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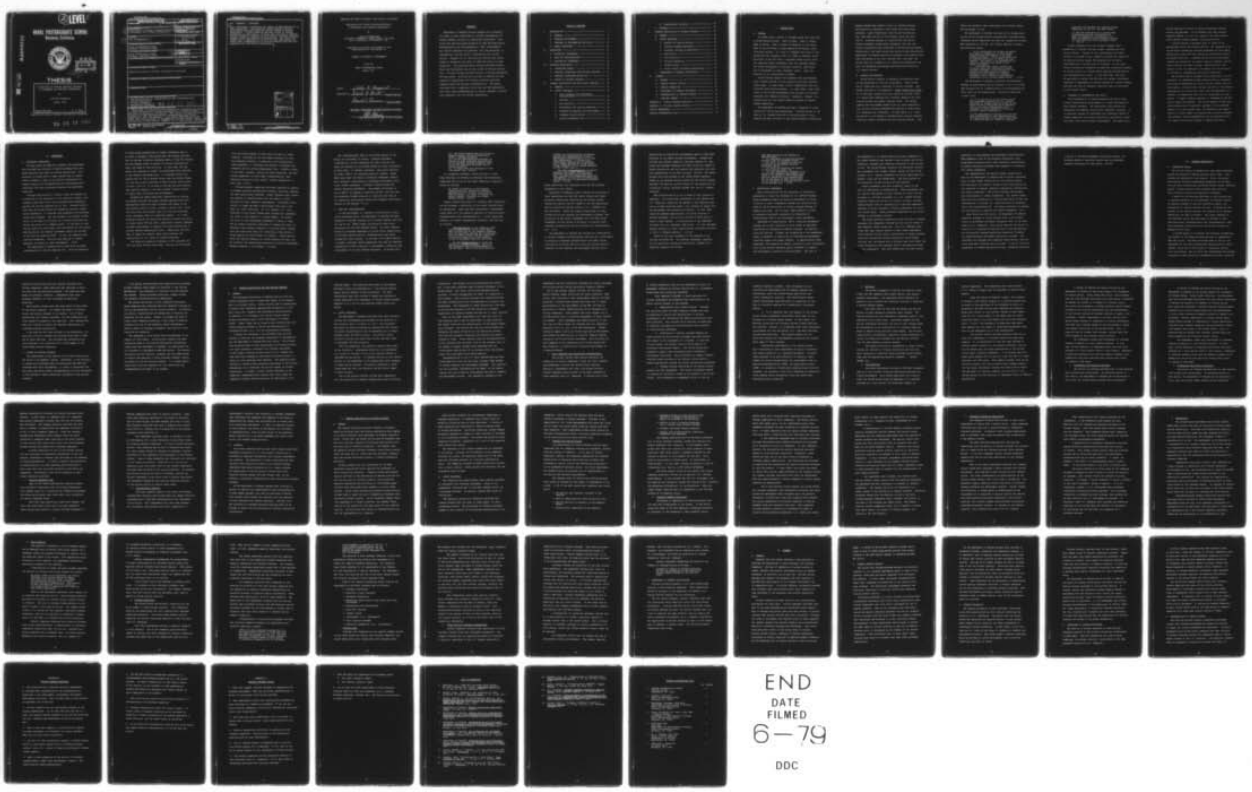

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THESIS

ACQUISITION OF FOREIGN PRODUCED PRODUCTS:
A GOVERNMENT AND INDUSTRY PERSPECTIVE

by

John Roy Bergquist

March 1979

Thesis Advisor: D. N. Burt

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Acquisition of Foreign Produced Products: A Government and Industry Perspective

by

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Submitted in partial fulfillment of the
requirements for the degree of

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from the

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ABSTRACT

Department of Defense project managers are increasing the scope of their operations to include consideration of foreign defense articles in acquisition strategies. This action has been motivated primarily by NATO Rationalization, Standardization and Interoperability (RSI) requirements. This thesis addresses the problems, real and perceived, in implementing "two-way street" transactions with allied nations. Members of U.S. Navy project offices were interviewed to determine the impact of NATO RSI policy on their operations. The questions asked revealed problems encountered and highlighted the pro/con biases of foreign acquisition. Private industry has been active in foreign purchasing for many years. A survey was utilized to identify private industry's experiences with foreign business practices, company biases and economic considerations. The thesis concludes with a comparison of private and DOD experiences and offers some recommendations to project managers involved with expansion into the foreign marketplace.

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I. INTRODUCTION

A. GENERAL

In recent years, labels in consumer goods have read like a United Nations roster. Made in Japan. Made in Israel. Made in Taiwan. Made in Mexico or Malaysia or Sri Lanka. Made in one of scores of other emerging and highly industrialized nations. It's hard to remember that prior to the Korean War the consumer lived in a "Made in America" world. Beginning in the mid 1950's, consumers moved quickly from the imported German Volkswagon "bug" and Japanese camera and stereo equipments to textiles, plastics, appliances and to thousands of other "everyday" goods. Today the American is an international consumer.

United States industry was somewhat more knowledgable about foreign sources for raw materials and small manufactured items. In some cases, certain commodities were only available from foreign sources. In other cases, lower labor costs in the foreign marketplace gave products an economic advantage over domestic products. Generally, however, U.S. industry did not look beyond domestic sources to acquire needed commodities.

The Department of Defense has been a neophyte in interfacing with the foreign marketplace. Although active in the sale of U.S. defense articles to allied nations, little impetus has been provided to look beyond domestic alternative

weapon systems when adding to the U.S. defense arsenal. This policy is ingrained in both legal and traditional practice. Legal constraints, such as the Buy American Act, have been the law of this country since the early 1930's. Although enacted in a period when the United States professed laissez-faire diplomacy, this act and similar legislation have continued to receive strong support, particularly from labor unions and certain trade associations. Department of Defense acquisition managers have probably also been influenced by the "not invented here" syndrome, the belief that only systems of U.S. design and manufacture can meet the demanding performance specifications required of U.S. weapon systems.

