United States General Accounting Office

GAO Testimony

For release
on Delivery
Expected at
10:30 a.m. EST
Thursday
August 1, 1991

U.S.-Korea Fighter Coproduction Program--the F-16 Version

Statement of
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Before the
Subcommittee on Arms Control, International
Security and Science
Subcommittee on Asian and Pacific Affairs
Committee on Foreign Affairs
House of Representatives

Mr. Chairmen, Members of the Subcommittees:

I am pleased to be here today to discuss the results of our preliminary work on the F-16 version of the Korean Fighter Program. We have previously reviewed various aspects of this program--the first review resulted in testimony,[1] and the second resulted in a classified report on the proposed F/A-18 program. In December 1989, Korea selected the F/A-18, and in October 1990, the U.S. and Korean governments initialed a Memorandum of Understanding (MOU) on the program. In November 1990, however, Korea announced it was reevaluating its decision to select the F/A-18, and in March 1991, Korea announced the selection of the F-16 instead.

In April 1990, we testified that although Korea has a military need for the fighter aircraft, the Koreans' desire for a coproduction program has been driven by their aerospace industrial development goals and interests. This F-16 program, which is similar to the proposed F/A-18 program, involves three phases: the Koreans' purchase of 12 F-16s off the shelf, purchase of 36 knockdown kits for assembly in Korea, and commercial licensed production of 72 F-16s in Korea.

We initiated this review based on two separate requests from the House and Senate. We were asked to examine (1) events and factors

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[1]U.S.-Korea Fighter Coproduction Program, (GAO/T-NSIAD-90-29, Apr. 4, 1990).

leading to the reevaluation of the F/A-18 decision and selection of the F-16, (2) the government-to-government and commercial agreement provisions, (3) technology transfer decisions and the basis for those decisions, (4) interagency meetings and reviews, (5) U.S. government assessments of the program's impact on the U.S. industrial base, (6) U.S., Korean, and other countries' work shares, and (7) commercial offsets[2] being proposed, including codevelopment of a trainer aircraft. Our work is in the preliminary stages and we have been told that--except for the airframe--a great deal of the program's work share and subcontracting arrangements on the F-16 systems have not yet been worked out. In fact, as of July 30, the Koreans had not announced the selection of an engine, jammer, inertial navigation system, or identification friend or foe system.

SUMMARY

-- Delays in negotiating the program, price increases, and political factors contributed to the Koreans' reevaluation of the original decision to select the F/A-18. The price and possibly other factors led to the selection of the F-16.

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[2]The term "offsets" covers a range of commercial compensation practices that foreign governments require U.S. firms to undertake in exchange for weapons sales. Offsets may include coproduction, technology transfer, or countertrade.

-- During the May 1991 MOU negotiations, the Defense Security Assistance Agency (DSAA) generally improved two key MOU provisions, but an additional change made during those negotiations might have created a technical weakness in one provision. We are still examining the effect of the change.

-- When compared with the F/A-18 arrangements, a number of details on specific parts the Koreans may or may not produce on a number of systems of interest have not yet been determined or well documented.

-- The U.S. Air Force's assessment of the program's impact on the U.S. industrial base has methodological problems and includes questionable data. We are still trying to resolve those problems and reconcile the data.

-- While more U.S. jobs will result with the sale than without the sale of the F-16, Korea will be manufacturing most of the airframe for the last 72 aircraft. For the first 48 aircraft, U.S., Korean, and other countries' work shares have not yet been worked out. Unless General Dynamics "fences off" the first 48 Korean fighters, however, the airframes are likely to contain European and other foreign parts and components.

REEVALUATION OF THE F/A-18 AND SELECTION OF THE F-16

A number of factors contributed to the Korean reevaluation of the decision to select the F/A-18 for the Korean Fighter Program. Cost was a primary factor. Delays in selecting an aircraft and in negotiating the program, Korea's desires for a larger work share, and the inflators initially used in pricing the program led to an increase in the U.S. price. The November 1988 pricing data that Korea used to make its initial decision was roughly estimated. In addition, more realistic inflators were used in the August 1990 pricing. Also, between November 1988 and the August 1990, presentation of the draft Letter of Offer and Acceptance, the version of the F/A-18 for the program moved from Lot 14 to the higher cost Lot 16. Moreover, according to DOD officials, a change in Korean defense ministers and, subsequently, certain other key defense ministry personnel negatively affected support for the F/A-18 within the Korean government.

During the recompetition in January and March 1991, both the U.S. Navy and Air Force made price presentations to the Koreans. It is generally acknowledged that the F-16 was always the less expensive alternative for the Korean Fighter Program. We are still analyzing and evaluating the various pricing packages, the different methodologies the military services used to calculate the prices, and their effects.

