achieve a low price of $135/SWU and remain in compliance with the statutory requirement that it recover its costs from the uranium enrichment program was to revaluate its uranium feed stockpile for purposes of establishing a use price from market price to acquisition cost. We conclude that this pricing practice is not governed by Generally Accepted Accounting Principles. In addition, the Atomic Energy Act of 1954, as amended, has sufficient flexibility to permit such a revaluation, but for concern over the impact on the domestic uranium mining and processing industries. However, Energy could not legally price uranium feed from its stockpile in conjunction with its enriching services at any price below its acquisition cost.

Facts

Energy has in stock quantities of natural uranium that can be used as feed to produce enriched uranium. This stock was accumulated over a number of years, primarily when the U.S. Government by law could be the only owner of source materials. The stock was needed for defense purposes. In addition, the Government purchased substantial natural uranium to try to generate a viable private, commercial uranium mining industry. With the enactment in 1964 of the Private Ownership of Special Nuclear Materials Act, supra, civilians in the private sector were authorized to own special nuclear materials. In addition, in the contracts under the toll enrichment program, the customers are obliged to supply the feed for their orders. These policies have enabled the development of the civilian nuclear power industry while still permitting the maintenance of the Government's uranium stockpile.

In the long-term contracts (up to 30 years) for enrichment services under the toll enrichment program, the customer is obliged to supply a given quantity and chemical quality of uranium feed to produce the purchased quantity of enriched uranium under the standard operating procedures at Energy's gaseous diffusion plants. However, physically and chemically Energy can modify its operating procedures within certain limits. For example, a given quantity of enriched uranium can be produced by using a smaller quantity of uranium feed and a larger amount of electric power or by using a larger quantity of uranium feed and a smaller amount of electric power.
Since electric power is now relatively expensive, Energy has decided that it would be more cost effective to modify its standard operating procedures so as to use more uranium feed and less electric power. However, to do this, Energy needs more uranium feed than the customer is contractually obligated to supply under its long-term contract. In these circumstances, Energy has decided to obtain the needed additional uranium feed from its stockpile, and to value it for this purpose at acquisition cost (approximately $9 per pound) rather than at current market price (approximately $40 per pound).

GAAP and Feed Revaluation

As stated earlier, Generally Accepted Accounting Principles apply to general purpose financial statements used for external reporting. They are not primarily intended to be the basis for pricing decisions. This revaluation of Energy's uranium feed stockpile for purposes of accounting for its use in the enriching process is a pricing decision.

According to Energy the book value of its feed inventory is reported on the program's financial statement at average acquisition cost. This reporting method is in accordance with GAAP. The program's inventory valuation for financial statement reporting will not be affected by Energy's action.

Inventory Price

Energy uses its uranium stockpile in two ways: (1) as a source of direct supply of uranium feed to its customers, or (2) as a means of reducing electricity use in the enriching process.

When Energy supplies uranium to its customers from its inventory, the transaction has been considered a sale and the price Energy charges has been established in accordance with the standards set forth in subsections 63(c) and 161(m) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. §§ 2093(c) and 2201(m). These standards provide that the selling price for source material, such as uranium feed, must (1) provide reasonable compensation to the Government, and (2) not discourage the development of private sources of uranium. Energy has stated that under these standards and due to varying market conditions over the years, uranium sold has been priced below acquisition cost, at acquisition cost, and above acquisition cost. Since 1977 Energy has been selling uranium from its inventory at average market price. Our understanding is that this practice will not change.
On the other hand, our understanding is that in the past the same methodologies applied in the situation where Energy used uranium feed from its stockpile, for management and cost efficiency reasons, as a means of operating its plants at lower electricity levels, without any direct feed transactions with a customer. This use of stockpile feed was thus treated as a sale by Energy. Now, however, Energy intends to value feed used in this manner at acquisition cost rather than market price. A statutory standard of reasonable compensation to the Government would legally seem to have sufficient flexibility to permit such a pricing revaluation, although it may not always make good economic sense. However, if Energy no longer treats or considers this use of its uranium stockpile as a sale, one consequence is that the other element of the pricing standards of subsection 161(m) of the Atomic Energy Act of 1954, as amended, supra, may not have to be complied with. That is, Energy may not have to assure that its use of its uranium stockpile in this manner will not discourage the development of independent sources of uranium supply. Use of one's stockpile at acquisition cost, which is substantially lower than market price, discourages purchases in the ordinary course from the domestic uranium mining and milling industries. This will undoubtedly further weaken industries which Energy has testified to Congress are in an acute depression with numerous mine closings. 16/ We have not fully examined these matters, but the impact on the uranium mining and milling industries is of some concern.

