

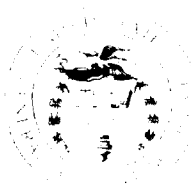
GAO

Report the Chairman, Environment,
Energy and Natural Resources
Subcommittee, Committee on
Government Operations, House of
Representatives

October 1989

NUCLEAR HEALTH AND SAFETY

DOE's Award Fees at Rocky Flats Do Not Adequately Reflect ES&H Problems



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**Resources, Community, and
Economic Development Division**

B-222195

October 23, 1989

The Honorable Mike Synar
Chairman, Environment,
Energy and Natural
Resources Subcommittee
Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

On December 16, 1988, you requested that we evaluate the extent that environment, safety, and health (ES&H) matters were considered in determining the award fees given by the Department of Energy (DOE) to its contractor, Rockwell International Corporation (Rockwell), at the Rocky Flats Plant in Colorado. DOE uses award fees to encourage effective work and improve the quality of performance among its contractors. As agreed with your office, our work focused on the award fees given to Rockwell for operating the Rocky Flats Plant during fiscal years 1986, 1987, and 1988. The process to determine the awards for Rockwell in these fiscal years was carried out by DOE's Albuquerque Operations Office consistent with DOE's guidelines on award fees.

Results in Brief

During fiscal years 1986 through 1988, many safety and health deficiencies at the Rocky Flats Plant have been repeatedly raised by DOE safety staff. Of particular concern were problems in the plant's radiological protection program and a lack of commitment by the plant's management to improve overall safety and health conditions. Because of these problems, DOE in February 1988 took various actions, such as establishing a 24-hour surveillance of plant operations by DOE officials, to improve safety and health conditions. However, many problems continued. In October 1988, DOE shut down a key operation at the plant because of important safety and health concerns. Significant problems regarding groundwater and soil contamination at the plant site have also existed. Other environmental problems include violations of the plant's permit under the Clean Water Act, improper storage and handling of hazardous waste, and inadequate groundwater monitoring.

Although significant ES&H problems have persisted at the Rocky Flats Plant, Rockwell has received substantial monetary rewards for operating the plant. During fiscal years 1986 through 1988, Rockwell has received approximately \$26.8 million in award fees. This accounts for

approximately 84 percent of the total award fees that were available to Rockwell under its contract with DOE. In determining these awards, DOE's Albuquerque Operations Office considered ES&H deficiencies at the plant and rated Rockwell from "moderately good" to "excellent" in regard to its ES&H performance.

We identified a number of problems which raise concerns about how the award process is being administered. Specifically, the awards given to Rockwell do not adequately reflect the ES&H problems at the Rocky Flats Plant.

- Significant ES&H deficiencies have been downplayed in the award fee process. For example, the classification of some ES&H problems as deficiencies rather than significant deficiencies is questionable. Other ES&H deficiencies are not mentioned at all in the evaluation process.
- The process, during fiscal years 1986 through 1988, placed more emphasis on production rather than ES&H. For example, in four of the six evaluation periods, production was weighed more heavily than ES&H. Further, specific objectives established by DOE beyond the evaluation process all encouraged production.
- The award determinations were not reviewed by DOE's headquarters organizations. Headquarters' views on how well Rockwell has performed in regards to ES&H matters have not always agreed with DOE's Albuquerque Operations Office.

Because the Albuquerque Operations Office process for determining award fees is essentially the same among all of its production facility contractors and consistent with DOE guidelines on award fees, we believe the problems identified can occur at other DOE sites when award fees are determined.

Environment, Safety, and Health Deficiencies Have Been a Continuing Problem at the Rocky Flats Plant

Operations at the Rocky Flats Plant are inherently dangerous because they involve using a wide variety of toxic, hazardous, and radioactive material. Because of the inherent dangers, adhering to ES&H requirements should be an important priority. Various reviews by us and others, however, have illustrated that there have been significant ES&H problems at the plant.

Between September 1986 and March 1988, numerous safety and health deficiencies have been repeatedly raised by DOE headquarters safety staff in three technical safety appraisals at the plant. Collectively, these appraisals identified 230 recommendations and/or concerns covering a

wide range of safety and health disciplines. Of particular concern were numerous problems in the plant's radiological protection program. Also, the March 1988 appraisal showed a lack of commitment by the plant's management to improve overall safety and health conditions. Finally, we have identified safety problems at the plant. For example, in June 1986, we reported that a safety analysis review—an important document showing that a nuclear facility is safely designed, constructed, and operated—was not completed for a key facility at Rocky Flats.¹

Because of the seriousness of the safety and health concerns at the plant, DOE, in February 1988, instituted a series of short-term measures to improve safety and health conditions. These measures included setting up a 24-hour surveillance of the plant by DOE staff and establishing an outside team of specialists to assist in developing an improved safety and health program. These measures remained in effect until May 1988. However, safety problems continued. In September 1988, an incident occurred whereby a DOE employee and two plant employees were exposed to possible contamination in building 771 at the plant. This incident precipitated a review by DOE which found that inadequate radiological safety margins existed at the building. As a result, building 771 was ordered shutdown by DOE's Albuquerque Operations Office on October 7, 1988. After corrective action was taken, operations were restarted in January 1989.

In the environmental area, Rocky Flats has two costly environmental problems—groundwater contamination and numerous inactive waste sites. We reported on these problems in September 1986, yet the full scope and severity of the problems still remain unknown.² In addition, a wide variety of other environmental problems has occurred over the last few years. These include (1) noncompliance of PCB transformers, (2) violations of the plant's permit under the Clean Water Act, (3) improper storage and handling of hazardous waste, (4) inadequate groundwater monitoring, and (5) inadequate record keeping in regard to hazardous waste. Because of various violations of Colorado's hazardous waste law such as the improper storage of waste, the state issued a compliance order against the plant in May 1988.

¹Nuclear Safety: Safety Analysis Reviews for DOE's Defense Facilities Can Be Improved (GAO/RCED-86-175, June 16, 1986).

²Nuclear Energy: Environmental Issues at DOE's Nuclear Defense Facilities (GAO/RCED-86-192, Sept. 8, 1986).

Also during the last 2 fiscal years, a costly environmental problem arose concerning pondcrete—a mixture of cement and waste. In May 1988, plant officials found that pondcrete in about 2,000 of the 17,000 boxes, which was to be shipped off-site, did not cure properly because of an improper mixture of cement and waste. DOE estimates that this problem will cost hundreds of thousands of dollars to correct.

Although ES&H deficiencies have persisted at the plant, DOE officials stressed that there also have been ES&H accomplishments. For example, DOE officials pointed out that lost workdays due to injury, fire losses, and property losses at the plant have been maintained below the DOE average over the last 3 years. While noting such accomplishments, it is important to recognize that many deficiencies have persisted over the years and some have been very significant—eventually resulting in a shutdown of building 771. Others, such as the pondcrete problem, will be costly to resolve. (Appendix I further discusses ES&H problems at the Rocky Flats Plant.)

