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GAO

Supplemental Report to the Chairman,
Subcommittee on Civil and Constitutional
Rights, Committee on the Judiciary,
House of Representatives

March 1988

FBI VOICE PRIVACY

Cost, Status, and Future Direction



RELEASED

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**Information Management and
Technology Division**

B-226295

March 8, 1988

The Honorable Don Edwards
Chairman, Subcommittee on Civil
and Constitutional Rights
Committee on the Judiciary
House of Representatives

Dear Mr. Chairman:

On February 27, 1987, we issued a report to respond to your questions about the cost and status of the Federal Bureau of Investigation's (FBI's) voice privacy program.¹ Although our review at that time had not been completed, we found that the FBI's voice privacy program had experienced substantial increases in estimated and actual costs and was significantly behind its original completion schedule, which strongly suggested that the FBI did not adequately analyze its needs before procuring its voice privacy system. We also raised questions for your Subcommittee to consider in deciding whether to further authorize the FBI-led, integrated voice privacy system intended to meet the combined radio communications needs of the FBI, Drug Enforcement Administration (DEA), and the U.S. Marshals Service (USMS).

In a March 2, 1987, transmittal letter, you asked the FBI to respond to the questions raised in our report; specifically, to address the justification, requirements, and cost estimates for the integrated voice privacy system. On April 30, 1987, the FBI sent a formal response to your letter, taking issue with a number of points in our report. On May 11, 1987, the FBI sent the same response to us.

This supplemental report summarizes our evaluation of the FBI's response. In conducting this evaluation, we met with key FBI officials on numerous occasions to better understand their position and review additional data that they had prepared in response to our report. We also shared with the FBI the evidence we had supporting our initial report. Where applicable, we have included relevant information from subsequent discussions with FBI officials and additional data provided by the FBI.

We have summarized our evaluation of the FBI's concerns into three key areas: (1) the initial digital voice privacy (DVP) program cost estimate,

¹FBI Voice Privacy: Cost, Status, and Future Direction (GAO/IMTEC-87-4, February 27, 1987).

conclusion; (2) develop a long-range plan that considers all known possibilities and contingencies; (3) establish a project review committee with top management participation; (4) establish a system to monitor cost estimates against actual costs to identify trends and efficiencies; (5) designate a chain of command for information and set up an official project file for all communications; and (6) give the Department of Justice, Office of Management and Budget, and the Congress the best available information on a timely basis, spelling out any uncertainties that could cause cost estimates to escalate.

As indicated above, the Inspection Division audit memorandum was not specifically intended to address our February 1987 report or the FBI's May 11, 1987, response to our report. However, it does, in effect, concur with our report by recognizing the need for realistic cost and milestone estimates and the importance of long-range planning. On the other hand, the audit memorandum states that "the first cost estimate of DVP was done by the FBI subsequent to the first contract being awarded and was for \$132 million," which differs from our statement that \$79.3 million was the FBI's initial voice privacy program cost estimate. The audit memorandum also alleges that our report was inaccurate in many respects, without showing where inaccuracies occurred or providing substantiating information. The memorandum does not address other areas of concern that the FBI raised in its response, such as our compliance with generally accepted government auditing standards.

Although the audit memorandum cited \$132 million as the FBI's initial DVP estimate, the FBI's Executive Assistant Director for Administration acknowledged, in a discussion on December 7, 1987, that \$79.3 million was the FBI's first DVP program estimate. The FBI's recognition of this fact resolves a major area of disagreement, and impacts other issues related to the alleged errors in our report. Our evaluation of each of the key areas of disagreement—the initial cost estimate, alleged errors in the report, and compliance with audit standards—and the impact of the December 7, 1987, discussion, is summarized below.

Initial Cost Estimate for the DVP Program

The FBI had disagreed that the \$79.3 million estimate cited in our report was its initial voice privacy program cost estimate, and indicated that this estimate was developed by an engineering consultant firm in conjunction with a study of analog versus digital technologies. According to the FBI, this estimate was never communicated to the Congress. In its response and the Inspection Division audit memorandum, the FBI said that its first estimate for the voice privacy program was \$132.4 million.

We believe that the reasons that the FBI cites for increasing its cost estimates (e.g., new modus operandi, additional coverage, and expanded operations) are essentially the same reasons that we include in describing field office needs on page 3 of our February 1987 report. We have documentary evidence to further support the reasons for the cost estimate revisions, and discuss this evidence in the appendix.

In addition, the FBI's disagreement with some of the other reasons that we cite for the increased DVP cost estimates (e.g., field office differences, technology limitations) stems from the fact that we used \$79.3 million as the initial DVP cost estimate, while the FBI used \$132.4 million as the starting point for all subsequent cost estimate revisions. The FBI's December 7, 1987, recognition of the \$79.3 million estimate should have reconciled some of our disagreements in this area. In a December 10, 1987, discussion, however, the Deputy Assistant Director, Office of Program Evaluations and Audits, FBI Inspection Division, told us that the FBI still believes GAO inaccurately stated some of the reasons for the increases in cost estimates.

The FBI also cites alleged inaccuracies in specific contract issues raised in our report. For example, the FBI takes issue with our use of the term cost overrun, and interprets it in the strict contractual sense of the word. In its response, the FBI says it is "facetious to assert a cost overrun in a firm fixed-price contract." We believe that the FBI has taken the term cost overrun out of the context in which it was intended in the report. While we understand that the term is generally used when referring to government contract costs, we use the term cost overrun only in the conclusions section of our February 1987 report (see page 5) to indicate that the DVP program exceeded its original estimated costs. We do not assert that the FBI had cost overruns on its voice privacy contracts. We note in the Objectives, Scope, and Methodology section of our February 1987 report (see page 12) that we did not specifically evaluate the procurement process, contract method, or funding and invoicing procedures for the FBI's voice privacy program.

Compliance With Generally Accepted Government Auditing Standards

In its response, the FBI alleges that we did not conduct our audit in accordance with generally accepted government auditing standards, stating that the GAO report (1) was not prepared according to guidance for program results reviews, (2) lacked balance and proper perspective, (3) was based on hearsay, when direct evidence was available, and (4) did not measure program progress against appropriate standards. In

36 field offices. We believe the status of these procurements is an appropriate measure for evaluating the FBI's progress in implementing its program.

According to the FBI, the statements we made concerning the reasons for DVP cost estimate increases are based on hearsay. Our source for these statements is not hearsay evidence as asserted by the FBI, but our evaluation and interpretation of documentary evidence. This evidence includes official FBI cost memoranda that update DVP cost estimates and provide specific reasons for the increased estimates. We primarily relied on documentary evidence to support our findings throughout the report, corroborating certain points with FBI officials responsible for the program where applicable.

Regarding the FBI's statement that we did not give it a copy of the February 1987 report for advance review and comment, we were requested by the Subcommittee not to obtain formal agency comments because the report was interim in nature and the Subcommittee wanted the report before scheduled congressional hearings. This fact was disclosed in the Objectives, Scope, and Methodology section of our report, where we noted that "as requested, we did not obtain official agency comments on a draft of this report." We did, however, conduct a close-out meeting on December 10, 1986, with the Section Chief, Assistant Section Chief, and the DVP Program Manager of the FBI Engineering Section, Technical Services Division—the highest level FBI management officials that we had worked with during the assignment. While we did not discuss all supporting information, we did communicate our main message that the FBI's voice privacy program had experienced increases in estimated and actual costs and was behind its original completion schedule. The FBI officials clarified points and expressed their opinions on the facts provided during the meeting, and we incorporated their comments into the report as appropriate.

FBI VOICE PRIVACY

FBI RESPONSE TO GENERAL ACCOUNTING OFFICE REPORT

In its February 27, 1987, report, "FBI Voice Privacy: Cost, Status, and Future Direction," the General Accounting Office (GAO), Information Management and Technology Division (B-226295), asserts:

- There have been "substantial increases" and "cost overruns" in both estimated and actual costs for the project.
- The Digital Voice Privacy (DVP) effort has suffered "significant delays" and is "significantly behind" the original completion schedule and anticipated milestones.
- The above phenomena are caused by project management deficiencies and incorrect basic assumptions which were made when originally projecting costs.

The report suggests that the Congress might wish to withhold authorization for expansion of DVP into an Integrated Digital Voice Privacy (IDVP) system supporting the FBI, the Drug Enforcement Administration (DEA), and the U. S. Marshals Service (USMS) until costs are fully determined and justification for IDVP has been given based upon an analysis of requirements and alternative courses of action.

DVP is a dynamic, threat-driven, mission-based, tactical communications system responding to substantial, documented threats which seriously disrupt, and sometimes neutralize, performance of mandated investigative responsibilities. There are no "cost overruns." The \$72.3 million cost growth is attributable to increased requirements 63%, uncontrollables 29%, and cost underestimates 8%. All changes have been accommodated within existing contracts and their option clauses. Contrary to the picture portrayed, both general and special requirements are being met in a financially responsible manner which frequently inures to the government's pecuniary advantage (such as purchasing equipment today at yesterday's prices). Diversions from the 1982 implementation schedule are soundly based upon dynamic priorities established by FBI officials responsible for investigative direction, priorities, and accomplishments. DVP equipment now available to our investigative personnel is sufficient to meet critical investigative needs in field offices containing 84% of our overall Special Agent work force. Completion of individual field office systems covered by early contracts in most cases awaits site acquisitions for fixed equipment. Rather than considering this, in vacuo, as a "significant delay," it should be viewed as a prudent management decision (i.e., await availability of commercial facilities for which we would be one of several lessees, rather than incur the extra expense of acquiring our own site and constructing our own tower). To perform a static audit of DVP based largely upon a five-year-old context, without regard to the system's accomplishments, successes, and contributions to the law

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Our review of GAO's report is divided into three sections: One addressing programmatic management issues, one speaking to contractual matters, and one containing our concluding remarks.