In addition, Energy could not legally use or sell uranium feed from its stockpile in conjunction with its enriching services at any price below its acquisition cost. Subsection 161(v) of the Atomic Energy Act of 1954, as amended, § U.S.C. § 2201(v), governs the toll enrichment program. It requires that the Government recover its costs in providing uranium enriching services. In addition, subsection 4(c)(2) of the implementing uranium enrichment services criteria provides that the cost of separative work includes the direct and indirect costs of operating the enrichment plants, presumably including the costs of Government feed when used. 44 Fed. Reg. 28875, 28876 (May 17, 1979). Moreover, the Joint Committee on Atomic Energy directed that "In the establishment of

16/ See, e.g., Testimony of Mr. Shelby T. Brewer, Assistant Secretary for Nuclear Energy, Energy and Water Development Appropriations for 1985, Part 6, Hearings Before the Subcommittee on Energy and Water Development, House Committee on Appropriations 917 (March 19, 1984).
reasonable sales prices for special nuclear material, it is expected that the Commission [now Energy] will follow, to the extent feasible, the principle of full cost recovery." H.R. Rep. No. 1702, 88th Cong., 2d Sess. 24 (1964); S. Rep. No. 1325, 88th Cong., 2d Sess 24 (1964). Therefore, in this context, we believe the sales or use price of uranium feedstock must, at least, recoup the acquisition costs to the Government. 17/

Finally, although we find that the pricing revaluation decision was a judgmental determination within Energy's discretion and authority to make, we do not necessarily agree that it was wise. We recognize that the decision to revaluate and use the feedstock may prove to be shortsighted. It is projected that the stockpile will need to be replenished in the early 1990's. Energy may have to replace its stocks at higher market prices, which, if and when used, will cause the price of enrichment services to rise.

In summary, the burden of our analysis raises serious concerns about the actions Energy has taken both substantially and procedurally. As we have stated on a number of occasions in the past, there is a compelling need, because of the market changes and constraints imposed by full cost recovery pricing in the current market environment, for the executive branch and the Congress together to reexamine the fundamental purpose and structure of the uranium enrichment program. Such a reexamination must consider our nation's objective for serving the domestic and international uranium enrichment markets and provide adequate flexibility in pricing policies to allow effective competition with foreign suppliers.

Sincerely yours,

Comptroller General of the United States

17/ Acquisition cost might perhaps be too narrow a term. Related carrying, storage and other costs should perhaps be added to acquisition cost. We have not carefully explored this issue. Our analysis here is primarily one of contrasting the propriety of a cost-based price versus a market-based price.
ENERGY'S DESCRIPTION OF THE PURPOSE AND ANTICIPATED IMPACT OF EACH MAJOR FEATURE OF ITS NEW UTILITY SERVICES CONTRACT

"1. Ability to purchase between 70 and 100 percent of the customer's annual enrichment requirements from DOE.

"This contract feature obligates DOE [Energy] to produce, and the customer to purchase, only a given portion of a customer's actual enrichment needs, and is designed to stabilize DOE's market share and strike a closer balance between future DOE supply and demand. By linking the contract to the customer's actual fuel requirements, the build-up of future excess enriched uranium inventories can be avoided, and a more realistic and predictable demand base for future production and capacity expansion planning can be achieved. Flexibility is provided to the customer to purchase up to 30 percent of his needs from another source. This flexibility permits an orderly reduction in world excess inventories of enriched uranium, as well as opportunities for diversification of supply and enhanced fuel economies to the customer as a result of freer competition. Because the contract permits customers to purchase as little as 70 percent of his supply from DOE, the Government's obligation to its customers could potentially be less than it was under previous contract forms. Customers may increase or decrease their percentage commitment only upon 5-years advance notice to DOE in order to provide adequate time for DOE to make necessary production arrangements.