Award Fees Paid to Rockwell

Since 1979, the Rocky Flats Plant has been operated under a cost plus award fee contract (CPAF). A CPAF contract is a cost reimbursement contract with award fee provisions used by DOE and its contractors to encourage effective work and improve the quality of performance. The award fee determinations for Rockwell are made by DOE's Albuquerque Operations Office consistent with DOE guidelines on award fees.

In addition to reimbursing Rockwell for the cost of operating the plant (over \$450 million annually), DOE's Albuquerque Operations Office has, during fiscal years 1986, 1987, and 1988, paid Rockwell \$6.7 million in base fees for operating the plant and awarded Rockwell approximately \$26.8 million in award fees for its overall performance. These award fees include nearly \$25 million as a result of semiannual performance evaluations and over \$2 million for accomplishing specific objectives.

In the semiannual evaluations, Rockwell is given an adjectival grade, ranging from "unsatisfactory" to "outstanding" and corresponding numerical scores, 1 to 100, in various functional areas such as general management, ES&H, and/or quality control. Functional areas and the weight assigned to them, which are established by DOE's Albuquerque Operations Office, can change from one evaluation period to the next. At the end of a rating period, the scores for each functional area are calculated into an overall score which is used to determine the amount of the award. In the semiannual evaluations for fiscal years 1986 through

1988, Rockwell consistently scored over 90 in its overall performance. Rockwell also scored well in its ES&H performance. In the evaluation periods for which waste management was a distinct functional area, Rockwell was rated "very good" or "excellent" (87 to 94). Rockwell was rated slightly lower in the safety and health area (80 to 87), or "moderately good" to "very good."

In addition to award fee payments based on semiannual evaluations, Rockwell can also earn award fees by successfully meeting goal achievement objectives. These objectives are established by DOE's Albuquerque Operations Office to encourage attention to particular areas and can relate to any aspect of the operations at the Rocky Flats Plant. In establishing these objectives, DOE will specify the milestones that must be met and the amount of fee which can be earned. During fiscal years 1986, 1987, and 1988, Rockwell was awarded over \$2 million for accomplishing objectives related to increased production or efficiency at the plant. (Appendix II further discusses the award fees paid to Rockwell.)

Problems With the Award Fee Process

We believe there are a number of problems in how DOE's Albuquerque Operations Office considered ES&H matters in the award fee process under the contract with Rockwell.

- Significant ES&H problems have been downplayed in the evaluation process.
- The process has placed more emphasis on production than ES&H performance.
- The evaluations have not been reviewed by DOE headquarters organizations, which have important roles in the conduct of activities.

ES&H Problems Downplayed

The ratings given in the semiannual evaluations are determined by comparing achievements against deficiencies in accordance with a preestablished rating plan. (See app. IV.) Under the plan, problems can be classified as deficiencies, significant deficiencies, or serious major deficiencies. However, there are no written criteria to distinguish between the different types of deficiencies.

We noted in our review that the classification of some ES&H deficiencies by DOE's Albuquerque Operations Office was questionable. For example, in the evaluation period before the shutdown of building 771, many ES&H problems such as improvements needed in the plant's health physics

program,³ repeated violations of the plant's permit under the Clean Water Act, and the questionable quality of environmental-monitoring data needed to comply with various environmental laws were only referred to as deficiencies in the evaluation process instead of significant deficiencies. Had they been classified as significant deficiencies, the rating given to Rockwell, according to the preestablished rating plan (see app. IV), would have been much lower. Some of these problems appear significant. For example, the health physics program has been a long-standing problem at the plant and was one of the key reasons building 771 was shut down.

We also noted that some deficiencies were not mentioned at all in the evaluation process. In this regard, many reports critical of ES&H matters at the plant, including some of the technical safety appraisals and previous GAO reports, were never mentioned, as deficiencies at all in the evaluation process. These reports have identified numerous ES&H problems at the plant. In other instances, when deficiencies were mentioned, the rating plan was not followed. For example, during one rating period, Rockwell received an excellent rating although two significant deficiencies were cited. According to the rating plan, an excellent rating implies no deficiencies.

Overall, we believe that the seriousness of the ES&H problems, which required DOE to initiate a series of short-term measures at the plant and eventually led to a shutdown of building 771, were never conveyed in the evaluations.

The Process Has Emphasized Production

A long-standing concern with DOE's management of its nuclear facilities has been the emphasis of production goals over safety matters. The award process, including both the semiannual evaluations and goal achievement objectives, as implemented by DOE's Albuquerque Operations Office at the Rocky Flats plant, has emphasized production. During fiscal years 1986, 1987, and 1988, the weight given specifically to ES&H matters, in four of the six evaluation periods, has been less than the weight given to production activities. During fiscal year 1986, safety and health were not even considered as a distinct performance factor.

Beyond the semiannual award process, Rockwell was also eligible to receive money for accomplishing specific goal achievement objectives.

³This program includes a wide variety of radiological protection activities at the plant.

From fiscal year 1986 through fiscal year 1988, all of the goal achievement objectives encouraged increased production and efficiency at the plant. At building 771, we believe these objectives conflicted with ES&H concerns. In this regard, Rockwell was encouraged to increase production at this building even though safety problems existed. Approximately 2 months before the shutdown of building 771 for safety problems, DOE awarded Rockwell \$310,000 for increased production of plutonium from certain types of residues at building 771.

Evaluations Not Reviewed by DOE Headquarters

DOE's contract with Rockwell and its guidelines on award fee contracts do not require that the final determinations be approved or reviewed by DOE headquarters. We identified instances where headquarters staff have not agreed with the ratings given to Rockwell by DOE's Albuquerque Operations Office. For example, an August 1987 memo within DOE's headquarters' Office of the Assistant Secretary for Environment, Safety, and Health described the plant's health and safety performance as marginal to unsatisfactory. The eventual rating given to Rockwell for this period was "very good." Such inconsistent views should be resolved before the final rating is given. Because the award process is a very important management tool that can be used to encourage a certain level of performance, the final decision should reflect a DOE view and not solely the views of DOE's Albuquerque Operations Office. Additional reviews by headquarters staff can help ensure that ES&H problems are not downplayed. (Appendix III further discusses the problems in the award process.)

Conclusions

Our review identified problems in how the award fee process was administered by DOE's Albuquerque Operations Office in regard to its contractor at the Rocky Flats Plant. The process downplayed ES&H problems and emphasized production. Further, the process did not require the review or approval of DOE headquarters. Because the Albuquerque Operations Office process is essentially the same among all of its production facility contractors and is consistent with DOE guidelines on award fees, we believe these problems can occur at other DOE sites where award fees are determined.

The award fee process is an important management tool to encourage the performance of its contractors. This is particularly important in areas such as environmental protection and safety, where problems have persisted. Accordingly, DOE should implement the process in a manner that ensures that adequate attention is given to ES&H performance

and that the process accurately reflects the significance or severity of the problems. In view of the problems we identified in the determination of award fees by the DOE Albuquerque Operations Office for the Rocky Flats Plant, we believe DOE should restructure its award fee process. Most importantly, DOE, in restructuring the process, should provide a clear understanding to its contractors what they will be losing in award fees for certain types of ES&H problems.