PROGRAM MANAGEMENT

GAO EVALUATION

FBI RESPONSE

- Estimated cost grew from \$79.3 million to \$204.4 million over a two-year period.

- There is no historical base upon which cost estimates could be made: This was the first digital, DES encrypted, nationwide system. The \$79.3 million estimate, made by an engineering consultant firm (Hydrotronics), was never intended as a definitive cost projection. It served merely as a basis for comparing existing analog technology with a digital system. The FBI's first estimate was made immediately following award of the Allison contract and was based upon the difference between the cost for the Los Angeles DVP system and an unencrypted analog system.² Two other methodologies were applied as checks.³ The estimate, \$122.4 million, was for providing the FBI with a nationwide DVP system having coverage and functionality at then-existing levels. A review of this estimate, superficially treated by GAO as wrong because of

² Then-existing prices for a new analog system were determined for each office based upon maintenance of existing coverage and functionality. One-time engineering costs were deducted. For the second through the sixth offices, we included Motorola labor rates for installation of the systems. For subsequent offices we envisioned using predominantly FBI technicians. To ensure DVP range loss was adequately considered, a 100% increase in repeaters was factored into the estimate. The microwave backbone is not subject to DVP range loss. Actual repeater increases are not the 80% to 100% stated by GAO, but 40% to 60%. The difference in costs between a Los Angeles DVP versus a replacement analog system was computed as a percentage of the latter and applied on a proportionate basis to the remaining fifty-eight field offices plus the FBI Academy at Quantico. Each comparison took into consideration the individual characteristics of that office, such as terrain and the use of different backbone technologies/configurations.

³ Individual hardware costs were added (again presuming a 100% increase in the number of repeaters required) and a generally accepted add-on of 33% was made to approximate nonequipment costs. A system-cost-per-agent-served figure was computed, based upon the Los Angeles system, and projected field wide for the then-existing total complement of FBI agents.

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See comment 2.

- The \$204.4 million estimated cost is unrealistic. \$147 million has been spent (of \$177 million obligated) to cover 36 of 59 offices. Only 3 of the 36 offices have accepted their system.

- \$21.3 million (29%) due to uncontrollables (i.e., increases in Special Agent complement and the vehicle fleet; additional Special Operations Groups and Organized Crime Drug Enforcement Task Forces; the Boston FBI/DEA integrated DVP testbed).
- \$3.6 million (8%) underestimated (primarily additional structures, stress analyses, microwave path surveys, installation costs by contractor rather than FBI personnel, and certain test equipment).

- This is an unsupported assertion where, presumably, the reader is to infer this from the few descriptive statistics given. A preferable and appropriate approach is to compare equipment now available to our Special Agents with Special Agent staffing levels and the number of vehicles in the fleet. For a target staffing level of 8,314 Special Agents in the 59 field offices and a vehicle fleet of approximately 7,000, the following DVP equipment is on-site:

- 5,894 mobile radios
- 5,293 portable radios
- 418 repeaters
- 303 base stations
- 240 microwave equipments

In each of the 36 offices (which collectively contain 84% of our Special Agent population), there is more than one radio for each agent.⁵ The system-acceptance figure predominantly reflects the shortage of sites for towers. Rather than construct our own facilities, we are awaiting the availability of commercial ones where we can be one of several lessees.

Additional cost-containment factors apparently not considered by GAO:

- New technology by Motorola, scheduled for implementation this year, which recovers virtually all the range loss previously experienced.
- Installation of tone control for base stations. This reduces installation

⁵ The need for more than one radio per agent arises in certain situations where the agent alternates between his car and working on foot, such as a close-in surveillance.

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designed in the 1960s. The FBI did not anticipate field office needs for expanded geographical coverage of criminal activities beyond the range of the existing radio system, improved communications features (for example, additional radio channels to assist joint law enforcement operations), and more equipment for the growing number of agents and vehicles.

not interviewed by GAO auditors,⁶ would have disclosed that "one-for-one" replacement methodology was not used. The need for expanded geographical coverage and functionality was considered, but not quantifiable with any reasonable degree of precision in the required time frame.

See comment 4

- Field office differences. The FBI assumed that the costs of the Los Angeles system--the first field office to receive DVP radio equipment--could be directly projected nationwide, without considering the

- Wrong. It was the difference between additional costs which was used and, in fact, understated by only 4%.

⁶ The American Institute of Certified Public Accountants, AICPA Professional Standards, Section 326.19: "The independent auditor's objective is to obtain sufficient competent evidential matter to provide him with a reasonable basis for forming an opinion." The GAO General Policy Manual, Chapter 7, Page 1: "Evidence we obtain must meet the basic tests of sufficiency, competence, and relevance." Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, by the Comptroller General of the United States, Page 53, "Views of responsible officials. One of the most effective ways to ensure that a report is fair, complete, and objective is to obtain advance review and comments by officials of the audited entity." and Page 45, "Competence. To be competent, evidence should be reliable and the best obtainable through the use of reasonable audit methods." The above citations suggest GAO should not have relied upon hearsay evidence, but spoken to the Division official responsible for the estimate and examined his file relating to the matter.

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contract completion milestones (with examples cited from the first three contracts).

Indianapolis, for the 1987 World Indoor Track events), timely support for other special events, and the completion of mini systems for the Special Operations Groups (the system's single most important user group). Minor, from a functionality standpoint, completion delays did occur in the Allison contract (e.g., the swapout of engineering prototype consoles for production units, provided for under the contract). In the Gload and Kepner contracts, systems were placed in the redesign cycle so that the design infrastructure would facilitate integration under the new system combining the FBI, DEA, and USMS. In the Eierman contract, revisions were made to accommodate critical requirements (such as New York Division's need for car-to-car communications anywhere within 25 miles of New York City).

See comment 8.

- Handling of basic management processes (e.g., a long-range plan, identifying specific requirements, cost-benefits of alternative system configurations and procurement approaches) adversely affected the program.

- The FBI's use of long-range plans for technical systems has been favorably cited by the Grace Commission.⁷ The GAO report itself states, "Between 1979 and 1981, the FBI researched technical approaches to achieve voice privacy...." This planning was the most crucial since the new system had to serve immediate needs (quickly, with proven equipment), mid-range needs (allow for technology insertion and the ability to expand operationally (e.g., increased use as agents found they could communicate with privacy protection and information became more readily available from ADP investigative systems; increased functionality as the modus operandi changed to meet new investigative missions)), and long-range needs (accommodate direct inquiry from a car to ADP investigative systems). Concerning our choice of microwave--criticized because specified without formal study--the FBI had considerable experience and expertise in this area from its management of the analog system. Microwave was selected as a common carrier because it is

⁷ President's Private Sector Survey on Cost Control, submitted to the Subcommittee for consideration at its meeting on June 13, 1983, Pages 20, 67, and 68.

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We respectfully submit that faced with the imperative need stated by the FBI's field forces, the requirement to handle the Summer Olympics, and the evolving requirements, which are difficult to predict until actual on-the-street experience is gained, our planning efforts were properly placed and our internal management and review mechanisms were effective. Long-range planning has existed throughout the life of this initiative despite the absence of a formal birth-to-death document. Examples are the multi-year study to identify the most cost effective technology having the greatest futurity, the five-year plan with precise installation priorities established by the Criminal Investigative Division, and the continued reprioritization to accommodate special events and changes in investigative cases (such as concerted efforts in narcotics matters) being conducted in individual offices.

See comment 9.

- Costs for an integrated DVP system, incorporating the FBI, DEA, and USMS have not been fully determined.

- Two contractors are assisting in this effort: One to estimate costs for integration of the Northeast Region and the other to analyze requirements for channels. After receipt of the former, an in-house effort will be undertaken to project costs for the integration of all Regions.

See comment 10.

- The FBI has accelerated implementation of an integrated system despite the absence of a full cost analysis and consideration of alternatives for achieving it.

- The case for an integrated system is compelling and intuitively apparent. The three organizations will continue to purchase tactical equipment; additionally:
 - Economies of scale will occur due to combined procurements.
 - Sharing of the backbone system by DEA and USMS will preclude uneconomic redundancies (e.g., one technician can service a single repeater serving all users, rather than two or three technicians (or contractual employees) servicing independent repeaters at the same or a nearby site).
 - Safety of law enforcement personnel will be enhanced by having, on call, help from nearby agents/Marshals of the other services when emergencies arise.
 - Joint operations will be facilitated through a radio system permitting inter-operability, rather than carrying multiple radios.

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kind of limitation on the geographical area where equipment may be delivered. In fact, since each contract calls for a complete DVP system, an options clause would serve no useful purpose if it were limited to those Divisions designated in the contract to receive a complete system.