"2. Reduced leadtime (180-days in advance of delivery) to firm up delivery quantities."
"This feature complements the requirements characteristic of the contract discussed above in that it is designed to permit the customer to closely match his actual delivery quantities with his actual fuel needs. Longer leadtimes for firm-up have in the past forced customers to take excess quantities of material because they have had to order fuel too far in advance of knowing their actual requirements. The 180-day leadtime for firm-up is within the production leadtime required by DOE to produce enrichment services. The Department's existing Requirements contracts require only 180-day leadtime for delivery. DOE has operated with this leadtime requirement since 1969 for the majority of its deliveries, and has complete confidence in its ability to do so for all deliveries in the future. The impact of this provision on the Government is beneficial for two reasons: it avoids the requirement to produce excess material in the future, and avoids the year-end concentration of deliveries at the enrichment plants caused by previous fixed-commitment contracts.

"3. Extended period of commitment by the customer by increasing the amount of notice required for termination without penalty.

"The US contract [Utility Services Contract] requires a minimum of 10-years notice for free termination. Termination penalties have also been increased compared to previous DOE contracts. This feature is designed to stabilize DOE's deliveries and insulate DOE's revenue base from the market uncertainties associated with secondary market transactions and associated price instabilities. The impact of this provision on the Government is thus a positive one, providing adequate time for DOE to respond to future decreases in demand. It also requires customers to make an extended obligation to DOE in exchange for increased flexibilities in other contract terms."
"4. Flexibility to select tails assay within a given range.

The US contract provides a Variable Tails Assay Option (VTAO) to the customer within a guaranteed range of 0.20 percent - 0.30 percent U-235. A fee for this service is required. The objective of this feature is to provide the customer with the opportunity to more closely optimize his fuel costs. VTAO is available under the majority of primary supplier contracts in the market, and has been offered by DOE in a more restricted form under its Adjustable Fixed-Commitment contracts. VTAO will enhance DOE's ability to compete with the aggressive initiatives of its competitors, protect its existing market share and capitalize upon future sales opportunities. VTAO represents a potential additional perturbation in the quantity of separative work units (SWU) to be purchased by customers caused by the selection of any tails assay between 0.20 and 0.30 percent U-235. However, two factors compensate for this effect. First, DOE has the operational flexibility to adjust power levels, feed rates, and operating tails assays to accommodate variations in SWU sales as a result of VTAO. Secondly, to the degree that this operational flexibility is inadequate to resolve the effect of sales adjustments from customers exercising the US contract VTAO option, a fee has been established for the use of VTAO which will provide additional revenues to ensure the financial stability of the enterprise. Therefore, the impact of VTAO should be positive with respect to enhancing DOE's competitive posture with adequate protective measures to accommodate any potential sales variations from its use.
"5. Price protection in the form of a long-term price ceiling.

"The US contract contains a ceiling charge provision that obligates the Government to provide enrichment services at prices that do not exceed a calculated ceiling charge. Price ceiling protection has been provided in the past by the Department in its Requirements contracts. The US contract thus extends price ceiling protection to those fixed-commitment customers that convert to the US contract. Incorporation of a price ceiling as a contractual obligation was required for DOE to remain competitive in the enrichment market. All other forms of non-US primary supplier contracts contain some form of price ceiling protection.

"Price is an important factor in the enrichment market. The ability to provide enrichment services at low prices, which are stable and predictable over time, is the challenge that DOE must address in order to meet its customers needs and be competitive with foreign producers. However, market benefits associated with projected low enrichment prices in the near and long term are rendered ineffectual in the absence of some form of price ceiling to protect against future increases. Therefore, an enrichment program strategy with production cost efficiencies and options for deploying advanced technologies must be implemented to result in low enrichment prices and to include some guarantee against unforeseen price increases. This combination is paramount in establishing customer confidence and subsequently a stable sales base for DOE."
"The ceiling charge is another manifestation of DOE's responsibility to control program costs and prices in a businesslike manner. DOE is confident of its ability to reduce production costs and deploy more efficient advanced technologies to not only maintain prices within the ceiling limit, but in fact, to reduce prices below future US contract ceiling charge levels. **The Department's commitment to recover costs within the ceiling is further emphasized by the fact that the Department cannot charge prices greater than the ceiling charge unless 10-years advance notice is given to the customer. However, this override protection was included in the contract to assure that DOE's cost recovery obligation could be met even in the event that unforeseen circumstances materially change future market conditions."
LEGISLATIVE HISTORY OF
1973 AMENDMENTS TO URANIUM ENRICHMENT SERVICES CRITERIA

The first uranium enrichment services criteria had been developed in 1966. See 31 Fed. Reg. 16479 (December 23, 1966). They had specified two standard types of contracts—Firm Quantities Contracts and a Requirements Contract. The basic principles of each type had been set forth along with the more significant provisions of the contracts. In 1973 the AEC, a predecessor agency of Energy, attempted to make the uranium enrichment services criteria contain more general, generic terms and conditions than had been in the earlier criteria. However, the AEC's effort ultimately was largely unsuccessful.