Recommendations

We recommend that the Secretary of Energy:

- Require all awards determinations to be approved at the headquarters level. Headquarters program offices should have approval authority over the operations for which they are responsible. Further, advisory roles in the process should be given to those DOE headquarters offices which have important roles in overseeing the operations.
- Ensure that there is reasonable balance between production and ES&H performance in the award process. Further, if awards are to be given for accomplishing specific objectives, ensure that such objectives do not conflict with ES&H objectives.
- Restructure the award process to reduce the level of discretion exercised in making a final determination. In this regard, more specific criteria are needed for determining how a deficiency is to be considered in the evaluation process. Further, procedures are needed to ensure that all identified deficiencies are considered in making an award determination.

Agency Comments

We discussed the contents of this report with cognizant DOE officials, who generally agreed with the information presented. As you requested, however, we did not obtain official agency comments on a draft of this report. In our discussion with DOE officials, they stressed that during our audit, DOE began reviewing the award fee process throughout the agency. Important changes are currently being implemented which address some of our recommendations. These include (1) having all awards reviewed and concurred with by DOE headquarters and (2) requiring that ES&H matters be weighed at least 51 percent in the evaluation process. According to DOE officials, further changes are likely and many will be implemented for the rating period beginning October 1, 1989.

These changes have only recently been announced and are not fully implemented. Our initial reaction is that they can have a positive effect in ensuring that ES&H matters are adequately considered in the award

fee process. However, we believe implementing our recommendations will further assist DOE in making changes to the award fee process to ensure that ES&H problems are properly reflected.


The information contained in this report was based on a detailed review of the awards given to Rockwell during fiscal years 1986, 1987, and 1988. We examined all relevant data associated with these awards including drafts and interim ratings. We also discussed the awards with DOE officials who took part in the rating process. We evaluated the scores and ratings given to Rockwell against known ES&H problems contained in previous GAO and DOE reports. We discussed the process as well as the ES&H problems with responsible DOE officials at headquarters and in the field. Using this information, we assessed the adequacy of DOE's internal controls for award fees.

This work was performed between December 1988 and July 1989 in accordance with generally accepted government auditing standards.

Unless you publicly announce its contents earlier, we plan no further distribution of this report for 30 days from the date of this letter. At that time, we will send copies to appropriate congressional committees; the Secretary of Energy; and the Director, Office of Management and Budget. We will also make copies available to others upon request.

This work was done under the direction of Keith O. Fultz, Director, Energy Issues (202) 275-1441. Other major contributors to this report are listed in appendix V.

Sincerely yours,



J. Dexter Peach
Assistant Comptroller General

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Abbreviations

CPAF	cost plus award fee
DOE	Department of Energy
ES&H	environment, safety, and health
FBI	Federal Bureau of Investigation
GAO	General Accounting Office
TSA	Technical Safety Appraisal

Environment, Safety, and Health Deficiencies Have Been a Continuing Problem at the Rocky Flats Plant

Operations at the Rocky Flats Plant are inherently dangerous because they involve using a wide variety of toxic, hazardous, and radioactive material. Because of the inherent dangers, adhering to environment, safety, and health (ES&H) requirements should be a top priority. Since September 1986, numerous safety and health deficiencies have been repeatedly raised by the Department of Energy (DOE) headquarters safety staff. In February 1988, DOE initiated a series of short-term measures to improve safety and health conditions at the plant. However, many problems continued. In October 1988, DOE shut down a key operation at the plant because of safety and health concerns. Problems in the environmental area also exist. For example, DOE is still defining the scope and severity of environmental contamination at the plant. Also, there have been a number of violations of environmental laws.

Although significant ES&H problems have persisted at the plant over the last 3 fiscal years, Rocky Flats has had a number of ES&H accomplishments. For example, lost workdays due to injury, fire losses, and overall property losses at Rocky Flats have been maintained below the DOE average. The following section provides a brief overview of the plant, describes the ES&H problems that have persisted, and enumerates a number of ES&H accomplishments.

Overview of Rocky Flats Plant Operations

The Rocky Flats Plant is located on a 6,550 acre site about 16 miles from Denver, Colorado. It was operated by Rockwell International Corporation, North American Space Operations Group (Rockwell), under a contract with DOE. Rocky Flats began operations in 1952 with 20 buildings, but now more than 100 buildings are used in performing its mission.

Rocky Flats' primary mission is the production of component parts for nuclear weapons. Within DOE's nuclear weapons complex, the plant is the focal point for DOE's plutonium operations. Accordingly, the plant has a variety of production activities that involve the fabrication of parts from plutonium, uranium, and other materials for nuclear weapons. Components from retired nuclear weapons are also processed at Rocky Flats to recover plutonium and other reusable material. Key operations at the plant include: weapons component fabrication using plutonium (building 707), plutonium residue recovery (buildings 776/777 and 771/774), waste management (buildings 374 and 774), and non-plutonium component fabrication (buildings 444, 460, and 883). Finished products are shipped off-site for assembly into weapons.

Rocky Flats operations routinely involve handling radioactive, hazardous, and/or toxic material. Also, many plant operations use fissile material (material that can sustain a nuclear reaction), which must be handled with specialized equipment. Because of the dangers associated with material used at the plant, management at Rocky Flats must pay constant attention to all aspects of the plant's operation to ensure that they are carried out in a safe and environmentally acceptable manner.

Safety and Health Deficiencies

Since September 1986, numerous safety and health deficiencies have been repeatedly raised about the plant's operations. These concerns prompted DOE to initiate a series of short-term measures in February 1988. However, many concerns continued and in October 1988, a key operation was shut down because of safety and health concerns.

Technical Safety Appraisals

To enhance ongoing safety and health programs and identify safety issues at DOE facilities, Technical Safety Appraisals (TSAs) are conducted by a team of specialists led by senior staff from DOE headquarters. The team includes outside consultants and experts from DOE's national laboratories. Between September 1986 and March 1988, three TSAs were conducted at Rocky Flats; one each for building 707 (dated Sept. 1986), building 771/774 (dated Jan. 1987), and building 776/777 (dated Mar. 1988). Collectively, these TSAs have listed 230 recommendations and/or concerns covering a wide range of safety and health disciplines.

The September 1986 TSA of building 707 identified 88 recommendations, of which 35 were considered "important." Although none of these recommendations, according to the TSA, required immediate corrective actions, important safety and health concerns were raised in three areas: (1) fire protection, (2) emergency readiness, and (3) radiation protection. In the fire protection area, the major technical problem was the need to reduce the risks of accidental fires. In the emergency readiness area, the need to upgrade equipment and systems such as criticality alarms was identified. In the radiation protection area, concerns about personnel exposure to radioactive material were raised.