B. CHANGING ENVIRONMENT

United States industry is becoming increasingly aware of the advantages of foreign procurements. Lower prices are no longer the only incentive to buying overseas. Most buyers continue to "buy American", other things being equal. It is the other things which are increasing foreign trade! U.S. buyers have reported that overseas companies are more willing to meet the buyers' special needs. The foreign vendors have the needed capabilities or, more importantly, are willing to adjust manufacturing methods in areas where U.S. producers are inflexible. In some areas, U.S. industry may be in its infancy in manufacturing certain products which are readily available now from foreign sources. Some

buyers are becoming "more comfortable with foreign design and knowledge." [9:35]

The Department of Defense also has had to change acquisition policy to meet growing international considerations. President Carter emphasized the need for cooperation between NATO countries at the May, 1977 Summit Meeting in London. The President stated:

> As we strengthen our forces, we should also improve cooperation in development, production and procurement of alliance defense equipment. The alliance should not be weakened militarily by waste and overlapping. Nor should it be weakened politically by disputes over where to buy defense equipment.
>
> ...We must make a major effort--to eliminate waste and duplication between national programs; to provide each of our countries an opportunity to develop, produce and sell competitive defense equipment; and to maintain technological excellence in all allied combat forces ... [2:14]

The Department of Defense reinforced the President's message by promulgating policy guidance in 1977 to include NATO Rationalization, Standardization and Interoperability (RSI) goals in new acquisitions. The policy specifies, in part, that:

> (1) It is the policy of the United States that equipment procured for U.S. forces stationed in Europe under the terms of the North Atlantic Treaty should be standardized or at least interoperable with equipment of other members of the North Atlantic Treaty Organization.
>
> (2) The Department of Defense will actively seek standardization and interoperability of weapon systems and equipment within NATO on a priority basis in order to conserve

> resources and increase the combined combat capability of the U.S. and NATO forces.
>
> (3) The DOD components will include NATO standardization and interoperability goals as fundamental considerations in their development and procurement programs for both major and minor equipment items ... [8:1-2]

Project managers have been tasked to expand their operations to include "two-way street" transactions with allied nations. Instead of just interfacing with these nations in a seller's role, generally through the completion of foreign military sales, DOD agencies are now being challenged with a two-way flow of business. On one hand, project offices are attempting to meet the reciprocity demands of allied nations in a manner which enhances standardization and interoperability goals. At the same time, care must be exercised to ensure that DOD does not become irreversibly committed to dependency on foreign sources for certain defense articles and that an adequate industrial base is maintained in the United States.

C. PROBLEMS IN IMPLEMENTING DOD POLICY

The consideration of foreign defense articles to meet United States mission requirements is a major challenge for most project managers. The regulations which govern the acquisition of domestic articles are constantly changing. It is difficult enough for government and industrial staffs to ensure compliance with these regulations, particularly those that deal with socio-economic requirements. The application

of DOD acquisition policy to foreign purchases presents several new problems. It is probable that many foreign companies cannot, or will not, agree to the same restrictions imposed through domestic acquisition policy.

A certain amount of personal bias is likely to be encountered within DOD program offices. The superiority of United States technology has been professed for many years, particularly since the vast industrial mobilization during the Second World War. Although allied nations have demonstrated the capability to produce superior weapons, such as VSTOL aircraft and small caliber, rapid-fire guns, the inertia of the "Buy American" philosophy will be difficult to overcome in implementing new policy directives.

The problems project managers have encountered, or will encounter, in implementing NATO Rationalization, Standardization and Interoperability policy are the central foci of this thesis. Since private industry has been in the foreign marketplace for several more years than the Department of Defense, its experience also will be investigated in some detail. A simple cookbook approach to implementing DOD RSI policy cannot be expected. The unique aspects of each program preclude such a simplistic approach to the problems. Rather, it is anticipated that, by researching the experiences of a large number of organizations in both government and industry, some recommendations can be developed which will assist the project manager in meeting DOD goals.

Department of Defense policy regarding international acquisition of defense articles is in a constantly evolving state. As major acquisition policy is rewritten, such as the upcoming revision to DOD Instruction 5000.1 (i.e. Major System Acquisitions), the emphasis on foreign acquisition may be modified. In addition, publication of new procedural documents (e.g., the Federal Acquisition Regulation), may change the applicability of certain regulations to foreign purchases. It is assumed, however, that the commitment of this country to greater cooperation with NATO allies will mandate DOD project managers to consider foreign defense articles in major acquisitions. It is the goal of this thesis to help ease the burden of this program implementation.

D. THESIS STRUCTURE

This thesis consists of six chapters. Chapter I provides an introduction and defines the key problems involved in implementing NATO RSI policy. Chapter II presents the environmental background leading to the establishment of this policy. The research methodology utilized in the thesis is described in Chapter III. Chapter IV reports the problems of Navy project offices in implementing the DOD policy on rationalization, standardization and interoperability. In order to obtain the experiences of private industry in purchasing from the international marketplace, several companies were surveyed. The results of this survey are provided in Chapter V. Chapter VI contrasts the experiences

of government and industry in the foreign marketplace and provides recommendations to the DOD project manager.

II. BACKGROUND

A. HISTORICAL PRECEDENCE

For many years the American consumer and businessman have followed the practice of favoring domestically produced articles over those of foreign manufacture. This practice is rooted both in legal statute and in custom. Recent attempts to open up the foreign marketplace for federal acquisition considerations have encountered much resistance from both government agencies and government suppliers.

Although restrictions on foreign trade can probably be traced back to the beginning of this country's history, the landmark legislation which has influenced most subsequent actions was the Buy American Act of 1933. Enacted during a time when the United States was suffering through a devastating depression, it received wide acceptance from business groups and consumers. The act allowed a six percent differential to be added to the price of a foreign good when comparing the price with a domestic good. If the price of the foreign good still was lowest, and the product met the proper specifications, the federal government agency was allowed to buy from the foreign source. If not, the domestic good received preference. This act only applied to federal agencies, not state or local governments. [10:8]

The Department of Defense took an even more stringent interpretation of the Buy American Act. With the exception

of those goods manufactured in Canada, preference was to be given to domestic bids except when the foreign good met the six percent criterion discussed above or when the foreign bid was cheaper after 50 percent of the bid (exclusive of duty) was added to the bid price. In this case, the DOD agency was required to select the percentage which resulted in the greater evaluated price. A 12 percent factor was substituted for the 6 percent factor when the bidding domestic firm was a small business or labor surplus area concern. [4:6-100, 6-104.4] It is easy to see why many DOD procurement agencies tended to not even consider foreign sources of supply when initiating new procurements.