In hearings before the Joint Committee on Atomic Energy in 1973, Mr. George F. Quinn, Assistant General Manager for Production and Management of Nuclear Materials, explained the AEC's objective, in part, as follows:

"The proposed revisions to the uranium enrichment services criteria include charges necessary * * * to afford appropriate flexibility to incorporate changes in the contracting details as may be warranted by experience * * *." 1/

Some flavor of the AEC's proposed 1973 criteria modifications can be illustrated by a part of Mr. Quinn's statement with regard to contract termination provisions:

"* * * The quantitative terms and conditions for termination by the customer of an enrichment services contract are, therefore, not specified in the criteria and will not be set forth in individual contracts.

1/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 19 (March 7, 8, 26; and April 18, 1973).
"Instead, they would be announced, and periodically updated as may be necessary, by notices in the Federal Register. Other features of the enrichment services contract which are subject to change because of external conditions are also proposed to be subject to modification, as needed, by appropriate notices in the Federal Register." 2/

The AEC sustained considerable opposition to its 1973 proposed criteria modifications, both from industry and members of the Joint Committee on Atomic Energy. A few examples of congressional reaction taken from the 1973 hearings, supra, are illustrative:

1. "Senator Jackson. ** the revised criteria omit any reference to the types and significant details of the contracts under which enrichment services will be provided." (Page 2.)

2. "Representative Price. Since the significant features of the new types of contracts are not described in the criteria there appears to be nothing that would require the Commission to return to the Joint Committee should it decide to vary the terms and conditions under which it would provide the uranium enrichment services. This seems to be a substantial departure from the intent of section 161v. **" (Page 32.)

3. "Representative Price. Of course you can shorten the time of many things if you depart from the law. ** Even we nonlegal members of the committee can see that you are ignoring a section of the Atomic Energy Act." (Page 33.)

2/ Id., at 22.
4. "Representative Holifield. It is very clear on the face of it that this is a move, justified on the basis of a new arrangement, to evade or to nullify congressional control. * * * It seems to me that this is a very convenient way to say that it is too complicated and, therefore, we want to change the law, or evade it, in order to keep congressional control from taking place." (Page 33.)

5. "Mr. Minsch [Assistant General Counsel, AEC]. Mr. Holifield, on the legal point you raised we, of course, are still subject to the statutory requirement of section 202 that we keep the Joint Committee currently informed."

"Representative Holifield. It is one thing to keep us currently informed and another thing to reduce the power for us to do anything about it after you inform us." (Page 34.)

6. "Representative Holifield. * * * What control do you feel the Joint Committee will have over the essential terms and conditions of this or any other contract for enriching services under the new criteria?"

"Mr. Allen [President, Yankee Atomic Electric Co., and Vice President, New England Electric System]. None."

"Representative Holifield. Thank you. I came to the same conclusion. * * * The new criteria would eliminate any supervision of this committee over these things." (Page 83.)

The result was that the criteria modifications were not adopted as proposed in 1973. The Joint Committee on Atomic Energy held 4 days of hearings on them. The Committee also requested an extension of the 45-day review period from the
AEC and a deferral of criteria modifications, and the AEC granted both requests. 3/ The Committee, in the interim, insisted that the AEC consult with both representatives of industry and the Committee staff to try to achieve more acceptable criteria modifications. 4/ Modification of the uranium enrichment services criteria, that was proposed by the AEC to the Joint Committee on January 18, 1973, was not concluded until May 7, 1973, a period of more than 100 days. The modifications ultimately adopted differed significantly from those first proposed.