The January 1987 TSA of building 771/774 identified 57 recommendations. As in the previous TSA for building 707, none of the recommendations required immediate corrective action; however, important concerns were raised in the emergency readiness and radiation protection areas. Further, some problems previously identified in the TSA for building 707 were repeated again. For example, improvements were seen as needed in

the plant's radiation-monitoring equipment as well as its overall health physics program.¹

The March 1988 TSA of building 776/777 identified 85 areas of concern. As in the other TSAs, the plant's radiological protection programs were particularly criticized. For example, major deficiencies were found in radiation equipment that was improperly calibrated or used. This TSA was particularly critical of the plant's management because a large number of concerns—39—found in this TSA were previously identified in earlier TSAs. This TSA questioned the plant's management commitment and/or involvement with safety.

Compensatory Measures

In February of 1988, DOE management—including headquarters safety and program officials along with field office staff—initiated a series of short-term “compensatory” measures at Rocky Flats to ensure worker protection. The initial results of the March 1988 TSA for building 776/777 showed very little progress toward correcting the Rocky Flats' safety and health deficiencies identified in earlier TSAs. As a result of the lack of progress, a shutdown of the plant was discussed among DOE officials. A series of short-term measures were taken to correct the more serious problems quickly and avoid a shutdown.

The measures taken in February 1988 focused primarily on improving the health physics program. A 24-hour surveillance by DOE officials was undertaken to monitor and ensure compliance with radiological procedures. Additional radiological instrumentation was provided at the plant, and improvements were made in existing monitoring equipment. Finally, additional DOE staff were sent to Rocky Flats to improve the health physics program and monitor its progress in taking corrective action in response to the TSAs.

According to DOE officials, these compensatory actions were short-term measures to provide assurances that safety and health programs are being properly implemented until a comprehensive remedial action program for the longer term can be developed. The compensatory measures remained in effect until May 1988, according to DOE field staff. At that time, they felt sufficient progress had been made to reduce the building surveillance staff to a level that could be sustained by available on-site DOE staff.

¹The health physics program include a wide variety of radiological protection activities at the plant.

Rocky Flats' Overview TSA

In early September 1988, the Rocky Flats contractor conducted its own TSA. The purpose of this self assessment, among other things, was to observe the status of activities in progress as a result of prior TSAs performed by DOE. This self assessment found important deficiencies in two areas: (1) overall plant management and (2) the radiological program.

According to this self assessment, Rocky Flats is not fully committed to the safety and health of its workers and the public. The report goes on to explain that while upper management has qualitative objectives to improve safety, they are not necessarily committed to meeting all requirements, standards, and criteria promulgated by DOE. The study was particularly critical of the building managers. In this regard, the report stated that "All Building Managers interviewed portrayed their primary function to be meeting production goals, but safety as an important, but lower priority."

The Rocky Flats self assessment was also critical of the plant's radiological program. It referred to the health physics program as "not coherent," pointing out that certain activities are duplicated and other activities not being carried out. It also pointed out that calibration of portable radiation equipment is not consistent from building to building. Finally, the report found the air-sampling program had not improved significantly from earlier TSAs.

Shutdown of Building 771

On September 19, 1988, the DOE headquarters ES&H site resident and two plant employees were exposed to possible contamination in building 771 when they walked through an area requiring respirators without them. This incident occurred because the sign warning that respirators are required was apparently hidden from view by a tool box and other equipment. This incident precipitated a review of the building's operations by DOE staff.

On October 6, 1988, DOE headquarters staff reported that inadequate radiological safety margins existed at the building. Among the staff's concerns were the frequent need for respirators in the work areas, a general lack of cleanliness and good housekeeping practices, inadequate air sampling to monitor radiation levels, and a weak health physics program for the building (e.g., the need for additional health physicists). A secondary but complicating factor is the fact that the building is about 37 years old and in need of continual repair. Renovations of the building were being carried out simultaneously with normal plant operations.

**Appendix I
Environment, Safety, and Health Deficiencies
Have Been a Continuing Problem at the
Rocky Flats Plant**

On October 7, 1988, after discussions with DOE's headquarters ES&H staff and DOE's defense program officials, DOE's Albuquerque Operations Office Manager ordered the shutdown of activities in building 771. Sequential shutdown operations began October 8, and according to DOE officials, production activities at the building ceased in early November. After corrective action was taken, production activities were restarted at the building in January 1989.

The January 1989 TSA

In January 1989, DOE issued a comprehensive site-wide TSA appraisal of Rocky Flats. Among other things, the appraisal evaluated the effectiveness and timeliness of actions taken in response to previous TSAs. Overall, the appraisal found some improvements in the safety programs but indicated that more still needs to be done.

Of the 230 recommendations and/or concerns in previous TSAs, 139 were closed because corrective action had been fully implemented. Further, the TSA recognized that increased emphasis on ES&H has been initiated by Rockwell. However, the TSA also identified 32 new concerns including (1) the lack of adequate training programs for fissile materials handlers, (2) noncompliance with electrical safety standards and/or codes, and (3) the lack of adequate measurements and documentation on extremity doses for certain workers.

**Environmental
Problems**

In 1985, serious environmental problems began to surface at the plant. Groundwater monitoring revealed significant contamination. For example, solvents in the groundwater were measured as high as 1,000 times above drinking water standards. Radioactive contamination and other chemicals have also been detected in the groundwater. Further, over the last few years numerous inactive waste sites have been identified.² As of September 1988, a total of 108 inactive waste sites have been identified at Rocky Flats. Some of the sites are considered to be existing or possible sources of significant environmental contamination. DOE is still studying the scope and severity of environmental contamination at the plant.

While most of the existing contamination resulted from operations carried out years ago during the 37-year history of the plant, other environmental problems have been raised over the last few years. These include

²An inactive waste site is any place not currently being used to dispose of waste, but where radioactive and/or hazardous waste may be present.

- noncompliance of PCB transformers,
- violations of the plant's permit under the Clean Water Act,
- improper storage and handling of hazardous waste,
- inadequate groundwater monitoring, and
- inadequate record keeping in regard to hazardous waste.

Because of violations of Colorado's hazardous waste law (such as improperly storing waste) discovered in a May 1987 inspection, the state issued a compliance order against Rocky Flats in May 1988. Another compliance order was recently issued (June 7, 1989) on the basis of inspections beginning in June 1988 by the state against Rocky Flats for continued violations of Colorado's hazardous waste law.

Also during the last 2 years, a costly environmentally related problem arose concerning pondcrete. Pondcrete is a mixture of cement and waste from the solar ponds at Rocky Flats. Its purpose is to immobilize the waste for storage and eventual disposal. Pondcrete operations have been carried out at Rocky Flats since 1986, and by the spring of 1988, nearly 17,000 boxes of pondcrete were being stored at Rocky Flats. In May 1988, while awaiting shipment off-site, plant officials found that the pondcrete in many of the boxes did not cure properly, resulting in an unacceptable waste form. DOE estimates that approximately 2,000 of the nearly 17,000 boxes will have to be reprocessed and the remaining tested. DOE estimates that this problem will cost hundreds of thousands of dollars to correct.