The GAO decisions, as well as the Federal Acquisition Regulations, fully justify, if not encourage, the exercise of such options when it is to the advantage of the Government. The options were exercised on firm fixed-price contracts that provided prices quoted, in some cases, years earlier, for requirements that had either changed or expanded through no fault of the FBI. See: Matter of: Automation - Management Configuration, B-224924 dated January 15, 1987, in which GAO stated that it was appropriate for a Contracting Officer to exercise an option when he had made "a reasonable determination that exercising the option was the most advantageous method of fulfilling the Government's needs." Not one option exercised by the FBI was identified in the Appendices as not being in the Government's best interest.

See comment 13.

- (b) The letter implies that the four contracts identified dates certain for completion.

On Page 3 of the letter, GAO referred to scheduled and original completion dates. Clearly, since the contracts required the design, manufacture, and installation of new voice privacy radio and microwave systems, only estimated dates could be identified in the contract. This, in fact, was recognized in the Appendices which state at Pages 14, 18, 21, and 25 that the contracts set forth estimated completion dates. The contracts also state that the actual date of contract completion is upon the inspection and acceptance of a completed system.

See comment 14.

- (c) The letter stated that the FBI did not consider alternative configurations or procurement approaches.

At Page 4 of the letter, GAO stated that the auditors did not find any evidence that the FBI has formally identified and analyzed alternatives to its radio and microwave configurations or procurement approach. Response to the former is set forth at Page 9, *infra*. The letter's conclusion that the FBI did not use alternative methods is contradicted by the Appendices themselves (See Page 17). Further, the Appendices failed to mention the variety of other approaches which the FBI has undertaken. These include, but are not limited to, the independent acquisition of tower sites, the construction of towers, redesigning of proposed systems, installation of equipment, and a number of additional alternative procurement methods.

The FBI's Response to the Contractual Findings of the Appendices

The Appendices contain inaccurate data which is disproven by documentation contained in the DVP contract files.

- (1) Appendix II - Objectives, Scope, and Methodology
- (a) GAO states that their review was limited, to some extent, by the condition of the

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states, "We are continuing our review to determine why the contract funding exceeded the original firm fixed price."

The \$112,258 was a portion of funding for an equipment change which resulted due to system reconfiguration. The reconfiguration constituted a new requirement and increased the firm fixed price. This was explained to GAO during the audit and is clearly documented in the file.

(6) Appendix VI - Page 24 - Contract Status

- (a) GAO states that the original contract price was \$51,365,589 with \$47,615,276 funded at time of award and that in December 1984, the FBI fully funded the contract at \$51,615,730. A note from GAO states "We are continuing our review to determine why the contract funding exceeded the original fixed contract price."

Inasmuch as Modifications #3 - #7 were for equipment purchased under the option quantities clause and not included in the original contract price, each of these modifications resulted in additional funding and an increase in the firm fixed-price of the contract. In addition, it is to be noted that on Page 22, GAO has listed Modification #3 at an additional cost of \$19,805. This is incorrect. Modification #3 resulted in additional funding in the amount of \$18,928.20.

(7) Appendix VII

- (a) GAO states that a special system for the World Indoor Track and Field Events for Indianapolis was authorized by Modification #13 and that Motorola quoted \$1,394,423 for the equipment and requested a modification. GAO further states that "the Bureau determined that sufficient funding existed under the Kepner contract to pay for the special system and did not provide additional funds."

Additional funds were not provided because Indianapolis has been fully funded and the price of the special system did not exceed the funded amount. Therefore, no additional funds are required for Indianapolis.

CONCLUSIONS

The FBI's digital voice privacy program is meeting critical requirements for protection of its tactical radio system in a timely and cost-effective manner. The thrust of GAO's report belies its stated purpose since it was not conducted in accordance with its own standards for such an audit:

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See comment 20.

See comment 21

See comment 22.

See comment 23.

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The report states that detailed planning for the full system (actually 60 unique systems and 30+ minisystems) should have been initiated at the outset, without regard to the feasibility of this approach in a dynamic environment where both radio coverage needs and system functionality were evolving as investigative modus operandi changed to meet new missions. We were facing the 1984 Summer Olympics with known threats and our day-to-day operations, especially in major cities handling narcotics investigations, were being disrupted because of intercepted radio communications.

Most disappointing is GAO's failure to apprise us of its findings and recommendations before publishing and distributing its report.

Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, supra, at Page 53: "One of the most effective ways to ensure that a report is fair, complete, and objective is to obtain advance review and comments by officials of the audited entity."

At its December 10, 1986, wrap-up meeting, the auditors did not reveal their findings, conclusions, or recommendation; only a summarization of their activities. Without the opportunity to clarify points and present other views, the accuracy and completeness of the report suffered substantially.

We believe that the January 1982 memorandum clearly shows that the FBI recommended and approved a 5-year digital voice privacy acquisition and implementation program, at an estimated cost of \$79.3 million. While we recognize that the FBI later increased this estimate to \$132.4 million and communicated it to Congress after awarding the first DVP contract, the FBI did approve and initiate the program on the basis of a \$79.3 million cost estimate.

As a result, we believe that \$79.3 million is the appropriate starting point for tracking FBI voice privacy program cost estimates. We also believe that making realistic cost estimates—and informing Congress of these estimates—before awarding contracts for a multi-year, nationwide program is essential for sound agency management and effective congressional oversight.

The FBI now recognizes \$79.3 million as the first DVP estimate used to initiate the voice privacy program. In a December 7, 1987, discussion, the FBI's Executive Assistant Director for Administration stated that, while \$132.4 million was the first DVP estimate that the FBI communicated to the Congress, \$79.3 million was the first estimate that the FBI used to initiate the DVP program.

2. In our February 1987 report, we concluded that “the FBI's \$204.4 million estimate for the nationwide voice privacy program appears to be unrealistic,” and supported this statement by summarizing the status of the DVP contracts and the corresponding obligations (see pages 2 and 13, respectively). As of February 2, 1987, only 36 of the FBI's 59 field offices were under contract to receive voice privacy systems and only three of these field offices had complete, fully accepted systems. As of the same date, the FBI had obligated \$176.5 million, which included original contract awards totaling \$147.2 million and additional costs of about \$29.3 million for 77 contract modifications.

Since the FBI had already obligated about \$176.5 million for DVP systems in 36 field offices as of February 2, 1987, only about \$27.9 million (of the estimated \$204.4 million) remained for acquiring and installing complete DVP systems in the 23 field offices that are not yet under contract. At the time of our review in February 1987, the FBI's cost estimate for implementing full DVP systems in these 23 field offices totaled \$67.8 million. While the DVP Program Manager told us in follow-on discussions that the FBI had already pre-purchased equipment totaling \$17.5 million

it was intended in the report. While we understand that the term is generally used when referring to government contract costs, we use the term cost overrun only in the conclusions section (page 5) of our February 1987 report to state that the DVP program exceeded its original estimated costs and do not assert that the FBI had cost overruns on its voice privacy contracts. In addition, we did not perform the level of detailed audit work that would allow us to use the term overrun in the contractual sense of the word. The Objectives, Scope, and Methodology section of our report clearly states that we did not specifically evaluate the procurement process, contract method, or funding and invoicing procedures for the FBI's voice privacy program.

12. In the appendixes to our initial report, we state that the voice privacy contracts contain an options quantity clause allowing the FBI to purchase up to a certain amount of equipment, at originally negotiated unit prices—we do not question the FBI's use of these clauses. These appendixes also provide a factual accounting of the contract status and modifications, including information such as the modification number, date, and amount, and a brief explanation of the purpose of the modification. On some modifications a more detailed description was provided and included a reference to the vehicle used for the modification, such as exercising the options quantity clause. We did not, however, express an opinion on the legality of using the options clause and made no mention of these clauses in the letter portion of the report.

13. Our evidence shows that, except for the Eierman contract, which the Contracting Officer could not locate at the time of our review, each voice privacy contract included firm completion dates for all work under the contracts. We referred to these dates on page 3 of our February 1987 report to show that the FBI voice privacy program is behind its original contract completion milestones. The FBI did not modify the contracts to reflect more realistic completion dates. We believe that formal milestones and delivery dates—which are periodically updated to reflect agreed upon changes—are an important mechanism for monitoring contractor performance and tracking contract status.

In our overview of FBI DVP contracts, we cite the original contract completion dates of each contract. In our subsequent discussion of these completion dates, we refer to them as “original estimated contract completion dates” simply because the dates turned out in reality to be estimates.

Because the FBI's estimated savings cited in the table are very preliminary and are not supported by formal field surveys or other documentation, we continue to believe that the \$204.4 million and the latest \$205.8 million estimate for the nationwide voice privacy program appear to be unrealistic. The FBI's DVP Program Manager briefed us on the anticipated savings during our September 14, 1987, meeting and said that documentation showing the calculations—as well as written support for the projected savings—was not available at that time. He further said that the FBI's new estimate was made by (1) reviewing the extent of savings in offices that have undergone similar technology changes or have entered into microwave sharing agreements, and projecting these savings to the 23 field offices not yet under contract, and (2) obtaining information from senior technicians in the 23 field offices through telephone contacts. The tentative nature of these estimated savings—along with the fact that they are not supported by formal analyses or other documentation—causes us to doubt the reliability of the \$205.8 million DVP cost estimate.