Congress has added additional restrictions on foreign procurement through the annual Defense Appropriation Acts. Appropriated funds have been withheld from usage to buy any foreign article of food, clothing, cotton, wool, woven silk and woven silk blends, spun silk yarn for cartridge cloth, synthetic fabric or specialty metals. [4: 6-300] Although Congress has waived the specialty metals provision in fiscal years 1978 and 1979, significant industry pressure has been instrumental in keeping the other restrictions in current defense appropriation acts. Legislation has also been in effect for several years which prevents the construction of U.S. ships in foreign shipyards.

The Trade Act passed by Congress in 1974 replaced the 1962 law which favored free-trade. The new act was passed

with the strong support of both labor and the U.S. steel industry. Although the act was passed primarily to give the President authority to negotiate a new international trade agreement, it reflected the concern of Congress over recession and the rising unemployment rate. Powerful unions in the steel, garment, textile and shoe industries, who were strong supporters of free trade a decade earlier, were demanding protection from "unfair" foreign competition to save jobs. [13:44]

Although several industries have been impacted by imports of cheaper products manufactured overseas, the steel industry has been particularly affected. Modern Japanese steel plants are capable of manufacturing twice the amount of steel required for their domestic requirements. Government intervention in Japan has been a particularly sore point with many U.S. steel officials. Mr. A.A. Monnett, Jr., Vice President of the United States Steel Corporation, expressed his views of the problem in a recent speech. He stated, "My point is that government management of steel in Japan has so grossly distorted conditions of competition with U.S. producers (who normally operate in a private market system) that the traditional basis for formulating trade policy no longer applies to such sectors of industry. These sectors, which are capital-intensive or labor-intensive or both, can be ruined by the unrestricted operation of foreign government-managed industry in our markets." [12:463]

The "protectionist" mood in the United States is certainly not unilateral in nature. Foreign government "intervention" in key industries has been cited by both labor and industry in the United States as unfair restraints on free trade. In several countries, "non-tariff barriers to trade" (NTB's) are replacing explicit tariffs. These NTB's have taken the form of industrial subsidies, employment subsidies, discriminatory government procurement practices, safety standards, "voluntary" export quotas and orderly marketing agreements. The dangers attributed to use of NTB's, as opposed to specific tariffs, are that they are frequently hidden barriers to trade and that they do not explicitly discriminate between the domestic and foreign sectors of the economy. [11:41]

B. NATO RSI CONSIDERATIONS

In the environment of increased "protectionist" legislation discussed above, the Department of Defense has been mandated to consider acquisition of foreign defense articles for use by U.S. Armed Forces, particularly those units operating with the NATO defense forces. The major impetus behind an increased awareness of allied nation capabilities is the NATO Rationalization, Standardization and Interoperability (RSI) program. At the May, 1977 Summit Meeting in London, President Carter emphasized the need for improved cooperation by NATO countries in development, production and procurement of alliance defense equipment. He stated that:

> (1) the United States must be willing to promote genuine two-way transatlantic trade in defense equipment
> (2) he had instructed the Secretary of Defense to seek increased opportunities to buy European defense equipment where this would mean more efficient use of Allied resources
> (3) he would work with Congress to this [the above] end. [15:419]

In a prepared statement, Doctor William J. Perry, Under Secretary of Defense for Research and Engineering, summarized DOD policy to the House Committee on Appropriations as follows:

> We intend to promote, to the maximum extent practical, cooperative material programs with our Allies...particularly NATO countries...in order to further our mutual economic interests and common defense needs. [15:413]

Before current DOD efforts to increase NATO cooperation can be reviewed, a definition of the terms involved would be appropriate. There has been considerable disagreement within NATO as to the specific meanings of rationalization, standardization and interoperability. A State Department official, in recent congressional testimony, defined them as follows:

> Rationalization is the "umbrella term" used to describe any action which makes more rational use of our defense resources both as individual nations and collectively. This includes a better and more efficient division of tasks or at least compatibility of equipment among allied forces ...
>
> We use standardization to cover the adoption of common equipment, doctrine, and procedures among various members of the Alliance. This is the most difficult

> element of rationalization to achieve, and the most misunderstood concept. Essentially standardization is a long-term undertaking. It starts with coordinated research and development and a common perception of the future threat together with an agreed approach to how to deal with it ...
>
> The term interoperability is used to describe those steps taken to make different equipment more compatible. This includes interchangeable parts and consumables, such as fuel and ammunition, and the ability to cross-service between forces. [14:36]

These definitions are consistent with the DOD programs researched in this thesis.

Department of Defense project offices are monitored on their compliance with NATO RSI goals through the formal milestone evaluations conducted by the Defense System Acquisition Review Councils (DSARC's) and the appropriate service Acquisition Review Councils (e.g., DNSARC's for Navy projects). Among the issues investigated at these reviews are allied research and development programs, compatibility of the threat assessment with the NATO threat assessment and the review of potential or existing NATO candidate systems which may be available for United States use. [7:2]

The Department of Defense has singled out investigation of foreign research and development advances as a prime means of attaining increased standardization with NATO allies. Utilization of foreign R&D will allow the United States to conserve its own research and development dollars while

capitalizing on significant advancements made by other NATO countries in new weapon systems development. Cooperative military and related commercial ventures between U.S. companies and overseas companies are seen by DOD as a means to reduce acquisition cost and improve the industrial and military capabilities of the NATO alliance. [15:413] The recent success with such systems as the French-German designed ROLAND II air defense missile system and the United Kingdom designed F-8A Harrier aircraft attest to the feasibility of introducing foreign designed systems into the U.S. defense inventory.

NATO standardization is by no means an easy program to implement. The significant difference in size between the U.S. industrial capability as opposed to the combined capability of NATO countries makes a fair balance of weapon system development and production difficult. In 1976, NATO countries expended approximately 16 billion dollars on defense equipment, four billion dollars of which was produced in West Germany. A large portion of the remainder was spent for U.S. equipment (FMS sales). In size, European defense industry is small, approximately one-tenth the size of the U.S. defense industry. [16:215]

There is not total agreement on the benefits to be accrued from NATO RSI. One industry spokesman, speaking for the Electronic Industries Association, summed up an opposing viewpoint as follows:

"The administration had adapted an approach which
(1) acquiesces to politico-economic pressure from our European allies;
(2) fails to account for the vast difference in Government-industry relations abroad;
(3) fails to recognize the impact of third country sales; and
(4) most importantly, appears to be placing new equipment development decisions in the hands of NATO bureaucrats who will decide who will develop what not on the basis of NATO mission-need but on the basis of everyone having a slice of the Defense pie." [1:48]

C. RECIPROCITY AGREEMENTS

Many allied nations now are insisting on reciprocity agreements in return for purchase of U.S. defense systems. These agreements enable the foreign governments to recoup a portion of their investments through the reciprocal purchase by the United States of foreign produced defense or domestic articles. The two most common methods utilized to establish reciprocal agreements are Memoranda of Understanding (MOU's) and procurement offset agreements.