The criteria revisions of 1973 as originally proposed gave the AEC great latitude in the operation of the uranium enrichment program, including eliminating references to any particular type of contract. This original proposal was unacceptable to both the Joint Committee on Atomic Energy and the nuclear industry, and it was rejected. The proposed criteria were then revised to contain various changes in the areas of (1) assurances of consultations with customers regarding any future contract changes which might have adverse effects on them; (2) clarification of assurances regarding non-discrimination in Government termination of contracts; (3) clearer enunciation of the intended maximum customer termination charges; and (4) increases in the advance notice period to increase enriching service charges. Many of these were reinsertions of provisions already contained in the 1966 criteria but with slight modifications. More importantly, the Fixed Commitment Contract was specified as the required primary contracting vehicle for supplying enriching services for nuclear power reactors on a long-term basis. The AEC did succeed in deleting the principles relating to the Requirements contract and the guaranteed ceiling price. Most of the 1966 criteria provisions were retained.

3/ Id., at pages 183 and 187.

4/ Id., at pages 188-194 and 196-198 for listings of the issues in dispute and the positions of the respective parties.
APPENDIX II

The 1973 experience and its background are particularly instructive regarding a guaranteed ceiling price. Initially, in 1966 when the first uranium enrichment services criteria were established, they specifically provided for a guaranteed ceiling price. Subsection 5(d) stated:

"(d) Ceiling on charge for enrichment services. The contract shall specify for the term of the agreement a guaranteed ceiling charge, subject to upward escalation for the cost of electric power and labor. The ceiling charge as of July 1, 1965, the base date for application of escalation, is $30 per Kg unit of separative work for separation of U-235 from U-238. (In its standard table of enriching services, as well as its schedule of charges for sale or lease of enriched uranium, AEC will take into account any significant effect of the presence of other isotopes of uranium on the number of separative work units required to perform a given U-235, U-238 separation.)"


This guaranteed ceiling price provision was purposely deleted from the uranium enrichment services criteria in the 1973 amendments on the initiative of the AEC. The AEC provided an extensive rationale justifying its deletion:

"The present requirement that enriching services contracts which may cover periods as great as 30 years contain a guaranteed ceiling charge of $30 subject to escalation for costs of electric power and labor was deleted as it is considered no longer necessary, and it could preclude compliance with the statutory directive to recover the Government's costs over a reasonable period of time should the Government have to undertake the construction of additional enrichment capacity. Incorporation of the ceiling price concept in the Criteria occurred at a time when cost data concerning operation of the enrichment plants was classified and it served to provide customers with
some assurance as to the future economics of uranium enrichment, as a basis for their long-term planning.

"Now, however, since cost information on the existing plants and estimates with regard to future diffusion plants are no longer classified, and since the Act now specifies that the AEC charge be based on its costs, the original purpose of the ceiling charge would no longer be appropriate at the time that new enriching capacity might be undertaken. The escalation provisions of the existing ceiling charge relate specifically to the existing plant capacity; they contain no provision for escalation in the cost of the capital or in construction costs which, of course, would be reflected in the economics of any new plant capacity to be built. Thus, it is possible that the enriching costs of new plant capacity built in the future could exceed the escalated ceiling charge which was incorporated into the original Criteria and which clearly was applicable only to the existing plants."

(Emphasis added.)

The arguments were frequently repeated during the 1973 hearings. See, e.g., pages 21, 157, 451, 452, and 664. In fact, in response to a question from the Joint Committee asking if the AEC would object to the restoration of a ceiling charge in the criteria, the AEC answered:

"* * * Since its [the ceiling price] inclusion could be prejudicial to the Government's financial interest and no other clear purpose is being served, the AEC continues to believe that it should be deleted from the Criteria." Id., at 664.

Consequently, all of the provisions concerning a guaranteed ceiling price were in fact deleted from the uranium enrichment services criteria in 1973 at the insistence of the AEC.

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5/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 446 (March 7, 8, 26; and April 18, 1973).
Now some 11 years later, the AEC's successor agency, looking at the uranium enrichment services criteria from which all provisions concerning a guaranteed ceiling price had been purposely deleted, claims those criteria permit a guaranteed ceiling price, without pointing to any specific section of the criteria to support its position. There have been no relevant changes to the criteria in the intervening 11 years. We did not find anything in the 1973 legislative history that would support Energy's position. All of the evidence that we have seen points in the direction that guaranteed ceiling prices were neither wanted in the criteria nor in enrichment contracts.