Finally, in June 1989, the Federal Bureau of Investigation (FBI) obtained a search warrant and collected DOE documents both at the plant and at DOE's Albuquerque Operations Office. Among other things, the FBI is investigating allegations of illegal waste disposal operations, and a federal grand jury is reviewing evidence in the case. DOE is also conducting an independent audit of environmental compliance at the plant.

Prior GAO Reports

Over the last 3 fiscal years, we have issued numerous products which identify and/or discuss ES&H problems with DOE's nuclear defense complex. Although most of these reports discuss generic type problems that DOE faces, many do address specific ES&H conditions which have existed at Rocky Flats.

In June 1986, we issued a report entitled Nuclear Safety: Safety Analysis Reviews for DOE's Defense Facilities Can Be Improved (GAO/RCED-86-175). Safety analysis reviews are important documents which

show that nuclear facilities are safely designed, constructed, and operated. Among other things, we found that safety analysis reviews have not been completed for some DOE facilities, including a key operation at Rocky Flats. This facility was designated a high-hazard facility by DOE. We recommended that such reviews be completed in a timely fashion.

In September 1986, we issued a report entitled Nuclear Energy: Environmental Issues at DOE's Nuclear Defense Facilities (GAO/RCED-86-192). In that report, we found widespread groundwater and soil contamination at many DOE nuclear defense facilities including Rocky Flats. We made recommendations in that report for DOE to develop specific plans for addressing environmental problems. At many facilities including Rocky Flats, DOE is still developing information to fully define the scope and severity of its environmental problems.

In July 1988, we issued a report entitled Nuclear Health and Safety: Dealing With Problems in the Nuclear Defense Complex Expected to Cost Over \$100 Billion (GAO/RCED-88-197BR). In that report, we discussed the wide range of problems that DOE faces in rebuilding and cleaning up the various sites within its complex. In the case of Rocky Flats, we pointed out the environmental problems of groundwater contamination and the fact that inactive waste sites are serious, costly environmental problems. In addition, we pointed out that many aspects of the plant are deteriorating, thus causing safety and operational concerns.

Finally, in October 1988, we issued a report entitled Nuclear Health and Safety: Summary of Major Problems at DOE's Rocky Flats Plant (GAO/RCED-89-53BR). In that report, we summarized the major problems facing DOE at Rocky Flats—a variety of safety and health concerns, environmental contamination, and aging equipment and buildings. We pointed out in that report that these problems have persisted at the plant for sometime and it may cost as much as \$500 million to clean up the environmental contamination at the plant and another \$1 billion to rebuild the plant.

ES&H Accomplishments

Although ES&H deficiencies have persisted at Rocky Flats, DOE officials stressed that there also had been a number of ES&H accomplishments. DOE officials pointed out that lost workdays due to injury, fire losses, and property losses at Rocky Flats have been maintained below the DOE average over the last 3 years. DOE officials also pointed out that the 3 TSA's performed between September 1986 and March 1988 identified 32

**Appendix I
Environment, Safety, and Health Deficiencies
Have Been a Continuing Problem at the
Rocky Flats Plant**

noteworthy safety and health practices at Rocky Flats. Further, DOE officials cited a number of specific accomplishments.

- There has been a 76-percent reduction in the use of solvents at the plant.
- Rocky Flats is developing a more accurate and flexible model than any currently available for predicting the atmospheric dispersion of pollutants. A portion of this model is being used at the Rocky Flats emergency center.
- Rocky Flats has implemented a fully automated computer system to track workers exposed to occupational hazards. The system also allows for the identification of workers in need of training.
- Rocky Flats has made advancements in its ability to detect and evaluate toxic conditions and materials.

While recognizing that there have been ES&H accomplishments at Rocky Flats, it is important to note that many deficiencies have persisted over the last 3 fiscal years and some have been significant—eventually resulting in a shutdown of building 771. Others, such as the pondcrete problem, will be costly to resolve. The collective nature of the problems has raised doubts about DOE's ability to manage operations at Rocky Flats in a safe and environmentally acceptable manner.

DOE's Implementation of the Cost Plus Award Fee Contract at the Rocky Flats Plant

Since 1979, Rocky Flats has been operated under a cost plus award fee (CPAF) contract by Rockwell. A CPAF contract is a cost reimbursement contract with special fee provisions consisting of a fixed amount (called the "base fee") and an award amount (called the "award fee pool"). The base fee does not vary with performance and is designed to compensate the contractor for factors such as risk, investment, and the nature of the work performed. The award fee pool is an additional amount of money available to the contractor for performance above minimum acceptable levels. The award fee contract provides for a higher fee potential than would be expected under a standard cost plus fixed fee contract—a contract whereby the government pays a set fixed fee to the contractor in addition to cost. The award fee contract, among other things, is used by DOE with its contractors to encourage effective work and improve the quality of performance. DOE's Albuquerque Operations Office administers the Rockwell contract, along with its other contracts for its production facilities, in conformance with DOE guidelines on award fee contracts.

Fees Awarded to Rockwell Over the Last 3 Years

DOE reimburses Rockwell for the cost of operating Rocky Flats, over \$450 million annually, and also pays Rockwell certain fees for managing the plant. In this regard, DOE's Albuquerque Operations Office, each fiscal year, establishes jointly with Rockwell both a base fee, which is paid automatically, and an award fee pool that will be available under the contract with Rockwell.¹ The actual amount from the award fee pool paid to Rockwell each fiscal year is determined by the DOE Albuquerque Operations Office in a multistep evaluation process.

First, Rockwell is evaluated semiannually. In these evaluations, performed by DOE's Albuquerque Operations Office, Rockwell is given an adjectival grade (ranging from unsatisfactory to outstanding) and corresponding numerical scores from zero to 100 in various functional areas (e.g., general management, cost management, health, and safety). These scores are then calculated into an overall score from zero to 100 that is used to determine the amount of award given to Rockwell. Award fees are paid to Rockwell after each semiannual evaluation.

In addition to award fee payments based on semiannual evaluations, Rockwell can also earn money by successfully meeting goal achievement

¹Both the base fee and the award fee pool are calculated by a preset formula. To encourage increased proficiency, the award fee pool is much larger than the base fee.

objectives. These objectives are established unilaterally by DOE's Albuquerque Operations Office to encourage attention to particular areas and can relate to any aspect of the operations at Rocky Flats. When establishing these objectives, the Operations Office will specify the milestones that must be met and the amount of fee that can be earned. A determination will be made if the objective is met in conjunction with the semiannual evaluation. Thus, in any fiscal year, Rockwell can receive awards from the award fee pool under the semiannual evaluation process and additional fees through the goal achievement process. However, the total fees earned during a fiscal year under these two processes cannot exceed the amount of the award fee pool.

During fiscal years 1986, 1987, and 1988, Rockwell received about \$6.7 million in base fees for operating Rocky Flats. These fees are paid without regard to performance. In addition, Rockwell was paid in fiscal years 1986 through 1988 approximately \$26.8 million in award fees on the basis of the Albuquerque Operations Office's assessments of Rockwell's performance and the extent to which goal achievement objectives were met. Table II.1 shows, for each fiscal year, the amount awarded and compares those amounts with the maximum amount available in the award fee pool.