In addition, the FBI's \$204.4 million cost estimate included all costs associated with implementing full DVP radio systems nationwide, such as system design and installation, training, test equipment, spare parts, towers, buildings, and other miscellaneous costs. The \$176.5 million obligated under the existing DVP contracts as of February 2, 1987, does not include all DVP-related costs. On February 18, 1987, the FBI gave us a document indicating additional funding of about \$3.6 million for DVP-related expenses—including test equipment, office space modifications, buildings, and towers—in 18 FBI field offices, as well as the Engineering Research Facility and Quantico. While we did not verify the accuracy of this figure, it does indicate that total DVP program obligations could exceed the amounts obligated under the current DVP contracts.

3. In our initial report (see page 3), we state that,

"According to the FBI, early cost estimates were based on a one-for-one replacement of the insecure radio system, which was designed in the 1960s. The FBI did not anticipate field office needs for expanded geographic coverage of criminal activities beyond the range of the existing radio system, improved communications features . . . , and more equipment for the growing number of agents and vehicles."

Our main point is that the FBI based its early cost estimates (i.e., \$79.3 million) on replacing the existing clear voice system with voice privacy, without anticipating that field office requirements had changed and addressing these new requirements in its cost estimates. The reasons

memorandum, for example, the FBI says that the nationwide cost estimate of \$132.4 million was based solely on cost data from the Los Angeles field office. The documents show that the FBI did not discuss the field offices' needs in depth until after two DVP contracts (i.e., Allison and Eierman) had been awarded.

5. The FBI appears to agree with our statement that, while it anticipated using off-the-shelf DVP equipment, it later found that standard equipment did not meet its needs for additional communications channels and other special features. However, the FBI says that we overstated the amount of nonstandard equipment. Our report does not include any numerical data on the amount of special equipment, nor does it rank the causes of the escalating DVP cost estimates. In an appendix to the Inspection Division audit memorandum, the FBI also states that "Motorola is being encouraged to assist the FBI in using fewer special components and system design techniques."

In an October 1983 memorandum, the FBI says that the DVP cost estimates had increased because, in designing the voice privacy system, "Motorola, Incorporated, has had to rely on other than their standard voice privacy equipment in many instances." We verified this information during our December 10, 1986, close-out meeting with the FBI Engineering Section Chief, Assistant Section Chief, and DVP Program Manager, where we specifically asked if the Motorola equipment supplied through the contracts was off-the-shelf. We were told that the equipment being purchased is composed of all special items and many options—no off-the-shelf equipment is procured. In addition, our review of the DVP contract files showed that Motorola developed special features and manufactured equipment specifically for the FBI.

6. Our February 1987 report explains that the technological impact of range loss on the DVP system was one factor that increased FBI cost estimates from \$79.3 million to \$204.4 million. In the report, we say that "the FBI recognized in its 1979 to 1981 research that the communications range of the DVP technology was less than the range of the old, unsecure system, but it did not consider the impact of this reduction." The FBI says that this statement is "totally in error because we did recognize range loss and did consider its impact."

The fact that the FBI initially recognized \$132.4 million, rather than \$79.3 million, as its first program estimate was the primary reason for the disagreement on whether the FBI considered the impact of the range reduction on the amount of equipment needed and the corresponding

and cites the Indianapolis system for the 1987 World Indoor Track events as an example. As noted in our report, the Indianapolis field office system falls under the Kepner contract, which has a completion date of September 1, 1987. To meet needs for DVP coverage of the 1987 World Indoor Track and other events, however, the FBI accelerated completion of the Indianapolis field office system. In a December 24, 1985, letter, the then Chief, FBI Contract Review Unit, requested that Motorola move the installation and completion schedule of the full Indianapolis system to early March 1987. The FBI further requested that the radio console and other fixed equipment be installed prior to January 1, 1987, and stated that it would like to use this equipment to provide DVP radio coverage for the World Indoor Track events scheduled for early March 1987. Motorola responded that it would expend every effort to accomplish this completion schedule.

Due to problems that included delays in obtaining needed radio sites, the FBI later revised this accelerated completion schedule. On November 19, 1986, the FBI issued a contract modification authorizing Motorola to build and ship a scaled down version of the Indianapolis field office system (i.e., a micro-system) to provide coverage for the World Indoor Track events. The projected completion date for this micro-system was changed to February 15, 1987.

At the time of our audit work in early February 1987, the Indianapolis micro-system was not fully installed. According to Motorola's February 10, 1987, contract status report, installations at several remaining sites were still in process. In its May 11, 1987, response, the FBI indicates that the system was installed in time for the 1987 World Indoor Track events. In a follow-up discussion on January 4, 1988, the DVP Program Manager confirmed that the Indianapolis micro-system did provide the intended DVP coverage for the events, but acknowledged that the full Indianapolis system was not complete.

8. Our report emphasized that basic management processes—such as planning, identifying requirements, and analyzing alternative approaches—are important in achieving objectives within time and cost estimates. As the FBI states in an August 9, 1985, briefing document, the DVP initiative “represents an expensive, long-term effort (emphasis added) to provide a solution to a major FBI problem.”

During our review, we could not find any evidence that a long-range plan for the nationwide DVP program had been prepared, and FBI officials confirmed that a written plan did not exist. The FBI contends that it

number of modifications to 103 and raise the total amount obligated under the four contracts to \$182.8 million as of November 23, 1987. This amount does not include the \$3.6 million in funding for DVP-related expenses (see comment 2).

17. We stated that the Allison contract is open, and included a footnote explaining that even though the FBI has accepted the system as fully operational, radio equipment has not been installed at four sites. In addition, the FBI Contracting Officer overseeing the DVP contracts told us that since installation work was ongoing, the Allison contract was open. In a follow-on meeting on September 9, 1987, the Chief of the FBI's Contract Review Unit confirmed that the Allison contract was open.

18. In discussions with program officials, FBI personnel told us that further work at the four uninstalled radio sites would be funded through the Allison contract if money was still available, or through one of the other voice privacy contracts. The FBI further stated in these discussions that the radio sites were not installed because the FBI had site leasing and installation problems at these locations when the Los Angeles system was installed and that the sites were not critical to the Los Angeles system. The FBI stated that, rather than delay system acceptance, the Bureau accepted responsibility for the sites.

19. The FBI's explanation about the \$112,258 funding did not resolve all of our questions about the change. Consequently, we footnoted it to indicate that we plan to obtain additional information about why the contract funding exceeded the original firm fixed price.

20. We footnoted this amount because we could not fully resolve the difference between the contract funding and the firm fixed price at the time of our review.

21. Our evidence shows that the correct amount for Modification 3 is \$19,805. Modification 3 shows that the FBI purchased five pieces of equipment totaling \$18,709 and five other pieces of equipment totaling \$1,096, for a grand total of \$18,928.20. However, in verifying the FBI's mathematical calculations, we noted that \$18,709 plus \$1,096 totals \$19,805—not \$18,928.20, and included the correct figure in our report. The FBI also recognized the error and corrected the amount of Modification 3 to \$19,805 in Modification 9 to the contract. The scope section of our report noted that we had found mathematical errors during our review of the contract files.

scope of our work focuses on the cost of the DVP program and the process which the FBI has followed in acquiring, managing, and implementing it. Consequently, we evaluated program status against the stated objectives and the terms of the contracts. We believe the status of these procurements is an appropriate measure for evaluating the FBI's progress in implementing its DVP program.

Throughout our audit, we relied on documentary evidence to support key points—not on hearsay, as the FBI alleges. The FBI states that the statements we made concerning the reasons for the increased DVP cost estimates are “based upon hearsay, when direct evidence was available,” and specifically cites our discussion of field office needs as an example. In this section of the February 1987 report (see page 3), we state that:

“According to the FBI, early cost estimates were based on a one-for-one replacement of the unsecure radio system, which was designed in the 1960s. The FBI did not anticipate field office needs for expanded geographic coverage of criminal activities beyond the range of the existing radio system”

As noted under comment 3, our main point is that the FBI based its early cost estimates (i.e., \$79.3 million) on replacing the existing clear voice system with voice privacy, without anticipating that field office requirements had changed and addressing these new requirements in its cost estimates. The source of this statement is not hearsay evidence as asserted by the FBI, but our evaluation and interpretation of documentary evidence which includes the following:

- An October 11, 1983, memorandum from the then Acting Assistant Director, Technical Services Division, to the Assistant Director, Administrative Services Division, which updates the FBI's \$132.4 million estimate for DVP to \$198.6 million. In explaining the reason for the increased estimate, the memorandum says that “the Government used as a model the currently installed clear voice system and did not contemplate the operational imperatives of the five new field divisions that have increased the coverage and complexity of a nominal field office system.” The memorandum goes on to say that the field offices “have indicated additional operational needs not factored into the previous estimate which accounts in part for the increased estimate. In general these additional operational needs not currently addressed in present clear voice systems, were to provide additional geographic coverage, communication features, and equipment.”