In addition, the concern which prompted the AEC to delete the guaranteed ceiling price provisions from the criteria in 1973 still seems to prevail today, namely, the fear that a guaranteed ceiling price could preclude compliance with both the statutory and criteria directive to recover the Government's costs over a reasonable period of time, particularly in a competitive international uranium enrichment market and while the Government is undertaking the construction of additional enrichment capacity.

Energy does assert that a 1973 GAO report 6/ offers support for its

"* * * determination that no criteria change was required in order to include a ceiling price provision in the * * * [Utility Services Contract]. GAO expressly recognized in its 1973 analysis of the criteria now in effect that, despite the Department's decision to exclude a ceiling charge provision from the fixed-commitment contracts (first offered in

However, we find this interpretation of our report to be without foundation.

GAO's report stated that:

"The elimination of the ceiling charge will not apply to customers who elect to continue to operate under requirements contracts because these contracts contain the following provision:

"The charges to be paid to the Commission for enriching services provided to the Customer hereunder shall be determined in accordance with the established Commission pricing policy for such services; provided, however, that the unit charge for enriching services during the term of this agreement shall in no event exceed a ceiling charge **." Id., at 22.

All GAO said and meant was, where a then-existing requirements contract contained the ceiling price language quoted, the Government would honor that contract provision, since the AEC had no authority to breach existing contracts. Those contracts were governed by the criteria in existence at the time the contracts were consummated. Contracts consummated after 1973, however, would be governed by the uranium enrichment services criteria, as modified in 1973. Consequently, after 1973 the AEC would likely be administering both contracts with a guaranteed ceiling price and other contracts without a guaranteed ceiling price, the former consummated before the criteria revisions became effective and the latter consummated after the criteria revisions. This does not imply that the AEC could "offer" to sign new contracts after 1973 that still contain a guaranteed ceiling price, even though the guaranteed ceiling price provisions had been deleted from the criteria. New requirements contracts were no longer offered after 1973.
Our interpretation is in accord with the AEC's own testimony. Mr. Roger W.A. Legassie, Director, Division of Program Analysis, AEC, stated:

"** * * With respect to the contracts so that there is no misunderstanding on this point, once a contract is signed, neither party to the contract can change unilaterally the contract terms and conditions of the contract, although I believe such an impression might have been given.

"Even if future contracting arrangements under the criteria are changed to some new form, this will not affect customers who have previously signed contracts under the existing arrangement.

"For example, the Commission can, must, and will honor all requirements contracts that it has signed in the past, term by term, even though it now proposes to change to a new form of contract." 7/

Therefore, our analysis of the events in 1973 supports neither a conclusion that Energy has unrestricted flexibility in what it places in its enrichment contracts nor that Energy can bypass amending its criteria before including a new, major feature in its contracts. In addition, we can find no evidence from the events of 1973 that would support Energy's assertion that its uranium enrichment services criteria provide sufficient flexibility for inclusion of a guaranteed ceiling price in its enrichment contracts.

7/ Proposed Changes in AEC Contract Arrangements for Uranium Enriching Services, Hearings Before the Subcommittee on Energy, Joint Committee on Atomic Energy, 93rd Cong., 1st Sess. 159 (March 7, 8, 26; and April 18, 1973).
Early Statutory Legislative History

When the toll enrichment program was first authorized in the Private Ownership of Special Nuclear Materials Act, supra, the statutory pricing standard was not expressed in terms of cost recovery. Rather the original pricing standard for uranium enrichment services in subsection 161(v) of the Atomic Energy Act of 1954, as amended; was "on a basis which will provide reasonable compensation to the Government." 78 Stat. 603, 606. Pricing for enriching services was an issue of no small concern to the Joint Committee on Atomic Energy. Indeed the matter was discussed at length by the Committee before the enactment of the Private Ownership of Special Nuclear Materials Act:

"One of the recurrent problems discussed in the committee's hearings on this legislation was the uncertainty with respect to the Commission's charges for separative work under uranium enrichment service arrangements. The problem was most sharply illustrated by reference to a disarmament situation, under which the Commission would have to meet no further requirements for special nuclear material for weapons purposes. In such a situation, the major market for the output of the diffusion plants would be nuclear power reactors—a requirement that is expected to be small in the near-term compared to the production capacity of the AEC plants.