Memoranda of Understanding (MOU's) establish agreements between two or more countries to work toward an equitable equilibrium of purchases on defense programs. No specific goals are defined. Instead, the signatories to the memorandum agree to cooperate in areas such as configuration management, technical support and supply support. In administering these memoranda, DOD agencies are deeply involved in joint discussions with allied nations regarding mutual problems in research and development, production and procurement. The goal of

the agreements is to achieve greater military capability at the lowest possible cost through a more rational use of the industrial, economic and technical resources of each country. [15:44] The United States currently has reciprocal procurement agreements with Canada, France, Norway and the United Kingdom. [6:1] Pending agreements are being negotiated with Germany, Italy and the Netherlands. The participation of the countries involved varies with each program.

Offset agreements have more potential impact on DOD than the Memorandum of Understanding. These agreements call for specific percentage of sales offsets in return for the purchase by a foreign government of a U.S. weapons system. Although offsets can be met in a variety of ways, the most common methods used are coproduction of selected components overseas or direct purchase of foreign components for use in the United States. These purchased components can be either defense or non-defense related.

The prime contractor benefitting from the sale of defense equipment and components overseas has the initial burden to meet specific offset objectives. Most U.S. defense industries have made genuine efforts to meet these commitments. Since foreign military sales, particularly of weapon systems which are concurrently being produced for United States military use, are spread over a multiple year time frame; the prime contractors have adequate time to evaluate and accept ·eign components. They have effectively utilized foreign

components in both defense and non-defense configurations. Some companies, such as the Northrup Corporation, have established divisions within their marketing organizations to promote reciprocal purchases from companies in countries with offset agreements.

The responsibility for meeting offset targets falls back on the Department of Defense when the prime contractor fails to meet offset objectives for the foreign country. This obligation has caused a recent policy clarification by the Secretary of Defense regarding compensatory coproduction and offset agreements. The policy statement discourages the establishment of offset agreements. Any further agreements must be considered on a case-by-case basis, giving due consideration to related U.S. objectives such as standardization and interoperability. The Deputy Secretary of Defense has the authority to approve new offset agreements. [5:2]

Under offset and MOU policy, the Department of Defense generally attempts to allow foreign firms to bid competitively on government furnished equipments (GFE) on the same terms as U.S. companies. This policy requires the waiver of certain U.S. statuatory provisions such as the Buy American Act and specific Defense Acquisition Regulation (formerly the Armed Services Procurement Regulation) clauses. The President and Congress have supported these waivers, particularly when NATO countries were involved. In the FY 1978-1979 Department of Defense Appropriation Acts, Congress authorized

a waiver of the Berry Amendment restriction against U.S. purchase abroad of specialty metals when the purchases enhanced continuance of NATO goals. [15:415]

III. RESEARCH METHODOLOGY

A. LITERATURE SEARCH

The initial thrust of research for this thesis centered around the subject of foreign military sales (FMS). This subject was selected for two reasons. First, the author had recently obtained considerable experience in the area with the Navy International Logistics Control Office (NAVILCO). Second, foreign military sales problems were receiving high visibility within the Department of Defense.

A search of the articles published in DOD journals and of reports sponsored by the Department of Defense revealed an emerging problem of even more potential impact, the acquisition of foreign defense articles. Although the comparison is not exactly precise, the problem can be treated essentially as "FMS in reverse." The recent emphasis by the President and by the Department of Defense on NATO Rationalization, Standardization and Interoperability (RSI) has significant implications for the project manager and members of his staff.

A limited amount of literature was available documenting the efforts of the three military services in implementing NATO RSI policy. The Army had established an office, the Department of the Army International Rationalization Office (DAIRO), which was in the process of conducting studies into the problem. The Air Force had investigated the methods available to meet reciprocity agreements with NATO countries

buying the F-16 fighter aircraft and other U.S. weapons systems. The problems anticipated for the project manager in implementing this policy, however, had not been investigated in any great depth.

Since private industry has been contracting with foreign companies for several years, it appeared that valuable lessons learned might be transferrable to DOD project managers. An extensive search into commercial periodicals was conducted to identify the problems industry had encountered in doing business overseas. This search proved to be invaluable in structuring questions for subsequent interviews and surveys.

B. PERSONAL INTERVIEWS WITH PRIVATE INDUSTRY

The literature search identified several problem areas which complicated interfacing with overseas companies. These included differences in business practices, legal constraints, and personal biases toward overseas acquisition. In order to identify the most important areas of concern, interviews were conducted with representatives of several companies. Initially, due to their proximity to the U.S. Naval Postgraduate School, companies in the San Jose area were visited. These visits proved invaluable in structuring a list of questions which would be used on subsequent interviews. Although an attempt was made to select companies which contracted with the Department of Defense, this factor was not essential in these early interviews.

Major defense contractors were the next focus of the research. Since these companies have the prime responsibility to meet foreign reciprocity commitments, the questions were designed to draw out problems which they had encountered both overseas and from within the Department of Defense. Particular attention was focused on identifying biases against foreign acquisition. In order to obtain candid responses, the interviewees were assured that their names would not be revealed in the thesis. All sensitive remarks used would not be attributable to any person or company.

The personal interviews with representatives of major defense industries were conducted over a four month period. During this period, the emphasis of the research was revised several times. Early questions were designed to identify biases, both real and perceived, from within DOD or the companies. Later research emphasized overseas business practices and economic considerations in foreign acquisitions. Therefore, the same questions were not asked of each interviewee.

C. PERSONAL INTERVIEWS WITHIN DOD

The major document used as a baseline for questions to members of Department of Defense agencies was DOD Directive 2010.6. This document provides policy guidance and responsibilities for implementing NATO RSI requirements within DOD.

A series of questions was developed to identify problems within project offices and other DOD agencies in implementing this policy. Since it was anticipated that many of the

agencies visited would have had limited interface with foreign companies, these questions were designed to bring out both real and perceived problems. The questions were asked via personal interview. Respondents were again promised anonymity in their responses to sensitive questions.