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- A January 18, 1984, memorandum from the Deputy Assistant Director, Technical Services Division, to the Assistant Director, Administrative Services Division, which updates the FBI's DVP program cost estimate to \$204.4 million. This document states that the \$132.4 million estimate was based on the "known cost of the Los Angeles system and the known clear voice systems as they existed in the remaining 58 field divisions."
- An FBI Executive Summary on the Digital Voice Privacy Program prepared by the Technical Services Division states that "the original intent, planning, and budget justification were predicated on replacing existing capabilities with no enhancements beyond voice privacy. . . . In preparing detailed engineering designs for these first installations, significant requirements for new operational capabilities were identified in the existing systems of several offices. There were indications that similar needs existed in most of the remaining offices."

In addition, as we noted under comment 3, the FBI assumed in 1982 that the DVP program would be a total office exchange of equipment.

Regarding the FBI's statement that we did not give it a copy of the February 1987 report for advance review and comment, we were requested by the Subcommittee not to obtain formal comments because the report was interim in nature and the Subcommittee wanted the report before scheduled congressional hearings. We disclosed this fact in the Objectives, Scope, and Methodology section of our report, where we noted that "as requested, we did not obtain official agency comments on a draft of this report." We did, however, conduct a close-out meeting on December 10, 1986, with the Section Chief, Assistant Section Chief, and DVP Program Manager of the FBI Engineering Section, Technical Services Division—the highest level FBI management officials that we had worked with during the assignment. During this meeting, we discussed the procurement approach and status of each of the Motorola voice privacy contracts, the use of nonstandard equipment, the lack of a long-range DVP program plan, and cost overruns and milestone slippages. While we did not discuss all supporting information, we did communicate our main message that the FBI's voice privacy program had experienced increases in estimated and actual costs and was behind its original completion schedule. The FBI officials clarified points and expressed their opinions on facts provided during the meeting, and we incorporated their comments into the report as appropriate.

22. As part of our report, we provided detailed information about selected contract modifications. With regard to Modification 13 of the Kepner contract, we simply stated the facts included in FBI documentation.

23. In the remainder of the FBI response, the FBI alleges that we did not conduct our audit in accordance with generally accepted government auditing standards. Specifically, the FBI states that our February 1987 report (1) was not prepared in accordance with guidance for program results reviews, (2) lacked balance and proper perspective, (3) relied on hearsay evidence, when documentary evidence was available, and (4) did not measure program progress against appropriate standards. In addition, the FBI stated that we failed to apprise it of our findings and recommendations.

We conducted our audit in accordance with generally accepted government auditing standards and presented the evidence supporting our compliance with audit standards to the FBI. In the December 10, 1987, discussion, however, the Deputy Assistant Director, Office of Program Evaluations and Audits, FBI Inspection Division, told us that the FBI still believes we did not conduct our audit in accordance with these standards.

According to the Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, p. 3, “an audit of a government entity may include all three elements [that is, financial and compliance, economy and efficiency, and program results] or only one or two.” Our audit scope primarily addressed economy and efficiency elements, with some emphasis on program results elements. We did not specifically state that we had conducted a program results review. Since the FBI’s voice privacy program is not legislatively mandated, we evaluated it against the FBI’s stated objective to pursue a 5-year digital voice privacy acquisition and implementation program for its 59 field offices. We also evaluated the FBI’s progress in providing complete DVP systems in each of the 36 field offices under contract by the stipulated completion dates and terms.

In terms of balance and perspective, the FBI stated that our report “dwells on the history of the cost estimates rather than whether actual costs were reasonable and the Government obtained value commensurate with its outlays.” It also alleged that we measured program progress against the contract terms, rather than voice privacy equipment availability and the results being achieved. We clearly state that the

was not feasible to prepare a formal plan for the DVP program, within time and manpower constraints. In follow-on discussions about their response to our report, FBI officials emphasized that DVP is a threat-driven system and told us that it was a management decision to go full speed ahead rather than plan.

We believe, however, that the FBI cannot afford to launch a project of this size and complexity without formal planning. The fact that the FBI must deal with a changing, threat-driven environment further emphasizes the need for proper management practices. The FBI Inspection Division, in conducting its review of the DVP project, also did not find any evidence of a long-range comprehensive DVP plan. In the resulting audit memorandum, the Inspection Division states that "major projects should have thorough and comprehensive long range plans and cost estimates, frequent management review and realistic implementation schedules."

9. The FBI appears to agree with our report on the point that costs for an integrated DVP system have not been fully determined. In the report, we acknowledged that the FBI had a study underway to estimate integrated voice privacy program costs in the Northeast region of the country.

10. The FBI appears to be agreeing with our statement that it accelerated implementation of the integrated voice privacy system without formally analyzing costs and alternatives. Although the FBI states that the case for an integrated system is "compelling and intuitively apparent," key DEA and USMS officials told us they had questions about the degree of interoperability needed and the best approach for achieving it in the law enforcement community. These officials also expressed concern about the technical, operational, and economical feasibility of a fully integrated system. While most officials said that having three agencies share the same voice privacy system sounds efficient and effective in theory, they emphasized that it may not be feasible in practice. For example, frequencies may not be adequate to implement the integrated system, as proposed by the FBI at the time of our review. In addition, the FBI's own system, which was to be the common carrier for DEA and USMS, is behind schedule.

11. In the context of our February 1987 report, the term cost overrun is not used in the contractual sense, but rather to indicate that costs have exceeded early estimates. In its response, the FBI says that it is "facetious to assert a cost overrun in a firm fixed-price contract." We believe that the FBI has taken the term cost overrun out of the context in which

cost estimates. As noted in comment 1, we used the January 1982 memorandum that approved the voice privacy program, and the corresponding \$79.3 million estimate as the baseline for tracking program cost estimates. In this document, the FBI recognizes that “the major drawback to digital voice privacy is the loss in range compared to analog. This will require systems engineering upon implementation.” The supporting enclosures that address technical and economic considerations show an operating range loss for DVP, but do not address or quantify the impact of this reduction on the amount of fixed equipment or the system cost.

In a follow-on discussion, a key FBI official who is knowledgeable about the voice privacy cost estimate process told us that the FBI did not consider range loss in the \$79.3 million estimate and emphasized that an engineering consultant firm developed the estimate as part of a comparison of analog versus digital voice privacy technologies. According to this official, range loss was not seriously considered until the FBI prepared the \$132.4 million estimate. The FBI says that its methodology for developing the \$132.4 million estimate included doubling the number of repeaters to compensate for the DVP range loss.

FBI documentation shows that the cost growth from \$132.4 million to \$204.4 million also included some adjustments related to range loss. In a January 18, 1984, memorandum from the Deputy Assistant Director, Technical Services Division, to the Assistant Director, Administrative Services Division, the FBI updated its DVP program cost estimate to \$204.4 million. In this document, the FBI recognized that it needed a different approach for estimating DVP costs, and applied a new methodology in developing the \$204.4 million estimate. In the new methodology described in the document, the FBI considered the following:

“The Motorola DVP/DES [Data Encryption Standard] system has a loss in range as a penalty for the effectiveness of the digital voice privacy. Experience in the six cities has demonstrated that to equal the existing geographic coverage, there is an 80%-100% increase (emphasis added) in so called fixed station equipment (e.g. repeaters, cross-band sites, and backbone equipment).”

Adjusting the voice privacy program cost estimate to account for the DVP range loss was one reason why the FBI’s cost estimate increased from \$79.3 million to \$204.4 million.

7. The FBI appears to agree with our statement that the DVP program is behind its original completion schedule, but it also alleges that we do not give it credit for some offices that received systems ahead of schedule,

that the FBI cites for increasing its cost estimates (e.g., new modus operandi, additional coverage, and expanded operations)² are essentially the same reasons that we include in our report.

In an attachment to the Inspection Division audit memorandum, the FBI's Technical Services Division states that, as of February 26, 1982 (over a month after the January 13, 1982, FBI memorandum initiating the DVP program at a cost of \$79.3 million), the FBI did not foresee "a need for functionality or coverage beyond the existing field office systems." The attachment goes on to quote a 1982 note from the then DVP Program Manager to the Assistant Director, Technical Services Division, which states that "this (the DVP program) will be a total office exchange of equipment. . . . The current strategy is to replace equipment in the offices prioritized by [the Criminal Investigative Division]. . . ."

The FBI's position, however, continues to be that we (1) inaccurately say that the early cost estimates were based on a one-for-one replacement of the unsecure radio system, and (2) rely on hearsay evidence. The source of our statement about a one-for-one replacement of the unsecure radio system is not hearsay evidence as asserted by the FBI, but our evaluation and interpretation of documentary evidence (see comment 23 for a full discussion of this issue).

4. According to cost documents, the FBI based its early DVP cost estimates on an assumption that the cost of the Los Angeles system could be projected nationwide. For example, a January 18, 1984, FBI memorandum says that while the \$132.4 million was a "good faith estimate based only on the Los Angeles Division, and was the best estimate available at the time, it was still an extrapolation from a population of one to a population of 59 plus the Quantico Training Facility." In an attachment to the Inspection Division's audit memorandum, the FBI states that the \$132.4 million estimate was "hastily prepared to meet the short deadline of an unexpected funding opportunity." In addition, some of our disagreements regarding field office differences seem to stem from the fact that we used \$79.3 million—not \$132.4 million—as the first DVP cost estimate.