"This problem has, to some extent, already been posed by the cutback in the production of special nuclear materials announced this year by the President. To alleviate industry concern with respect to the effect of those cutbacks on the charges for enriched uranium, the AEC announced on June 4, 1964, that it did not plan to increase its published charges for enriched uranium. The AEC stated that even in maintaining its current schedule of charges—
"The Government would still recover its full costs of separative work, although those portions of the diffusion plant shut down as a result of the cutback would not be amortized against current production.

"In the Committee's view, this policy should assure reasonable compensation to the Government. But, it will be immediately recognized that this policy may only be an interim measure to meet an immediate problem. In the situation of a virtual or complete elimination of production for weapons purposes, alternative modes of diffusion plant operation would have to be considered.

* * * * *

"It is too early to predict with certainty the precise dimensions of this problem or the best method of solution. However, the statement in new subsection 161v, that charges for enrichment services shall be established on a basis which will provide 'reasonable compensation to the Government' is flexible. In arriving at this determination the Commission will have to consider not only the Government's costs in providing enrichment services but also the national interest in the development and utilization of nuclear power.

"This is a matter the Committee intends to follow very closely in the years ahead. Indeed the Congress, through the Joint Committee, will have an important role in evaluating the terms and conditions under which uranium enrichment services are offered since the criteria setting forth these terms and conditions will have to be submitted to the committee and lie before the committee in accordance with the provisions of new subsection 161v." (Emphasis added.)

Thus in 1964 the Joint Committee on Atomic Energy deemed it consistent with the statutory standard "reasonable compensation to the Government" for the AEC not to recover from customers depreciation attributed to shutdown portions of the diffusion plants, to meet the immediate problem of a substantial decline in enrichment services needed for military purposes. Moreover, the Joint Committee directed that the phrase "reasonable compensation to the Government" should be construed flexibly, to take into account not only (1) the Government's costs in providing enriching services, but (2) the national interest in the development and utilization of nuclear power.

Development of Criteria Language

In 1966 the AEC proposed criteria implementing subsection 161(v) of the Atomic Energy Act of 1954, as amended, supra, and specifying the terms and conditions under which toll enrichment services would be provided to customers. Five days of hearings were held on the proposed criteria. 1/

During the course of these hearings, Mr. John P. Abbadessa, Controller of the AEC, stated the cost elements to be included in customer fees and, in particular, stated the proposed pricing policy of the AEC regarding excess plant capacity. The pricing policy would be "in accordance with the established full cost recovery of the Commission with this exception related to excess capacity." Id., at 32. Dr. Glenn T. Seaborg, Chairman of the AEC, reaffirmed that "the Commission's basic policy is one of full cost recovery * * *." Id., at 112.

The basis for the single exception to full cost recovery was explained by Mr. Abbadessa as follows:

"* * * What is involved here * * * is that we would not pass on to private industry the costs associated with unused capacity in these large plants which were built essentially for military purposes.

1/ Uranium Enrichment Service Criteria and Related Matters, Hearings Before the Joint Committee on Atomic Energy, 89th Cong., 2d Sess. (August 2, 3, 4, 16 and 17, 1966)
In determining our depreciation and interest on the investment of the Government, we used a percentage approach which is to charge the toll enrichment program with that portion of our capacity that is used for toll enrichment purposes and to charge the unused capacity to national defense.

"We think this results in a full cost charge to the toll-enrichment program. We also think it is consistent with the legislative history." Id., at 31.

The criteria language that the AEC proposed to implement this policy included each of the items underscored above in the text in the section on "Pricing Constraints."

Mr. John T. Conway, Executive Director of the Joint Committee on Atomic Energy, did not totally agree with the AEC. He felt that if private industry were building a plant, they would normally build in some additional capacity. Thus, since the diffusion plants were supposed to operate somewhat comparable to a commercial enterprise, the customers should pay depreciation on some of the excess capacity. Id., at 61-65 and 131-132. GAO in its report to the Joint Committee, B-159687, August 1, 1966 (reprinted in the Hearings at 333-341), also expressed some reservations about excluding from the toll enrichment charge depreciation and imputed interest costs attributable to excess capacity. Id., 336-337. GAO estimated that $150 million, during the 3-year period 1969 through 1971 when production was expected to be low, would be charged to national defense instead of the toll enrichment program. Id., at 32. All parties agreed that the program should not provide a Government subsidy to the industry. See, id., at 29, 33, 121, 319, 517 and 518.