Navy project offices were the focal point of this phase of the thesis research. An attempt was made to interview either the project manager or his deputy. Due to their experiences with foreign customers, the FMS coordinator was often tasked to respond to the questions. Navy laboratories were also visited to obtain the research implications of increased foreign acquisitions.

A few Army and Air Force offices in the Washington, D.C., area were visited to assess the progress being made in NATO RSI by other services. The Congressional perspective was also obtained in an interview with a staff member of the House Armed Services Committee.

D. SURVEY TO PRIVATE INDUSTRY

The experiences of DOD agencies with foreign acquisition was found to be somewhat limited. Therefore, it was difficult to assess what problems might be encountered when NATO RSI programs were fully implemented. In order to strengthen the data base upon which thesis recommendations could be developed, it was decided to obtain additional information from private industry.

A new survey was developed which emphasized the problems private industry might expect to encounter in the foreign marketplace. Any reference to interface with DOD agencies was removed. Foreign business practices, company biases and economic considerations were emphasized.

The survey was mailed to sixty companies nationwide. These companies were selected from the corporate listings in the Dun and Bradstreet Million Dollar Directory. No particular product classification was emphasized in choosing the companies for the survey. Rather, an attempt was made to select known companies producing a wide range of products. Although the size of the companies chosen presupposed a certain amount of overseas purchasing, this was not a prerequisite for selection.

The responses to this survey form the substance of one chapter of this thesis. Since private industry has been purchasing goods in the foreign marketplace considerably longer than the Department of Defense, its experiences can be invaluable in implementing NATO RSI policy. The lessons learned by private industry, together with the experiences of certain DOD agencies in doing business overseas, should be helpful to the new project manager. It is these experiences which form the substance for the conclusions and recommendations provided in the summary.

IV. FOREIGN ACQUISITION AND THE PROJECT MANAGER

A. GENERAL

The increased acquisition of defense articles from the foreign marketplace has a significant effect on the management of a project office. Extra controls must be established to ensure that components manufactured overseas do in fact meet rigid cost, schedule and performance specifications. In addition, it is probable that certain biases against foreign procurement exist within Department of Defense staffs. These biases may be based on past difficulties with foreign weapons systems or may be the manifestation of unfounded beliefs (e.g., the not-invented-here syndrome).

A survey was conducted in ten different Navy project offices to evaluate the problems encountered in implementing the new Department of Defense NATO RSI policy. The offices were selected based on past experiences with foreign acquisition and on potential interface with overseas businesses. In most cases, foreign military sales of U.S. defense systems were being managed by the project offices selected. A series of nine questions were employed. The questions were designed to reveal either problems encountered in the foreign marketplace or to highlight the pro/con biases of foreign acquisition. In order to obtain candid responses to the questions, respondents were assured that their names and respective project offices would not be identified in the

research paper. The questions were asked of accountable personnel within the organization -- the project manager, deputy project manager or FMS coordinator. Two Navy laboratories were also visited to assess any problems or biases associated with acceptance of foreign weapon systems. Appendix A is a list of the questions asked during this survey.

B. SURVEY RESPONSES

The Department of Defense provided clear NATO standardization and interoperability guidance to the services in DOD Directive 2010.6 of March 11, 1977. This directive specified the actions required by appropriate DOD offices to promote standardization and interoperability of weapon systems within the NATO alliance. The project office officials visited were asked what actions had been taken to implement this DOD directive.

With two exceptions, the personnel queried were aware of the directive. Unawareness should not be interpreted as a laxity on the part of any of the project offices in implementing DOD policy. It probably was due to the unavailability to the researcher of the appropriate level managers in those project offices. The general consensus of those interviewed was that the directive had had little impact on their project.

Two of the project offices visited were responsible for the acquisition of weapon systems which were of foreign

origination. One system, the Italian-designed Oto Melara gun, is now being produced under licensing agreement in the United States. The other, the British-designed Harrier aircraft, is being contemplated for model "B" production in this country. Both projects had been well established when the NATO standardization and interoperability directive was promulgated. The management of these offices felt that many of the actions defined in the DOD directive to promote acquisition of overseas systems had been met in their projects.

Most of the other respondents felt that the intent of DOD Directive 2010.6 was not applicable to their projects. One reason cited was the sophistication of the weapon system being managed. The feeling was that the United States was advancing the state-of-the-art in the particular warfare area and that European technology had nothing more sophisticated to offer. Other reasons cited for non-applicability of the directive was the small size of the program; that is, the number of weapon systems being developed and the intelligence implications of the project which the program people felt precluded allied participation.

Representatives of the U.S. Navy laboratories who were interviewed felt that the labs must routinely keep abreast of foreign research and development programs. This practice not only prevents "rediscovering the wheel" at the laboratories, but also allows for considerable savings of research and development dollars. The impression conveyed by the

respondents was that scientific knowledge was freely exchanged with allied nations during preliminary research efforts.

Two of the project offices visited, the Anti-Ship Missile Defense (ASMD) office and the Patrol Hydrofoil (PHM) office, were involved in joint development efforts with NATO countries. Although West Germany and Italy are no longer participating in the procurement of the PHM, the ship is being built to metric specifications and is equipped with foreign components. West Germany and Italy dropped out of the PHM project after a high-risk assessment of their further involvement. Their assessment was based primarily on the fact that the White House and Congress were not adequately supporting the U.S. role in the PHM development. German financial support during full-scale engineering development has enabled the ASMD project to continue, despite reduced funding by the United States government. Both projects are good examples of how cooperation with allied nations has been effective in promoting and continuing development of a weapons program.

1. Cost, Schedule and Performance Considerations

The project offices were queried regarding the capability of foreign companies to meet the cost, schedule and performance criteria the United States requires. Generally, respondents felt that, with proper controls, foreign companies could be held to the same standards as those expected from U.S. companies. A problem could arise

in foreign production from the non-acceptance of such U.S. management controls as on-site auditors and U.S. government-established cost accounting standards.