Other cost documents further support our statement that the FBI's early DVP estimates were based on the cost of the Los Angeles system, without considering the needs of the individual field offices. In an October 1983

²FBI comments, p. 16.

14. Our main point in this section of the report is that analyzing alternative system configurations and procurement approaches can be helpful in implementing a program that will achieve its objectives in an efficient, economical manner. The FBI's 1979 to 1981 research addressed alternate technologies to achieve voice privacy, and resulted in the FBI selecting digital, rather than analog, voice privacy technology for its nationwide system. Our audit work did not show any evidence that the FBI formally identified and analyzed alternatives for procuring and implementing the digital voice privacy system. In addition, our report referred to analyses of alternatives for the entire digital voice privacy system—not one specific procurement or equipment installation, as interpreted by the FBI.

15. The FBI says that the missing contract file has been located and we are reviewing it as part of our follow-on work.

16. We noted that the FBI had not been able to provide us with projections for the cost to complete all work under the contracts. We had asked for this information because, as of February 2, 1987, the Bureau had already obligated \$176.5 million under the four existing contracts with Motorola. As of that same date, the FBI had accepted systems as complete in only 3 of the 36 field offices covered by the contracts and, according to FBI officials, installations had begun or were in process in only 11 of the remaining 33 field offices. Given this status, we wanted to know how much money the FBI estimated it would need to complete DVP systems in all 36 offices. The FBI's DVP Program Manager told us that predicting the additional dollars and time needed to complete work in field offices under contract was very difficult. Key factors—such as the availability of needed sites, the ability of the FBI to obtain needed sites, the availability of needed frequencies, and the differences in field office requirements and operations—can limit the FBI's ability to complete voice privacy systems within original cost and milestone estimates. As we noted previously in this report (see comment 2), the FBI has predicted it will cost \$205.8 million to finish all 59 field offices, even though \$176.5 million had already been obligated as of February 2, 1987.

We continue to question the validity of the FBI's assumption that no future unanticipated requirements will occur, given the history of the program and the fact that the firm fixed price of each contract has consistently increased to reflect contract modifications. For example, our follow-on audit work shows that since our report was issued in February 1987, the FBI has issued an additional 26 modifications, valued at \$6.3 million, to the existing contracts. These changes bring the total

of the \$67.8 million for these 23 field offices through contract modifications, it would still need an estimated \$50.3 million of equipment to complete these 23 offices—assuming no further increases in the existing contracts. By adding this \$50.3 million to the \$176.5 million that had already been obligated as of February 2, 1987, the total estimated cost of the FBI's internal voice privacy system would be closer to \$226.8 million. Even this figure may be somewhat low since only 3 of the 36 field offices currently under contract had DVP systems accepted as complete by the FBI, at the time of our report in February 1987. As a result, we believe that the \$204.4 million estimate for the nationwide voice privacy program appears to be unrealistic.

The Inspection Division audit memorandum further supports these calculations by stating that “the most current estimate of the total cost of DVP is \$226.8 million less ‘anticipated savings’ of \$21 million for a total of \$205.8 million . . .” In a subsequent discussion on September 14, 1987, DVP program management officials told us that \$205.8 million is the current FBI estimate for acquiring and implementing full DVP systems nationwide. According to the DVP Program Manager, the FBI arrived at the \$205.8 million estimate through the calculations presented in the following table (see table I.1). An attachment to the Inspection Division audit memorandum included this same information.

Table I.1: Status of the FBI's \$204.4 Million DVP Estimate

Dollars in millions	
Description	Estimate
Amount obligated for DVP contracts covering 36 field offices, as of 2/87	\$176.5
FBI estimate of obligated DVP contract funds used to pre-purchase DVP equipment for special events coverage in 23 FBI field offices not yet under contract	-17.5
Subtotal	\$159.0
FBI estimate for supplying these 23 field offices with DVP equipment Estimate includes the \$17.5 million listed above	67.8
Subtotal	\$226.8
FBI's projected savings from using new technology and reducing the number of base stations and repeaters in the 23 field offices.	-11.0
Subtotal	\$215.8
FBI's projected savings from sharing microwave systems with other entities in the 23 field offices	-10.0
Total current FBI estimate for implementing DVP systems in all 59 field offices	\$205.8
Previous FBI estimate for implementing DVP systems in all 59 field offices.	-204.4
Difference between current and previous DVP system cost estimate	\$1.4

Following is GAO's evaluation of the FBI's May 11, 1987, response.

GAO Evaluation

1. Our evidence for using \$79.3 million as the FBI's initial cost estimate for its DVP program is a January 13, 1982, memorandum where high-level FBI officials approved recommendations to (1) discontinue all current development work on analog voice privacy, and (2) pursue a 5-year digital voice privacy acquisition and implementation program, beginning in 1982. In the memorandum, the FBI concluded that the most beneficial option would be to (1) equip the FBI's Los Angeles office and the existing surveillance squads nationwide, and (2) implement an incremental annual program until full voice privacy is attained. The FBI estimated that the cost for equipping Los Angeles and the surveillance squads with DVP equipment would be \$8.1 million, with a total program cost of \$79.3 million.

The FBI's former Executive Assistant Director for Administration and the Assistant Directors of three FBI divisions—the Technical Services Division, Criminal Investigative Division, and Administrative Services Division—signed and approved the recommendations. The FBI then began implementing the voice privacy program according to the approach described in the January 1982 memorandum. On September 21, 1982, the FBI awarded the first DVP contract for \$13.1 million, to provide the Los Angeles field office with a DVP system and supply DVP equipment to 19 surveillance squads.

In its response, our initial follow-on discussions, and the Inspection Division audit memorandum, the FBI said that its first estimate for the DVP program was \$132.4 million—which it calculated immediately after award of the first DVP contract—not the \$79.3 million cited in our report. According to the FBI, the \$79.3 million estimate was made by an engineering consultant firm and was never intended as a definitive cost projection, serving merely as a basis for comparing existing analog technology with a digital system.¹ FBI officials also emphasized in our follow-on discussions that the first DVP program estimate it communicated to the Congress was \$132.4 million; consequently, the FBI stated that this figure represents the initial program estimate.

¹As of January 4, 1988, FBI officials were unable to provide us with any documentation to support their statements that an engineering consultant firm developed the \$79.3 million estimate.

Appendix
Agency Response and GAO Evaluation

In the first sentence of its letter to Chairman Edwards, GAO stated, "...We are evaluating the Federal Bureau of Investigation's (FBI) voice privacy program."

Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, by the Comptroller General of the United States, 1981, at Page 3: "Program results--Determines (a) whether the desired results or benefits established by the legislature or other authorizing body are being achieved and (b) whether the agency has considered alternatives that might yield desired results at a lower cost."

The report is silent on the issue of benefits and adopts an inconsistent tack on the matter of considered alternatives (i.e., it asserts that alternatives were not considered, but cites a multi-year effort at the inception of the program when this was precisely the activity being conducted and its appendices note our concerted effort with the contractor to reduce costs). Not reported, were our retaining the Institute for Defense Analyses for a thorough review of costs and our subsequent use of that information to clarify contractor charges. To compensate for the report's silence on system benefits, we have, on Page 2, given an abridged enumeration of typical, specific benefits achieved which portray DVP's value across a broad spectrum of FBI cases, especially in the critical, national priority area of narcotics investigations, where exploitation of unprotected radio communications is commonplace.

The GAO report lacks balance and proper perspective. It dwells on the history of the cost estimates rather than whether actual costs were reasonable and the Government obtained value commensurate with its outlays. GAO's own standards are clearly set forth:

Standards for Audit of Governmental Organizations, Programs, Activities, and Functions, supra, at Page 10: "The report shall include...a description of noteworthy accomplishments, particularly when management improvements in one area may be applicable elsewhere," and at Page 15: "Auditors are not required to express an opinion of the effectiveness of a program. However, the auditors should state their conclusions about the effectiveness of the program."

Reasons proffered by GAO for the original cost underestimates are based upon hearsay, when direct evidence was available, and are factually in error. Analysis would have disclosed cost drivers and permitted their quantification (which we have done - See Pages 4 and 5).

GAO's statements concerning the program's progress concentrate upon formal acceptance of a complete system and the number of offices contracted versus the total number of FBI offices, without determining what equipment is available, the breadth of its availability, and what results are being achieved. We suggest a more appropriate statistic is the fact that FBI offices containing 84% of our Special Agent force now have sufficient DVP radios to perform their mission more effectively and our Special Operations Groups--the single most important client--have been fully DVP equipped since 1985. Additionally, all offices with DVP are making substantial, effective use, even though installation completion is pending.

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Agency Response and GAO Evaluation

contract files.

See comment 15.

- (i) "The FBI Contract Staff could not locate one of the Motorola contracts...."

The contract file that could not be located at the time of audit has been located and is available for GAO to review.

See comment 16.

- (2) Appendix III - Overview of FBI Digital Voice Privacy Contracts

- (a) GAO states the FBI was unable to project "the cost to complete each of the contracts."

Again, it is to be noted that none of the Motorola DVP contracts are cost-type contracts, but rather firm fixed-price contracts. Therefore, assuming that no future unanticipated requirements occur, the firm fixed price of each contract will remain at the current firm fixed price.

See comment 17.