Table II.1: Award Fees Paid to Rockwell, Fiscal Years 1986-88 (in Thousands)

	FY 86	FY 87	FY 88	Total
Award fee pool	\$8,723	\$10,630	\$12,518	\$31,871
Amount awarded for performance under semiannual evaluations	6,550	8,543	9,548	24,641
Additional awards under goal achievement objectives	1,606	115	425	2,146
Total amount awarded	\$8,156	\$8,658	\$9,973	\$26,787
Percent of award fee pool	93.5	81.5	79.7	84.0

As table II.1 shows, Rockwell was paid, in total, approximately 80 to over 90 percent of the funds available in the award fee pool. This includes nearly \$25 million as a result of semiannual performance evaluations, where Rockwell consistently scored above 90 in its overall score, and over \$2 million for accomplishing specific objectives.

How ES&H Was Considered in the Evaluation Process

DOE's Albuquerque Operations Office administers all its contracts with award fee provisions in essentially the same manner. Its process is consistent with DOE guidelines on award fees. During each semiannual evaluation, Rockwell is rated and scored in various (usually six or seven) functional areas such as general management, safety and health, or security and safeguards. The individual scores are then calculated into an overall score. The functional areas as determined by DOE's Albuquerque Operations Office can change from rating period to rating period. Furthermore, the weights assigned to each performance area can vary from one rating period to the next. For example, general management can be weighted as 30 percent of the overall score in one period and 20 percent of the overall score the next. According to DOE officials, such flexibility is needed so that DOE can encourage more effective performance in key areas.

During fiscal years 1986, 1987, and 1988, the weight given to ES&H in arriving at an overall score has varied. In fiscal year 1986, no functional area existed specifically for safety and health. DOE officials told us that safety and health were considered as part of the general management functional area in that fiscal year. In fiscal year 1987, safety and health became a separate functional area and thus a more visible part of the evaluation process. In fiscal years 1987 and 1988, the weight assigned to safety and health varied somewhat, accounting for 15 to 20 percent of the overall score. Environmental matters have generally been addressed under a waste management functional area since 1986. However, in the last semiannual evaluation for fiscal year 1988, DOE combined safety, health, and environment into one functional area with a weight of 20 percent.

Table II.2 shows how ES&H was addressed in DOE's evaluation process from fiscal year 1986 through fiscal year 1988. Included in table II.2 are the scores for the general management functional area because DOE officials told us that ES&H matters can also be addressed in that functional area. Appendix IV contains the rating plan used by DOE's Albuquerque Operations Office in making award fee determinations.

**Appendix II
DOE's Implementation of the Cost Plus
Award Fee Contract at the Rocky Flats Plant**

**Table II.2: Scores Given by DOE to
Rockwell in Selected Areas**

Rating period	General management	Waste management^a	Safety and health
FY 86, 1st half	Very good (87)	^b	^b
FY 86, 2nd half	Very good (90)	Very good (90)	^b
FY 87, 1st half (87)	Excellent (93)	Excellent (94)	Very good (87)
FY 87, 2nd half (87)	Excellent (94)	Very good (87)	Very good (87)
FY 88, 1st half	Very good (90)	Excellent (94)	Moderately good (80)
FY 88, 2nd half	Excellent (92)	^c	Good (81)

^aIncludes environmental matters.

^bNot considered as a separate functional area.

^cDropped and considered as part of the general management and/or safety and health functional areas.

As table II.2 shows, the scores in these functional areas over the three fiscal years have ranged from “moderately good” (80) to “excellent” (94). Most often, Rockwell received “very good” or “excellent.” In the general management area, the scores (87 to 94) mean, according to DOE’s Albuquerque rating plan, that the contractor’s performance was at the expected level or greater. Similarly, in the waste management area, the scores (87 to 94) mean that the contractor’s performance was at the expected level or greater. The slightly lower scores (80 to 87) in the safety and health area mean, according to the DOE Albuquerque’s rating plan, that the contractor’s performance “exceeds the acceptable level.”

Scores of this magnitude carry with them monetary rewards for the contractor. However, because of the way the award fee is calculated—an overall score is applied against a sliding scale to determine the final award²—we cannot determine how much of the total award fee paid to Rockwell was attributable to specific scores in safety and health or waste management. Nevertheless, the ES&H scores contributed to the overall scores, thereby contributing to the millions of dollars in fees awarded to Rockwell.

²To receive any of the award fee, Rockwell must have an overall score of greater than 70. Overall scores of above 70 are then applied to a sliding scale, where a score of 80 would entitle Rockwell to about 25 percent of the award fee pool and a score of 90 would entitle Rockwell to over 70 percent of the award fee pool.

Problems With the Award Fee Process

The award fee process is an important management tool that DOE can use to reward contractor performance. Each year, millions of dollars in award fees are available to reward the contractor at Rocky Flats. During fiscal year 1986 through fiscal year 1988 Rockwell received substantial award fees for its overall performance. Rockwell was rewarded for its performance in the safety and health area and in the waste management area. We believe there are a number of problems in how DOE's Albuquerque Operations Office administered the award fee process for ES&H matters under the contract with Rockwell for operating Rocky Flats.

- Significant ES&H problems have been downplayed in the evaluation process.
- The evaluation process has emphasized production.
- The evaluations have not been reviewed by DOE headquarters organizations who have important roles in the conduct of activities at Rocky Flats.

ES&H Deficiencies Downplayed in the Evaluation Process

For the award evaluation process to work well, ES&H deficiencies must be identified and properly classified. We noted in our review that the classification of some ES&H deficiencies was questionable, and other deficiencies were not mentioned at all. Also, we noted that in a few instances when deficiencies were cited, it was unclear whether they were even considered in the final rating.

The final rating given to Rockwell is intended to be in conformance with DOE's Albuquerque Operations Office preestablished rating plan. (See app. IV.) As set forth in the rating plan, grades and scores are determined by comparing achievements against deficiencies. For example, during a given rating period, if the contractor has some noteworthy achievements and no deficiencies in a specific functional area, the contractor should receive a grade of "excellent" in that functional area and a score between 91 and 95. Under the plan, a problem can be classified as a deficiency, significant deficiency, or serious major deficiency. There are no written criteria to distinguish between the different types of deficiencies. DOE Albuquerque officials told us such determinations are basically judgmental. How a problem is classified can have an important impact on the final score. For example, if several significant deficiencies are identified in a specific functional area, the final grade should be "marginal" and scored between 66 and 70 in that functional area.

In our review of six rating periods covering fiscal years 1986 through 1988, we noted that ES&H problems were generally classified as deficiencies. In some instances, classifying these problems as deficiencies rather than significant deficiencies is questionable. For example, in the evaluation period April 1, 1988, through September 30, 1988, five deficiencies were cited along with three achievements in the ES&H functional area. These deficiencies were

- problems in the quality of environmental monitoring data needed for complying with various environmental laws;
- repeated violations, during a 4-month period, of Rocky Flats' permit under the Clean Water Act;
- needed improvements in the plant's health physics program (a long-standing problem);
- a chronic staffing turnover in several key ES&H areas at Rocky Flats; and
- a high number of citations—over 50—that were identified in a DOE occupational safety and health inspection.