Mr. Conway's concerns were satisfied by the development of the Conway Excess Capacity Formula (Conway Formula). The agreement was consummated in an exchange of letters between
the Joint Committee and the AEC. 2/ This agreement did not necessitate a modification in the proposed criteria language, but constituted a change in AEC policy in interpreting and implementing the criteria language. In brief, the Conway Formula provided that a portion of costs attributable to depreciation and interest on plant investment associated with unused excess capacity would be temporarily excluded from the price calculation and charged to national defense. The formula required recovery of depreciation and interest costs only to the extent of the percentage of plant production capacity used plus 10 percent, but with a floor of 30 percent depreciation and interest recovery without regard to proportion of plant use. This standard was to be applied until plant use reached 75 percent of plant capacity, at which point 100 percent of depreciation and interest costs were to be recovered.

Thus, the criteria adopted in 1966, consistent with the language of the Private Ownership of Special Nuclear Materials Act and its legislative history, did include language allowing some flexibility. This language, however, and its implementing Conway Formula were designed for an interim period to deal with a specific immediate problem, namely, a temporary substantial excess production capacity due to the decline in enrichment services needed for military purposes. This was explicitly recognized by the AEC in a January 26, 1971, letter to the Joint Committee on Atomic Energy. In response to a specific question, the AEC then stated "The significance of the inclusion of the word 'appropriate' in the first sentence of Subparagraph (2) [of subsection 4(c) of the criteria] is to preserve the Conway formula * * *." 3/

2/ Letter from Chairman Chet Holifield, Joint Committee on Atomic Energy, to Dr. Glenn T. Seaborg, Chairman, AEC, dated October 18, 1966, and a responding letter from Chairman Seaborg to Chairman Holifield, dated December 16, 1966. Both letters are reprinted in the 1966 Hearings at 517-519.

1970 Statutory Amendment

The flexibility of the language of the Private Ownership of Special Nuclear Materials Act, supra, was constrained by amendment in 1970. Section 8 of Public Law No. 91-560, approved December 19, 1970, 84 Stat. 1472, 1474, changed the basis of pricing for the toll enrichment program from "reasonable compensation to the Government" to "recovery of the Government's costs over a reasonable period of time." In addition, the legislative history of the amendment further clarifies even the new language. The effect of these changes was to narrow the permissible meaning of the criteria language on depreciation cost recovery and to preclude non-recovery of full costs for the toll enrichment program, except for the one situation where the Conway Formula was applicable.

The 1970 amendment was a congressional reaction to an attempt by the AEC in 1969 to base its toll enrichment prices on a standard of the needs of a hypothetical, private, commercial corporation rather than on a cost recovery standard. The Joint Committee on Atomic Energy recommended that "the original legislative intent be reiterated and the wording of the statute buttressed in support of its intended purpose. 4/ In the process, it chastised the AEC by stating that "The Committee expects that this reiteration of congressional intent would preclude any further attempt to deviate from the purpose of the statute."5/ The Joint Committee then proceeded to restate its intent and to incorporate by reference a GAO legal interpretation 6/ of the meaning of subsection 161(v).7/

5/ Id., at 25.
In so doing, the Joint Committee explicitly affirmed GAO's legal interpretation of the meaning of subsection 161(v) as the Committee's intended meaning of the new statutory language requiring "recovery of the Government's costs over a reasonable period of time." GAO's opinion required the recovery of costs in every instance except one, namely, the situation for which the Conway Formula had been devised to deal with the reduction or possible elimination of the military need for enriched uranium. Flexibility and consideration of the national interest were directed specifically and solely at this particular problem.

Whatever may have been the flexibility ascribed in the past to the phrases "appropriate Government costs" and "appropriate depreciation of said plants" in the criteria, after the enactment of the 1970 amendment to subsection 161(v) these phrases were constrained by the coverage of the new statutory language. The criteria, having the legal force and effect of regulations, cannot be inconsistent with the statute which they implement. Even though these phrases in the criteria have not changed since 1966, their permissible interpretation has been constrained since their adoption by subsequent enactment of legislation on which they depend. Therefore, full cost recovery, including depreciation, was statutorily required after 1970 in every instance except where the Conway Formula is applicable.