- (3) Appendix III - Table III.1

- (a) GAO has listed a category "Status" which shows the Allison contract as open (still active).

System acceptance under Allison was on April 14, 1985, which GAO notes in Appendix IV, Page 16. Therefore, this contract was closed on that date.

See comment 18.

- (4) Appendix IV - Page 16 - Contract Status

- (a) GAO states that although the FBI considers the Los Angeles Voice Privacy System to be fully operational, four radio sites still have not been installed.⁸ GAO further states that FBI officials noted..."further work at these sites will be funded through the Allison contract...."

This is an incorrect statement inasmuch as the FBI will perform all installations at these sites since (as GAO has pointed out on Page 16 of the Appendices) Modification 10 to the Allison Contract relieved Motorola of any additional responsibility for these sites.

See comment 19.

- (5) Appendix IV - Page 17

- (a) GAO makes reference to Modification 1 which added funding of \$112,258. A note by GAO

⁸ The requirement for these sites arose after the initial plan and resulted from a need to improve coverage in areas where intensive narcotics operations are being conducted.

Appendix
Agency Response and GAO Evaluation

Because of this effort, additional benefits are accruing to the Government (e.g., the Department of Justice is sponsoring development of a standard interface for DVP systems so that in the future one company's product will communicate with another's. This will promote competition which does not now exist since the systems being marketed by individual companies cannot inter-operate).

CONTRACT ISSUES

For the reasons stated below, the assumptions and conclusions stated in the Warren G. Reed letter to Chairman Edwards are not supported by the Appendices, even assuming that all of the representations in those Appendices are correct. Further, the Appendices themselves contain inaccurate and faulty empirical data, including, but not limited to, cost data which can be disproven in an objective review of the facts.

This portion of the FBI's response is divided into two parts: The first will discuss the internal contradictions between the letter to Chairman Edwards and the Appendices upon which the letter was allegedly based. The second will review the various contractual findings of the report which can be demonstrably proven inaccurate.

Letter is not Supported by the Appendices Findings:

The letter uses terminology that is contrary to GAO's own customary and normal usage, is unsupported by the Appendices, and asserts findings that are contradicted in the Appendices.

See comment 11.

- (a) The letter states that the FBI has "encountered significant delays and cost overruns...." (Page 5)

The Appendices state that the FBI has, to date, awarded four DVP contracts. They further state that each was "a firm fixed-price contract." (Pages 14, 18, 21, and 25) GAO has stated in numerous decisions that in these types of contracts the full responsibility for costs above or below the fixed price are borne by the vendor and not the Government. See: Matter of: Taylor Lumsden Company, et. al, B-203855.7 dated September 18, 1984. Therefore, by GAO's own use of that term, it is facetious to assert a cost overrun in a firm fixed-price contract.

See comment 12.

With respect to options, the letter continuously questions the FBI's exercising of certain legitimate options. In particular, GAO has questioned whether the FBI was correct in exercising the purchase option clause under one contract when the equipment was designated for a location, "other than that covered by the contract." The purchase option clauses which were written for each contract specified allowance for the FBI to purchase additional quantities of equipment listed in the contract at the originally negotiated price. The purchase option clause does not put any

most cost effective in accommodating multiple audio channels, offers an increased level of security, and possesses superior audio quality and reliability. We also considered, but rejected, the use of satellite-based terrestrial packet radio. Within manpower and time constraints, a full, published systems plan was infeasible. The FBI's DVP System is actually 60 individual systems, each of which must be independently engineered before cost and other data can be accurately forecast. The enormity of this task is not appreciated:

- Preparatory work at each office includes up to five FBI personnel who spend one full day consulting with the office's technical staff concerning the status of the present system and peculiarities (e.g., the number of reactive crimes, such as bank robberies, which require certain coverage and coordination with local/state law enforcement agencies) which impact upon system design, facilities management, frequency management, and system operations.
- One full day meeting with the office's management and supervisory personnel to establish present and future functional needs.
- Two full weeks with FBI Headquarters technical staff, the field's technical staff, and the contractor's staff to review the current system, identify potential design problems, and understand user needs. Each radio site must be visited.
- Following the above steps, the contractor(s) must perform the design phase, which includes topographical studies, computer simulations and profiles, base station control site and repeater location selections, and specific frequency plans. As a basis for comparison, on the Glod contract (specifying 17 offices), the contractor (after the steps enumerated above), deployed a dedicated work force of 36 professionals, full time for 90 days just to prepare its technical proposal. This manpower figure does not include management overhead or part-time assistance.

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See comment 5.

impact of different field office needs and varying terrain.

- Standard equipment. While the FBI's early estimates anticipated off-the-shelf DVP equipment, the Bureau later found that standard equipment did not meet its needs for additional communications channels and other special features. Consequently, the Motorola equipment supplied through the contracts is specifically designed and manufactured for the FBI.

- True, but overstated. Twenty percent or less of the equipment is nonstandard to any significant degree.

See comment 6.

- Technology limitations. The FBI recognized in its 1979 to 1981 research that the communications range of the DVP technology was less than the range of the old, unsecure system, but it did not consider the impact of this reduction. To compensate for the range loss, the FBI had to increase the number of base stations, repeaters, and microwave equipment by 80 to 100 percent.

- Totally in error because we did recognize range loss and did consider its impact. See footnote², page 3.

See comment 7.

• The DVP program is behind its original

• Credit is not given for some offices which received systems ahead of schedule (e.g.,

time and saves \$250,000 per office over digital control technology previously used. Savings of \$10.8 million are projected. It also facilitates multiple-agency use of a single repeater.

- Microwave sharing agreements with state, local, and other Federal agencies have been achieved in eight offices at a savings of \$7 million with additional savings envisioned for future such agreements.
- Frequency engineering (with contractual assistance from the Institute for Defense Analyses and Safe, Inc.) to permit more rapid planning and completion of systems.
- Option quantities clauses, which appear in all contracts, that reduce acquisition time and permit us to purchase equipment at prices fixed as long ago as two years.
- Contractual/consultant support from the Institute for Defense Analyses to analyze vendor proposals for cost variances requiring resolution with Motorola.

- Revision of the original cost estimate may be traced to four "incorrect assumptions":
 - Field office needs. According to the FBI, early cost estimates were based on a one-for-one replacement of the unsecure radio system, which was

- As noted, supra, GAO mistakenly considered the Hydrotronics consultant study, used to evaluate the relative costs of competing technologies, as the FBI's definitive estimate of total DVP costs. Inquiry of the individual who made the \$132.4 million original estimate, who was available but

See comment 3.

"incorrect assumptions," shows it was, in fact, only 4% in error, based upon current cost estimates for completion of the DVP system. Recognizing the limitations of forecasting based upon 1/60th of the overall system, additional data was gathered and upon award of the Bierman contract (for five of our largest offices) a new projection was made, resulting in a new estimate of \$198.6 million.⁴ The increase is attributable to:

- New modus operandi (e.g., the New York Office was entering narcotics investigations which, for the first time, required instantaneous communications among geographically dispersed surveillance squads--relaying of messages by a central dispatcher was no longer feasible. This substantially increased costs because of the types and number of repeaters required).
- Additional coverage (the FBI's mission, especially newly acquired narcotics jurisdiction, was necessitating coverage in areas previously not serviced).
- Expansion in the number of Special Operations Groups and creation of Drug Task Forces.

The increase from \$132.4 million to \$198.6 million was immediately examined on two fronts: the Institute for Defense Analyses was retained to scrutinize the Bierman contract to determine cost drivers and identify any unjustified cost increases; our in-house special studies group was tasked with identifying and quantifying benefits derived from increased coverage to assure that favorable cost-benefit ratios existed. Since 1983, the estimate for DVP has increased an additional \$6.1 million. A cost variance review discloses:

- \$45.4 million (63%) attributable to radio coverage increases, new functionality (e.g., voted repeaters; transmitter steering).

⁴ Evolving cost factors were used in anticipation of improved estimates based upon an increasing empirical data base and division-specific designs. Although the base from which the first estimate was derived was sparse, subsequent estimates became increasingly accurate as the experiential, empirical base increased.

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Agency Response and GAO Evaluation

enforcement mission,¹ presents an unbalanced and distorted picture.

¹ Among DVP accomplishments:

- Its first, large-scale tactical use occurred in Los Angeles just prior to the 1984 Summer Olympics when Federal, state, and local agencies executed search and arrest warrants against a major West Coast narcotics operation which was geographically dispersed. The actions came as a surprise to the subjects and the media, which heretofore monitored our communications. Both were unaware that any action was imminent.
- During the past nine months, our largest field office has made fifteen major organized crime arrests. All have been successfully carried out without concern for subjects' monitoring of our radio transmissions; local police have experienced subjects' interception of police communications which lacked this protection. Availability of the system has permitted unobstructed handling of major extortion and kidnaping cases where formerly the electronic media had arrived at drop sites, placing in jeopardy the safety of our agents and the lives of the victims.
- A hijack training exercise has just been successfully completed in concert with the Federal Aviation Administration (FAA). In the past we have experienced media disruption of these exercises. This time, with DVP, the media intercepted the unprotected FAA ground-to-plane transmissions, but were unable to hear ours.
- The Hostage Rescue Team (HRT) was charged with arresting twelve members of a neo-Nazi hate group which occupied a compound fortified with heavy armament and explosives. The compound also contained advanced communications equipment which was used to monitor law enforcement frequencies. Using DVP, the HRT was able to position its personnel so as to monitor the group's movements covertly and choose the most propitious time to strike. This was especially important since the compound also contained women and children. The operation was conducted without incident.
- Additional cases brought to FBI Headquarters' attention where investigative effort was successful despite subjects' use of scanners are:
 - Narcotics cases in Dallas, including one which resulted in 35 indictments and another in 13 convictions.
 - Narcotics cases in San Francisco and Buffalo.
 - Bank robbery cases in Boston and San Francisco, the latter involving the violence prone Aryan Nations organization.
 - Dangerous arrest conducted by the Special Weapons and Tactics Squad in Los Angeles.
 - The Richard Miller espionage case in which surveillance was successfully performed despite the fact that his Bureau automobile was equipped with a DVP radio. The surveillance team used unique cryptographic key which precluded his interception and knowledge of the surveillance.