In our view, these deficiencies were not isolated problems but rather, plantwide or chronic problems. Had these problems been classified as significant in the evaluation process, Rockwell, according to the rating plan, should have been given a grade of "marginal" instead of "good."

In other instances when deficiencies were raised, the rating plan was not followed. For example, in the same period previously mentioned, two significant ES&H deficiencies were raised under the general management functional area. The deficiencies related to significant problems—overall safety at the plant and Rocky Flats' inability to process an acceptable solidified waste form (pondcrete). As discussed in appendix I, the pondcrete problem will likely cost DOE hundreds of thousands of dollars to resolve. The contractor was given a grade of "excellent" in this functional area which, according to the rating plan, implies no deficiencies. Had the rating plan been followed, Rockwell's grade would have been much lower.

DOE Albuquerque officials told us that in their view, the accomplishments cited under this functional area offset the deficiencies and that substantive exceptions like this to the evaluation process and rating plan are allowed when deemed appropriate. In our view, by allowing such exceptions to the rating plan, the deficiencies raised are downplayed.

In addition to not properly considering significant ES&H problems, we found that some ES&H problems were not raised as deficiencies in the evaluation process. A TSA of building 707, dated September 1986 was only mentioned as an observation, not as a deficiency, in the evaluation for the period April 1, 1986, to September 30, 1986. This TSA contained 88 recommendations and identified important problems at the plant related to (1) fire protection, (2) emergency readiness, (3) radiation protection, and (4) training and certification. Similarly, a TSA for building 771/774 dated January 1987 was not cited in the evaluation for the period October 1, 1986, through March 31, 1987. This TSA contained 57 recommendations and pointed out needed improvements in training, emergency readiness, radiological protection, and fire protection. Another example is a DOE environmental survey preliminary report dated June 1987 which identified problems in storing and labeling hazardous materials as well as deficiencies in Rocky Flats' air-monitoring program. The survey was not cited in the evaluation process. Also not cited in the evaluation process were investigation reports on a fatality which occurred in January 1987. Both the accident investigation report and a union report on the accident showed a number of deficiencies in Rocky Flats' safety programs. Finally, none of the problems identified in our reports related to the plant were cited in the evaluation process.

DOE Albuquerque officials told us that many things must be considered when citing reports as deficiencies, such as whether the report contains achievements or whether corrective actions have been taken. In the final analysis, with many reports, it will be a judgment call as to whether a report is considered as an achievement, a deficiency, or neutral in the evaluation process. In the case of the two aforementioned TSAs, DOE's Albuquerque officials pointed out that none of the recommendations required immediate corrective action and that the two TSAs contained 26 noteworthy practices. In their view, the reports were neutral. In our view, the reports were not neutral--they contained 145 safety and health recommendations versus 26 noteworthy practices. Further, the preponderance of the findings in these reports was critical of safety and health activities at Rocky Flats.

Overall, we believe that ES&H problems at Rocky Flats during fiscal years 1986, 1987, and 1988 have been downplayed. Rockwell has been receiving "moderately good" to "excellent" ratings for ES&H, while serious problems persisted. The seriousness of some problems was never conveyed in the evaluations. For example, the necessity of instituting a series of short-term measures by DOE in February 1988 to monitor safety

and health conditions at the plant was never mentioned in the evaluation process. Further, an incident occurred on September 29, 1988, in which three persons were exposed to possible contamination. This incident eventually precipitated a DOE review which led to a key operation being shut down, yet the incident was never cited in the evaluation process for the appropriate period.¹

Award Process Has Emphasized Production

A long-standing concern with DOE's management of its nuclear facilities has been the emphasis of production over safety matters. During fiscal years 1986, 1987, and 1988, the award process, both the semiannual evaluations and goal achievement objectives have emphasized production at Rocky Flats.

Under the semiannual evaluation, the contractor is evaluated in discrete functional areas such as general management, health, and safety, and/or quality control. These functional areas can change from rating period to rating period. Furthermore, the weight assigned to each functional area can change. For example, during one period, general management can account for 25 percent of the overall score and for another period, it could account for 35 percent of the overall score. In general, production activities were assigned higher weights in the evaluation process than ES&H. In addition, the contractor is also eligible for awards in meeting goal achievement objectives. Over the last 3 fiscal years, these objectives have focused on increased production.

Table III.1 shows the degree to which ES&H was considered in the semiannual evaluation process by comparing how ES&H functional areas were weighted against production-oriented functional areas, and the general management and cost functional areas.

¹ According to DOE Albuquerque officials, a conscious decision was made to cite the incident and shut down in the evaluation report for October 1, 1988, to March 31, 1989, because the shutdown occurred in October 1988. These officials further added that, for the period ending September 30, 1988, a deficiency for Rockwell's overall health physics program was cited and that this deficiency encompasses the basic concern related to the September 29, incident. It is our view that by not discussing the incident and its ramifications in the period ending September 30, 1988, DOE failed to convey in that rating the seriousness of the problems in the health physics program. In this regard, the problems in the health physics programs were not even cited as significant in the period ending September 30, 1988.

**Appendix III
Problems With the Award Fee Process**

Table III.1: Relative Weights Given to ES&H in Semiannual Evaluations, Fiscal Years 1986-88 (Percent)

	General management	Cost management	Production^a	ES&H^b	Safeguards and security
First half of FY 86	25	15	40	0	20
Second half of FY 86	35	15	25	10 ^c	15
First half of FY 87	30	15	30	25	0
Second half of FY 87	25	15	30	30	0
First half of FY 88	25	15	30	30	0
Second half of FY 88	25	15	40	20	0

^aThis includes functional areas entitled: quality control, delivery performance, chemical operations, and/or program performance.

^bThis includes functional areas waste management and safety and health.

^cOnly includes waste management.

As table III.1 shows, during fiscal year 1986, only a small percentage of the weighted score was earmarked ES&H activities. During fiscal year 1987 and the first half of 1988, the production activities and ES&H were weighted about the same. However, this comparability changed in the second half of fiscal year 1988, when the weighted score of ES&H activities was reduced to 20 percent. During the first half of 1989 (the award currently under review), the weight given to ES&H remained at 20 percent. The scoring process has generally put more emphasis on production than ES&H.

In addition to the semiannual evaluation process, the contractor can also receive awards under goal achievement objectives. The objectives that have been in effect during fiscal year 1986 through fiscal year 1988 emphasized production.² During this period, five goal achievement objectives were established. Three were established to increase production and improve efficiency in building 771, one for improved efficiency in building 707, and one to reduce the amount of material used in forming and machining metal operations. Rockwell received over \$2 million during fiscal years 1986 through 1988 for improvements it made under these goal achievement objectives.