MOU PROVISIONS GENERALLY IMPROVED BUT TECHNOLOGY TRANSFER DECISIONS REMAIN

The specific provisions of the government-to-government MOU, the side letter on offsets, and the annex to the MOU covering technology transfers are classified. As a result, our discussion in this hearing is limited to broad generalization. In our classified report on the F/A-18 program, we suggested that DSAA strengthen MOU provisions regarding third-party transfers and verification of quantities of Korean Fighter Program items produced in Korea and their disposition. DSAA did improve the provision on verifying production quantities and made a change to strengthen the third-party transfer provision. However, we are now evaluating an additional change made to the third-party transfer provision during the May 1991 negotiations to determine the extent to which the restrictions may have been technically weakened. DSAA believes that the change does not weaken the restrictions on third party transfers.

As in the F/A-18 program, the classified annex to the MOU designates the procurement method authorized--that is, government-to-government Foreign Military Sales (FMS), commercial sales, and licensed production--for each item on a detailed but not comprehensive list of F-16 structures and systems. Like the annex to the F/A-18 MOU, this annex can be misleading as to what specific parts of a given system can and cannot be produced in Korea either under license or as a subcontractor to U.S. industry. For example,

as we reported in March 1991, although the annex may designate certain equipment for FMS purchase only, Korean firms may compete for subcontracts on certain portions of that equipment. On the other hand, sensitive parts on some items designated for licensed production may not be released for licensed production in Korea.

Unlike the F/A-18 program, for a number of systems, the specific parts that Korea will be authorized to produce are either not yet determined or not well documented. This may be the case because of the differences in the U.S. and Korean negotiating postures on this program and the limited time permitted for review within the Department of Defense for analyzing and formulating detailed U.S. positions on what could be authorized for production in Korea. As a result, unlike the F/A-18 program, we have been unable to fully evaluate the technology transfer decisions on this program in any detail. The Air Force is currently drafting specific positions on technology transfers for the Delegation of Disclosure Authority Letter, which is the Defense Department guidance on releasability.

INTERAGENCY COORDINATION OCCURRED

Between the Korean announcement of the F-16 selection in March 1991 and the MOU negotiations in May 1991, interagency meetings occurred at the action officer level to coordinate various positions on the MOU and the annex and to exchange information. Representatives from the Departments of State and Commerce, the

Defense Technology Security Administration, and DSAA met weekly. In addition, a Commerce Department representative was present during the MOU negotiations.

U.S. GOVERNMENT INDUSTRIAL BASE ASSESSMENTS ARE PROBLEMATIC

As required by the Fiscal Year 1989 Defense Authorization Act (10 U.S.C. 2504) and the Defense Department's implementing guidance, the U.S. Air Force Korean Fighter Program manager at Wright-Patterson Air Force Base prepared an industrial base factors analysis of the program. At least four versions of the Air Force analysis were prepared, both during the original competition and after the selection of the F-16 in March 1991. The four versions were done in May 1989, December 1989, April 1991, and May 1991.

While some other offices provided limited input, an industrial base analysis group at Wright-Patterson Air Force Base did not significantly contribute to the effort. An October 1989 Defense Department memorandum on an earlier version of the Air Force analysis indicated the analysis did not identify or address potential negative impacts on the U.S. industrial base or the extent to which the program might create a future competitor at the prime or sub-tier levels. On the basis of our examination of the current Air Force industrial base analysis, these issues remain unaddressed.

The assessment also appears to contain contradictions and inconsistencies, methodological flaws, and questionable data and assumptions. For example, the May 1991 version did not include some significant items known to be candidates for Korean licensed production, such as the engine, the general avionics computer, and the inertial navigation system. In addition, statements of U.S. content and benefits from the Korean Fighter Program are based on consultant studies that use unvalidated multipliers[3] to calculate labor hours and direct and indirect economic benefits of off the shelf F-16 sales. We are still examining whether it is valid to apply these assumptions and methodologies regarding an off the shelf sale to a licensed production program. Moreover, in view of the limited information available regarding work shares, which I will discuss later, we question the basis for the U.S. labor figures in the analysis. We plan to discuss these matters with the U.S. Air Force to resolve and reconcile the difficulties and questions we have with the analysis.

The 1989 authorization act requires the Defense Department to solicit and consider information and recommendations from the Commerce Department regarding the effects this and similar programs will have on the industrial base. The Commerce Department is doing

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[3]For example, the analysis states that every $1 billion in FMS generates roughly 35,000 manyears of direct employment. It then applies this multiplier to a $3 billion FMS value of the Korean Fighter Program to derive a figure for U.S. employment generated by the program. Neither we nor the Air Force could validate this multiplier. In addition, it is not clear that this method accounts for foreign content in the FMS portion of the program.

a limited, six-question survey of U.S. suppliers for the 55 items listed in the annex to the MOU and, to date, has received 23 responses. According to Commerce, the purpose was to assess whether involved U.S. companies had concerns and generally what the impact of the program would be on their work bases. Commerce officials told us they believe the survey shows that U.S. industry is satisfied with the program, but the survey results are not yet fully summarized. These officials told us they had reviewed and were satisfied with the U.S. Air Force industrial base analysis.