Four important problems in doing business with foreign governments and companies were highlighted by the deputy project manager of one program:

a. Communication was a major problem. Although the countries speak the same language, extreme care must be exercised to ensure that descriptions in official documentation are interpreted the same by participants from both countries. This problem would certainly be magnified if different languages and interpretations were involved in inter-country agreements.

b. Differences in support concepts between the United States and the foreign government may have significant impact on the management of a program. In the case of this system, the foreign country relied heavily on contractor maintenance support. The United States Navy planned on support from government-owned intermediate maintenance activities. This difference in support concepts required closer scrutiny by the project office staff to ensure publications reflect the proper maintenance procedures.

c. Another problem identified by the deputy project manager was data management. The foreign government agreed to provide all the data it owned on the system to the United States. The differences in management policy of the two

countries created a problem. That government did not routinely buy development data on weapons systems from contractors, while the United States does follow this "total information" practice. The United States consequently encountered some difficulty in obtaining all the data it routinely requires of a domestically originated project.

d. It is important that the members of the project office clearly understand the waivers which apply to the purchase of a foreign weapon system. In most cases, Buy American provisions are routinely waived if NATO countries are involved. However, it is possible that other contractual requirements are also waiverable (e.g., DAR small business and EEO specifications). The project manager and his staff must become very knowledgeable concerning the waivers which apply to their program.

Performance requirements of the foreign system were interpreted by most respondents as being no different than those imposed on U.S. produced equipments. Although there appeared to be some difficulty in imposing "hard" numbers on foreign manufacturers for requirements such as mean-time-between-failure (MTBF) and mean-time-to-repair (MTTR), no relaxation of applicable specifications could be accepted. No variance in the strict adherence to specifications imposed during acceptance trials and operational evaluations were visualized.

2. DOD Bias

The survey attempted to identify any specific group within the DOD community which might exhibit bias against overseas procurement. The responses varied depending on whether or not a project was currently involved in acquiring a foreign defense system.

The fleet users of both the Oto Melara gun and the Harrier aircraft generally supported their systems. The Italian produced gun had successfully completed tests in the laboratory and on board ship. Spare part support for the gun was considered excellent, but part of this success might be attributable to the availability of a greater range and depth of spares during the early test phases. The Aviation Supply Office, Philadelphia, reported a better percentage of "fills" for spare part requests for the Harrier aircraft than for many domestic aircraft systems.

The general attitude of respondents in those project offices not involved in foreign acquisition was that the major objection to acquiring foreign systems would probably come from the appropriate material commands ... NAVAIR, NAVSEA, etc.

3. Sole Sourcing

The prime contractors involved in FMS have frequently been in a "sole source" situation when doing business with allied governments. This survey postulated the situation where the United States would be dependent on an overseas business as a "sole source" for spare part support of

certain components. The respondents were asked whether a U.S. source of supply must be developed to ensure proper support.

Under the family-of-weapons concept, this scenario of foreign "sole source" support is a distinct possibility. In order to take advantage of the economies of scale in production, the NATO nations have examined the situation where each country in the alliance "agrees to take responsibility for a given weapon in the family and all other countries agree to buy that weapon from the single manufacturer." [6:421] The assumption is made here that spare part support for that weapon or associated equipments would also be the responsibility of that manufacturer.

The project offices surveyed generally were not in favor of a dependency on overseas sources for spare part support. It is significant to note that many systems of foreign design currently in the defense inventory, such as the Oto Melara gun, are being manufactured in the United States under licensing agreements. It is planned that full spare parts support for the gun will come from the U.S. manufacturer, not from Italy. More complex systems, such as the Harrier aircraft, will still require some overseas support. For one thing, the Harrier engines are made by Rolls Royce. The new model "B" Harrier, however, will be built in the United States with the majority of components being of domestic manufacture.

A variety of methods are being utilized by the Department of Defense to facilitate support for equipments of foreign design. Under normal DOD policy, the government buys the data packages associated with each system, regardless of whether the system is of domestic or foreign origin. This gives the government a fallback position should support problems of any kind be experienced with the manufacturer. It also allows alternative domestic sources of supply to be developed. Several respondents in project offices which manage weapon systems or components of foreign manufacture indicated that overseas companies were encouraged to establish support facilities in the United States. Also, if supplies must be shipped from overseas, greater depth was being ordered by the inventory control points.

One respondent looked upon development of overseas sources of supply as a very healthy practice. In this case, he was referring to components which were now being produced on a "sole source" basis in this country. Expansion of sourcing overseas would give the domestic company price competition and would also make both sources more likely to respond to DOD needs.

4. Performance and Quality Assurance

The ability of overseas manufacturers to meet performance criteria was investigated. As mentioned earlier in this thesis, the Department of Defense has the mechanism to fully test the foreign weapon systems during acceptance

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trials and operational evaluation. Most respondents did not feel that foreign companies would have difficulty meeting performance specifications. One interviewee was somewhat concerned that there was no organization, such as the Defense Contract Administration Services (DCAS) or a government plant representative in most overseas companies. He felt that this would preclude early identification of and earlier corrective action in problem areas. Problem identification and correction initiatives at the time of government testing could be more costly and could cause longer delays in delivering a weapon system.

A quality assurance function is included in the mission of the NATO Maintenance and Supply Agency (NAMSA). This agency encourages standardized quality assurance procedures and policies within the NATO nations. Government personnel of member countries provide services, free of charge, on a mutual cooperation basis. NAMSA deals directly with contractors of NATO nations in establishing on-site quality assurance services. [3:64]

5. Cooperative Research and Development

Cooperative or interdependent research and development programs between the United States and allied nations are considered essential by the Department of Defense to achieve standardization and interoperability goals. The members of the project offices visited were asked whether cooperative ventures of this sort would be feasible in their projects.

Most of those responding were in favor of taking advantage of allied research and development efforts, particularly where they were advancing the state-of-the-art faster than U.S. efforts. In certain areas, such as the Vertical Short Range Take Off and Landing (VSTOL) aircraft and small caliber gun mounts, most of the technological breakthroughs had come from European countries. There was a general feeling among the interviewees, however, that allied cooperative research and development projects would be essentially a one-way street. The United States was too advanced in most technological disciplines to have much to gain from these research and development exchanges.

There was also concern over the willingness of U.S. companies to share "proprietary" information with companies of allied nations. The U.S. government's practice of doing business at "arms length" with U.S. companies gives them no real leverage in embarking on joint research and development projects with allied nations. In European countries, this was seen as no real problem due to the closer working relationships between government and industry.