In any industrial operation, production goals can, in some instances, conflict with safety and health objectives. Such has been the case with building 771 at Rocky Flats. Since January 1987, building 771 has been

²On March 17, 1989, during our audit, DOE established two goal achievement objectives. These objectives are not related to production activities. They are aimed at reducing radiation doses and minimizing waste.

under criticism for deficiencies in its safety and health programs. A January 1987 TSA identified problems in many safety and health areas including radiological protection. Further, during the first quarter of fiscal year 1987, contamination incidents rose sharply at building 771. In this regard, approximately 150 percent more incidents occurred than were expected for that area. According to a DOE document, Rockwell attributed this increase to restoration maintenance and increased production. The problems with radiological protection continued for almost 2 years until—following a contamination incident—building 771 was shut down in October 1988 for deficiencies in its radiological program. Despite the problems during most of this time, Rockwell was encouraged through goal achievement objectives to increase production or efficiency at building 771. In fact, approximately 2 months prior to the shutdown, DOE awarded Rockwell \$310,000 under a goal achievement objective for increased production of plutonium from certain types of residues at building 771.

Award Evaluations Not Reviewed by DOE Headquarters Organizations

DOE Albuquerque Operation Office's award process is an involved and time-consuming process that involves coordination and input from basically two DOE organizations—the Rocky Flats Area Office and DOE's Albuquerque Operations Office. DOE's contract with Rockwell and its guidelines on award fee contracts do not require that the final determination be reviewed or approved by DOE headquarters. Accordingly, DOE headquarters has not had a formal advisory or approval role in the rating process during fiscal years 1986, 1987, and 1988.

At the end of each 6-month evaluation period, a draft evaluation is prepared by DOE's Rocky Flats Area Office. The draft evaluation is then sent to DOE's Albuquerque Operations Office, where it is reviewed by the Performance Evaluation Review Board. The Board is made up entirely of staff within DOE's Albuquerque Operations Office. After the Board's review, the evaluation and the proposed award are sent to the Manager of DOE's Albuquerque Operations Office, who reviews them and makes the final determination of the award. DOE headquarters personnel, such as staff from the Assistant Secretary for Defense Programs or the Assistant Secretary for Environment, Safety, and Health, have not had an advisory or approval role in the process. The evaluation process during fiscal years 1986, 1987, and 1988 has been carried out by staff under the supervision of DOE's Albuquerque Operations Office. This arrangement was consistent with DOE's decentralized management approach used for other facilities within the DOE nuclear defense complex.

The award process is a very important management tool because it can be used to encourage a certain level of performance. In our view, the final decision should reflect a DOE view of how well the contractor is performing, not solely the views of the Operations Office. The views on how well Rockwell has performed in regards to ES&H matters have differed within DOE. For example, an internal memo, dated August 6, 1987, within the Office of the Assistant Secretary of Environment, Safety, and Health, described Rocky Flats' health and safety performance as "marginal" to "unsatisfactory." However, the Albuquerque Operations Office rating given to Rockwell for this period was "very good." More recently, a January 1989 TSA of the Rocky Flats plant criticized the evaluation process for delivering the wrong message to Rockwell with regard to what are important DOE safety goals. According to this TSA, the award fee process as administered by Albuquerque Operations Office has had an adverse influence on the plant's safety program.

DOE headquarters organizations should have a direct role in the rating process so that inconsistent views within DOE can be resolved before the final evaluation is given. For example, because the Assistant Secretary for Defense Programs is responsible for the work carried out at all DOE weapons plants, we believe he/she should have, as a minimum, a concurrent approval role in the process. Further, because the Assistant Secretary for Environment, Safety, and Health has an oversight role for ES&H matters, we believe that he/she, as a minimum, should have an advisory role in the process. Such action can help ensure that ES&H deficiencies are not downplayed. Other DOE headquarters organizations, whose responsibilities include activities or functions at a DOE site, should also have advisory roles in the process.

Recent DOE Actions to Improve the Award Fee Process

As we were completing our review, we were informed that DOE is reviewing its award fee process DOE-wide and has begun to make changes in the process. In this regard, the Secretary of Energy has acknowledged that, in the past, incentives and awards to contractors have been coupled to production, with less emphasis on ES&H issues. On June 27, 1989, the Secretary announced that this situation will change when he establishes initiatives to correct the wide-ranging problems of the Nuclear Defense Complex. Specifically, one of the initiatives prescribes that the criteria for award fees to the DOE defense production contractors be structured so that not less than 51 percent of the available award fee pool will be based on compliance with environmental, safety, and health requirements. This includes compliance with requirements derived from state environmental laws, regulations of EPA and

DOE, and actions set forth in tri-party federal facility compliance agreements.

DOE has also begun to implement other changes in the award fee process.

- Before the amount of the award fee is determined, the Operations Office Managers are required to obtain the concurrence of the cognizant Assistant Secretary.
- A proposed rule was published in the Federal Register dated July 19, 1989, which would implement the concept that a contractor's failure in one major functional area can result in the withholding of all award fees available for that period.
- DOE headquarters officials plan to be involved in all stages of the award fee process including setting goals and objectives and participating in the evaluations.

DOE expects many of these changes to be implemented by October 1, 1989.

Finally, DOE continues to review the award fee process and, according to DOE officials, other changes will likely be made. In this regard, DOE is planning to update its manual governing the implementation of the award fee process to ensure that the process is consistent throughout the agency.

DOE Albuquerque Operations Office's Preestablished Rating Plan

Adjectival Grade	Numerical Grade	Definitions
Outstanding	96–100	Substantially exceed expected performance level. Several noteworthy achievements ^a or some especially noteworthy achievements. No notable deficiencies. ^b
Excellent	91–95	Exceeds expected performance level. Some noteworthy achievements. No notable deficiencies.
Very good	86–90	Expected performance level. Some noteworthy achievements. Some notable deficiencies. or No noteworthy achievements. No notable deficiencies.
Good	81–85	Minimum expected performance level. No noteworthy achievements. Some notable deficiencies. or Some noteworthy achievements. Several notable deficiencies.
Moderately good	76–80	Exceeds acceptable performance level. No noteworthy achievements. Several notable deficiencies. or Some noteworthy achievements. Some notable significant deficiencies.
Satisfactory	71–75	Acceptable performance level. No noteworthy achievements. Some notable significant deficiencies.
Marginal	66–70	Minimum acceptable performance level. Several notable significant deficiencies.
Unsatisfactory	65 and below	Unacceptable performance level. Notable serious major deficiencies.

^aA noteworthy achievement is some accomplishment beyond the routine performance associated with a function or activity.

^bA notable deficiency is something more than an incidental deficiency. While its significance may vary, it is considered worthy of mention. The absence of notable deficiencies does not imply that there are no deficiencies at all. In our discussion of deficiencies throughout this report, the term "notable" is dropped to make the text more readable.

Major Contributors to This Report

Resources,
Community, and
Economic
Development Division,
Washington, D.C.

Carl J. Bannerman, Assistant Director
William F. Fenzel, Evaluator-in-Charge
Frederick A. Harter, Evaluator