U.S. AND FOREIGN WORK SHARES IN THE PROGRAM ARE UNCERTAIN

For a number of reasons, U.S., Korean, and other foreign labor work shares in the F-16 Korean Fighter Program are uncertain at this time. Because the engine--roughly 24 percent of the basic flyaway cost of the F-16--and some other systems have not been selected and technology transfer and work shares have not been fully determined, information on the work shares on these systems is unavailable. Our work has focused on the airframe--roughly 31 percent of the basic flyaway cost of an F-16--and we are currently attempting to validate estimates on the U.S. labor work shares.

Unlike the F/A-18 program structure, which involved a gradual increase in Korean manufacturing tasks and work shares over the 120-aircraft program, the F-16 program is structured to provide the same level of the Koreans' work shares for the 49th aircraft as

will be in the 120th aircraft. We have determined that for all 72 F-16 airframes to be produced under license in Korea, only the F-1 fuel tank[4], the canopy frame, the engine inlet, and the radome will be manufactured in the United States. It should be noted that raw materials for the 72 airframes produced under license in Korea will also be supplied by General Dynamics.

Given the structure of this program, the opportunities for maximizing U.S. labor content in the airframe lie in the first 12 off-the-shelf aircraft and the 36 knockdown kits. However, U.S. government and General Dynamics offset commitments may limit these opportunities. For example, the European partners in the F-16 program have an entitlement to 15 percent participation in foreign customers' F-16s. According to a knowledgeable U.S. Air Force official, because of difficulty in fulfilling this commitment through foreign sales alone, European parts are also incorporated into U.S. Air Force F-16s. In addition, in making sales to numerous foreign countries, General Dynamics has entered into commercial offset commitments to buy various airframe parts, sub-assemblies, and assemblies made in those countries. As a result, in addition to airframe parts from Europe, airframe parts from Turkey (e.g., center and aft fuselages and wings), Israel (e.g., F-1 fuel tanks, horizontal and vertical stabilizers, and rudders), Indonesia (e.g., main landing gear doors and flaperons), Korea

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[4]This fuel tank is incorporated only in the F-16 C model. According to DSAA, 52 of the 72 F-16s to be produced under license are currently planned to be the C models.

(center sections and forward fuselage side panels), and Singapore (minor aft fuselage part) may be incorporated into a given F-16.

The flow and amount of foreign content vary for each aircraft on the General Dynamics production line, and precise percentages of foreign content are difficult to ascertain. However, unless General Dynamics makes a conscious business decision to "fence off" the first 48 Korean fighters from this flow of foreign content, they will likely contain European and other foreign parts. General Dynamics representatives told us that they have made no commitments to include other than European parts in the first 48 Korean fighter airframes. However, they could not guarantee that the first 48 planes would contain only U.S. and European parts.

SOME PROPOSED OFFSET PROJECTS POSE TECHNOLOGY TRANSFER AND LICENSING CONCERNS

As we testified in April 1990, the Defense and Commerce Departments intervened during the original competition between General Dynamics and McDonnell Douglas to limit the offsets to 30 percent of the contract value. During the recompetition, General Dynamics proposed several offset projects to the Koreans. The U.S. F-16 engine contractors--Pratt and Whitney and General Electric--have also submitted offset proposals to the Koreans and continue to compete for the sale. Specifics about the individual projects are business sensitive, but they do include a trainer codevelopment

project called the "KTX-2" and other aerospace industrial development projects to benefit Korean industry. Many of these projects involve aerospace engineering and technology transfers rather than future subcontract work on aircraft, as did the McDonnell Douglas package.

The Defense and Commerce Departments have examined the offset projects proposed by General Dynamics and the engine contractors. Several of the projects that General Dynamics told us the Koreans are most interested in have been flagged by the Defense Technology Security Administration as being of technology transfer concern. In fact, in May 1991, the Defense Technology Security Administration recommended deletion of and/or restrictions on some of the projects.

Nearly all the proposed projects would have to be licensed by either the State Department (as munitions list items) or the Commerce Department (as dual-use items). It is unclear whether the trainer codevelopment project would be licensed by State. However, several other projects of keen interest to Korea and of concern to the Defense Department might be licensed by the Commerce Department. These aerospace industrial development projects are described in generic terms and are not specifically related to F-16 or other weapons programs. Under current arrangements, license applications sent to Commerce would not be forwarded to the Defense Department for review and would be approved because, under the

Export Administration Act, Commerce officials have told us the Department of Commerce would not have the authority to deny the licenses. There are similar potential issues in certain engine offset proposals. We are still evaluating the Defense and Commerce Departments' offset package review processes.

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We did our work from May through July, 1991, and obtained information on the program in Washington, D.C., Wright-Patterson Air Force Base, Dayton, Ohio, and Fort Worth, Texas, from the Departments of Defense and Commerce, the U.S. Air Force, the U.S. Navy, General Dynamics, and McDonnell Douglas. We did not visit Korea because of the timing of the assignment and this hearing.

Mr. Chairman, this concludes my prepared remarks. I would be happy to answer any questions you may have.

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