Cases in which the FBI has enjoyed freedom of operation during critical investigations include major kidnapings in the Miami and Washington Divisions, a hijacking in the Miami Division, bank robberies in Pittsburgh and San Francisco (the latter resulting in the apprehension of two Top-Ten Fugitives), and a Top-Ten Fugitive case in Las Vegas.

Agency Response and GAO Evaluation

Note GAO's evaluation appears at the end of this appendix



U.S. Department of Justice

Federal Bureau of Investigation

Office of the Director

Washington, D.C. 20535

May 11, 1987

Honorable Charles A. Bowsher
Comptroller General of the United States
General Accounting Office Building
441 G Street
Washington, D.C. 20548

Dear Chuck:

I am enclosing an analysis of your February 1987, report, entitled "FBI Voice Privacy: Cost, Status, and Future Direction," which we submitted to Congressman Don Edwards in connection with his request that we respond to certain questions and suggestions contained in the report.

Executive Branch Agencies and Congress can profit from independent review of major programs such as this when the audit is performed in accordance with generally accepted audit standards and reported accurately. Our differences with this GAO report are set forth in the enclosed analysis and I believe that many of them could have been resolved if we had been apprised of the Auditors' findings, conclusions, and recommendations prior to the report's publication.

Sincerely,

William H. Webster
Director

Enclosure

1 - Honorable Don Edwards
Chairman, Subcommittee on
Civil and Constitutional Rights
Committee on the Judiciary
House of Representatives
Washington, D. C. 20515



Bicentennial of the United States Constitution (1787-1987)

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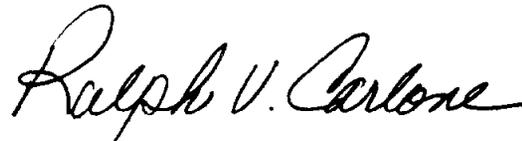
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Abbreviations

DEA	Drug Enforcement Administration
DVP	Digital Voice Privacy
FBI	Federal Bureau of Investigation
GAO	General Accounting Office
IMTEC	Information Management and Technology Division
USMS	United States Marshals Service

As arranged with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution of it until 30 days from its issue date. At that time, we will send copies of this report to the Chairmen, Senate and House Committees on Appropriations, House Committee on Government Operations, and Senate Committee on Governmental Affairs. We will also send copies to interested parties and make copies available to others upon request.

Sincerely,

A handwritten signature in black ink that reads "Ralph V. Carlone". The signature is written in a cursive style with a large initial 'R'.

Ralph V. Carlone
Director

addition, the FBI emphasizes that GAO did not give it a copy of the report for advance review and comment.

We did conduct our audit of the FBI's voice privacy program according to generally accepted government auditing standards, and we presented the evidence supporting our compliance with government auditing standards to the FBI. In the December 10, 1987, discussion, the Deputy Assistant Director, Office of Program Evaluations and Audits, FBI Inspection Division, told us that the FBI still believes we did not conduct our audit in accordance with these standards.

The FBI's response alleged that we did not prepare our report according to guidance for program results reviews. According to governmental standards, an audit of a federal entity may include the following three elements: financial and compliance, economy and efficiency, and program results. The standards further emphasize that an audit may include only one or two of these elements.² Our audit scope primarily addressed your questions, which focused on the economy and efficiency elements of the DVP program, with some emphasis on program results. Since the FBI's voice privacy program is not legislatively mandated, we evaluated its status against the FBI's stated objective to pursue a 5-year DVP acquisition and implementation program for its 59 field offices. We also evaluated the FBI's progress in providing complete DVP systems in each of the 36 field offices under contract by the stipulated completion dates and terms.

In terms of balance and perspective, the FBI said our report "dwells on the history of the cost estimates rather than whether actual costs were reasonable and the Government obtained value commensurate with its outlays." It also noted that we measured program progress against the contract terms, instead of against voice privacy equipment availability in the FBI field offices and the results being achieved. We clearly stated that our audit objective was to report on the history, cost, and status of the FBI's voice privacy program. Consequently, the scope of our work focused on the cost of the DVP program and the process which the FBI has followed in acquiring, managing, and implementing its DVP program. As noted above, we evaluated program status against the FBI's stated program objectives and the terms of the voice privacy contracts. The FBI specifically contracted for—and is paying for—complete DVP systems in

²Standards For Audit Of Governmental Organizations, Programs, Activities, and Functions, 1981 Revision, pp. 3, 12.

It calculated this estimate immediately after awarding the first DVP contract, which provided a voice privacy system for one field office and equipment for 19 surveillance squads. Because \$132.4 million was the first estimate that it communicated to the Congress, the FBI said that this figure represented the first official DVP program cost estimate.

Our evidence for using \$79.3 million as the FBI's initial cost estimate for its voice privacy program is a January 13, 1982, memorandum, where the former Executive Assistant Director for Administration and the Assistant Directors of three FBI Divisions—the Technical Services Division, Criminal Investigative Division, and Administrative Services Division—signed and approved a recommendation to pursue a 5-year DVP acquisition and implementation program, beginning in 1982, at a total cost of \$79.3 million. While we recognize that the FBI later increased this estimate to \$132.4 million after awarding the first voice privacy contract, the fact remains that the FBI approved and initiated the program—and awarded the first multi-year DVP contract for \$13.1 million—at the time the \$79.3 million cost estimate was in effect.

Consequently, we believe that \$79.3 million is the appropriate starting point for tracking voice privacy program cost estimates and the subsequent cost increases. In addition, we believe that making realistic cost estimates—and informing Congress of these estimates—before awarding contracts for a multi-year, multi-million dollar, nationwide program is essential for sound agency management and effective congressional oversight.

In the December 7, 1987, discussion, the FBI's Executive Assistant Director for Administration acknowledged that, while \$132.4 million was the first DVP estimate communicated to the Congress, \$79.3 million was the first estimate used by the FBI to initiate the DVP program.

Alleged Errors in the Report

The FBI's May 11, 1987, response characterized many of our statements in the report as erroneous, particularly in the areas of cost estimate revisions and contract-related issues. In terms of cost estimate revisions, our report said that the FBI attributed the increases in its cost estimates to incorrect assumptions about field office needs, field office differences, use of off-the-shelf equipment, and technology limitations. In its response, the FBI disagreed with this statement and cited additional reasons for increasing its cost estimates.

(2) alleged errors in our February 1987 report, and (3) compliance with generally accepted government auditing standards. The appendix includes the FBI's May 11, 1987, response in its entirety and our point-by-point evaluation of the response. As summarized below, the FBI has since changed its position on a major area of disagreement, but has offered no substantive evidence to support the remaining allegations. We stand by the findings, conclusions, and questions in our February 1987 report.

Background

During the week of May 26, 1987—shortly after receiving the FBI's May 11, 1987, response to our report—we requested a meeting with high-level FBI officials to discuss their comments, present the evidence and logic supporting our report, and attempt to resolve areas of disagreement. In the months that followed, we had numerous contacts and discussions with FBI staff to arrange the meeting and handle other access-related problems and delays. Finally, on August 13, 1987, we met with FBI officials to discuss their response and resolve key issues.

The August 13, 1987, meeting marked the beginning of formal discussions about the evidence supporting our report and our request that the FBI reconsider its official position after hearing our evidence. During the period of August 17 through September 9, 1987, we held additional meetings with FBI officials; discussed the evidence supporting our report and our reasons for taking exception to key points in the FBI's response; and reiterated our request that the FBI reconsider its response, given the evidence we provided.

On October 21, 1987, the FBI responded to our request by giving us an audit memorandum, "Review of Digital Voice Privacy Project," dated June 5, 1987. The FBI stated that this document constituted its official position on our report. The FBI Inspection Division had prepared this memorandum to respond to the former Director's concerns about the costs of the voice privacy project and the FBI's ability to accurately forecast these costs. These concerns surfaced as a result of issues raised in our February 1987 report. In the audit memorandum, which was prepared before the meetings where we discussed the evidence supporting our report, the Inspection Division concluded that the FBI had neither developed realistic cost estimates nor developed long-range plans for the voice privacy project. Accordingly, the Inspection Division recommended that the FBI (1) make thorough, comprehensive, and realistic cost estimates an integral part of any project from its inception to its