6. Overseas Subcontracting

The survey participants were asked what the reaction of their prime contractor would be to subcontracting with overseas companies. Since "Buy American" provisions were almost routinely waived on those projects doing business in NATO countries, there was a greater motivation by U.S.

defense industries to evaluate the foreign business alternatives. In most cases, it appeared that U.S. companies were buying components overseas when the cost and quality were favorable. The company generally retained the capability, however, to manufacture the component in-house or to buy it from a domestic supplier. Since the overseas manufactured components would probably carry the prime contractor's nameplate when installed in the final product, it was unlikely that fleet users could tell the difference between foreign and domestically produced components.

A prime contractor for one of the project offices was very reluctant to subcontract manufacture of any components, regardless of whether they were made in the domestic or foreign marketplace. In order to prevent the possibility of subcontracting, the data packages were structured in such a way that only the prime contractor could build the components. Fortunately, this was an exception to most prime contractor practices.

7. Foreign Component Cost

Many of the recent publications regarding commercial industry's experience with the foreign marketplace cite cheaper costs as an incentive for offshore procurement. The survey participants were asked about their perception of foreign component costs.

Most felt that acquisition costs were cheaper, but that life cycle costs would tend to be more expensive. Costs varied from country to country and were dependent on

whether companies were labor or capital intensive. Labor costs were generally perceived to be higher in countries such as Great Britain and West Germany and lower in Italy. Many European countries were able to compete very successfully with U.S. industry due to acquisition of new capital equipment after World War II.

One respondent indicated that, on occasion, it may be advantageous for a prime contractor to pay higher costs for foreign produced components. In their overseas marketing efforts, some companies may be able to generate more sales for their weapon systems by offering to purchase a certain percentage of the components from businesses in the foreign country. Some of these components may eventually be installed in U.S. ships or aircraft. Since the U.S. will not be expected to pay the higher costs of the foreign components, the costs must be borne by the prime contractor. He normally does this by burying the costs in overhead, getting the foreign government to pay extra costs or making less profit. The respondent emphasized the need for adequate controls in the project office to control these costs.

8. Congressional Reaction

The final question asked in the survey was whether Congressional pressure from constituents may impede effective implementation of DOD NATO standardization and interoperability policy. Most respondents felt that some pressure was inevitable, particularly when local companies in a

congressman's district lost contracts to overseas companies. More resistance was expected from members of the House of Representatives rather than the Senate due to closer ties with constituent businesses. In fact, as reported earlier, it was primarily the action of the Senate, not the House of Representatives, which allowed waiver of the specialty metals restriction in the Berry Amendment for the FY 1978 and FY 1979 defense appropriations.

C. SYNOPSIS

The survey revealed several areas which require additional management attention if U.S. Navy project offices are to successfully complete transactions with foreign governments and industry. The perception of many interviewed was that business would continue as before, even though overseas components were being purchased for U.S. weapon systems. The experiences of the few project offices which have acquired foreign defense articles reveals that, on the contrary, significant differences do exist when doing business overseas.

As the Department of Defense becomes more involved in efforts to improve the standardization and interoperability of NATO weapon systems, care must be exercised to ensure that project office staffs are familiar with the vagaries of doing business with foreign suppliers. Personal bias and ignorance of overseas business practices must not be allowed to enter into the evaluation of foreign acquisition alternatives.

V. FOREIGN ACQUISITION IN PRIVATE INDUSTRY

A. GENERAL

The factors motivating private industry to purchase goods and services from the foreign marketplace would appear to be quite different than Department of Defense considerations. Unlike DOD, the profit motive must be somewhere near the top of private industry's priorities when weighing the pros and cons of offshore purchasing. The cheaper labor and material prices available overseas, particularly several years ago when the U.S. dollar was much stronger, probably were the primary motivating factors in foreign purchasing decisions.

Private industry was not constrained by the same statuatory regulations which impacted the government in major acquisition decisions. Companies which were predominantly involved in the manufacture of defense articles for DOD did not rule out foreign products, even though Buy American regulations and provisions of the defense appropriation acts restricted their freedom to utilize these markets. Large volume business and product diversification allowed them to apply the law of comparative advantage when evaluating foreign sources. As one aerospace company executive expressed in a recent interview, the company simply must go to the source with the best price for the required quality. The fact that that source is overseas should not bar its consideration as a supplier.

Since private industry has considerable experience in overseas acquisition, it appeared that insight could be gained by collecting data on this experience. A series of eight questions was formulated to identify problem areas in foreign purchasing. The survey questions allowed company purchasing managers to comment on their policies to purchase or not to purchase overseas. The survey was mailed to sixty companies nationwide. Appendix B is a list of the questions asked during this survey.

The remainder of this chapter summarizes the responses to the survey. Although over 46 percent of the companies returned the survey, the questions asked were of the essay type and precluded analysis on a strictly quantitative basis. The companies provided valuable qualitative information in their replies. These replies form the basis for the discussion which follows.

B. SURVEY RESPONSES

The companies were asked whether they consider purchase of components from overseas businesses. Three of the respondents indicated that it was their company policy not to purchase overseas. No specific reasons were given for this policy.

The remaining twenty-five companies indicated that foreign sources were utilized, to some extent, in their purchasing actions. The percentage of offshore purchases seemed to be a function of the products manufactured by the

companies. Price, quality and delivery were the major factors considered in buying overseas. Contrary to the experiences of U.S. firms approximately ten years ago, price was no longer the prime reason cited for buying from overseas companies. Most respondents listed either quality or delivery considerations first, with price generally relegated to the third position on their priority list.

1. Reasons For Buying Foreign

One manufacturer of close-tolerance machine parts responded that all competent sources are considered, whether they are foreign or domestic. In the case of foreign suppliers, however, the respondent emphasized the absolute essentiality of reviewing specifications in depth with engineering, quality control and manufacturing personnel at the prospective overseas source. Any final commitments are withheld until all parties have an understanding of the quality and delivery requirements.

The reasons cited for buying from foreign sources were almost as numerous as the number of respondents to the survey. A few of the more significant responses are listed below:

-- Reliability and financial strength of the supplier

-- Ease of communications, both written and oral

-- Non-availability of material in the domestic market

-- Technological leadership of the supplier

-- Secondary source to cover potential disruption at a domestic source due to a strike or shortage of raw materials

-- Efforts to gain a prestige advantage (e.g., Italian lace, British woolens)

-- Customer specified foreign component

-- Insight into unique products, materials, components and equipment

One company specified price as the major consideration in doing business overseas, except when dealing with several Communist bloc countries. If the company ascertained that there was a market for their products in these countries, they would accept a commodity exported by that country as partial or full payment for the sale. Price would be sacrificed to enhance entry, or continuance, in these markets. In this case, foreign purchasing is used as a marketing tool, much as in DOD offset agreements.

The prime reasons cited for not buying from foreign companies generally evolved out of specific U.S. customer requirements. If the customer was the U.S. government, the Buy American Act frequently caused the foreign price, including the percentage differential, to be prohibitive. Some customers simply required that all components in the finished product be of domestic origin.

2. Internal Company Resistance

Resistance to importation of foreign products was the next area investigated in the survey. It was anticipated that some of the "Buy American" preference exhibited by personnel of the companies in their personal buying

habits would also influence their reaction to purchase of foreign components by their companies. The survey participants were asked which, if any, departments within their companies expressed the most resistance to offshore procurement. If these companies were now buying foreign components, they were asked to describe how this resistance was overcome.

A few companies responded that no internal resistance had been encountered when offshore purchasing was proposed as an alternative source of components. In many companies, however, the engineering and quality assurance personnel seemed to raise the most objections. Frequently, these objections were due to the lack of previous exposure to overseas company capabilities. The resistance was overcome by permitting the engineering and quality assurance personnel to test the product. In many cases, the product was equal or better than similar items purchased on the domestic market. One company overcame resistance from these two departments when the responsiveness of foreign companies to design change requests was demonstrated.

Due to the distance factor between the United States and overseas companies, some respondents indicated that their production departments were concerned about the possible disruption of production lines when shipments were delayed. The actual experience with overseas companies in meeting shipment dates has generally been good. Most companies surveyed adopted a practice of increasing the depth of certain foreign-produced components (i.e., additional safety

stock levels) to guard against the possibility of unusual disruptions (e.g., shipping strikes, impoundment by U.S. customs, etc.).

A manufacturer of low-cost domestic products encountered an interesting conflict between the quality control department and the marketing department when the purchase of foreign products was considered. The quality control personnel felt that the quality level of products from overseas did not match domestic quality. Marketing was having difficulty selling certain product lines due to the price which was required to be charged to cover costs of domestic components. In this instance, management sacrificed some quality to take advantage of the cheaper overseas sources. Although this practice might work for cheap, disposable items, it would probably lead to disaster for the manufacturers of more complex products.

One respondent from a company that markets high-quality athletic goods replied that the marketing department had expressed the most resistance to purchase of overseas components. The company had built its reputation as a market leader in the production of durable products. Marketing personnel feared that the addition of even a few minor foreign-produced components would "cheapen" the product in the eyes of the consumer and impact sales. The company does buy foreign components today, but is careful to ensure that their labels, not those of a foreign company, are affixed to the end products.

3. Overseas Purchasing Experiences

The companies surveyed were divided in their early experiences in buying from a foreign source. Eight companies indicated that they had no unique problems in commencing overseas purchases. In essence, their overseas experiences were no different than those encountered when establishing a new domestic source.

One small machinery manufacturer had such bad experiences with the quality of foreign produced die castings that it ceased doing any overseas business after eighteen months. It has now reassessed several foreign producers' capabilities and has had good experiences in the overseas marketplace.

Most of the other respondents reported that communication caused major problems in early contacts with foreign businesses. This applied to both written and oral communication. The clear understanding of specifications by the foreign vendor usually took a long time to accomplish. One machinery company reported initial difficulty in conveying company standards and measurement methods. Another company had difficulty in establishing an understanding of the requirement as it pertained to quality control and testing. Even when specifications were understood by the foreign producer, one aircraft company had difficulty introducing government-generated changes. In fairness to the foreign supplier, such problems also occur with U.S. sources.

Oral communication also created problems for the respondents. A few companies hired brokers who were familiar with the language and business practices of the foreign country. This facilitated early contact between the two companies. Most companies solved their communication problems within the first eighteen months and reported good working relationships thereafter.

A manufacturer of electronic componentry cautioned against differing manufacturing practices from country to country. Even though a final product from two different sources may be called the same thing, the performance characteristics may be vastly different. In Japan, for example, a die block is a case-hardened chunk of carbon steel. In the United States, a die block is forged alloy.

The major problem still facing some of the companies surveyed is beyond the total control of either the supplier or customer. This centers around the problem of pricing stability. In Europe, a "price indexing" or "price in effect at the time of shipment" system is popular. It is not acceptable, however, to U.S. businesses when government fixed-price contracts are being executed. With increased acquisition of defense articles overseas, this problem may be more difficult for U.S. businesses to overcome. In Australia, some U.S. companies have overcome the problem by insisting on firm prices when the contract is negotiated. If firm prices are not provided, the companies go to alternate sources.

4. Negotiation

The United States government and private industry expend many dollars and hours of training to develop highly skilled negotiators. Even when both negotiating teams are from the same culture, speak the same language and follow the same business practices, the successful conduct of negotiations is an art. The replacement of an American by a representative of a foreign company as one of the parties in a negotiation could severely complicate the task. The companies surveyed were asked to relate the negotiating peculiarities they had encountered when doing business with overseas companies.

Communication was again cited by some companies as a major problem in negotiating with foreign businesses. As discussed earlier, the interpretation of terms and phrases used in specifications caused several problems in pre-negotiation preparations. The problem was compounded by additional delay encountered in responding by mail to questions raised by the overseas company. An exchange of letters which would take no more than two weeks in the United States could take over one month via international mail service.

Misunderstandings between negotiating parties were much more easily overcome in face-to-face encounters. Respondents reported that, with competent interpreters in attendance and with additional care exercised to ensure that the representatives of the foreign companies thoroughly understood the phraseology in the documentation, most

communication problems disappeared. The problem then became understanding the peculiarities in business practices and local customs. A manufacturer of electronic components reported that, in doing business with the Japanese, negotiators must be prepared to work with decisions which were made by committee, not by an individual. Also, the company reported that their negotiators had difficulty due to the reluctance of many Orientals to say no or to give any answer at all when all members of the team could not agree.

Respondents to the survey stressed the need to change negotiating strategies based on the nationality with which negotiations were being conducted. One company reported that the price was generally flexible when negotiating with a Japanese company, while it was inflexible in negotiations with German companies. A manufacturer of heavy construction equipment responded that negotiations differed depending on whether the company was from a developed or developing nation. For developed nations, the company saw little difference than negotiating with U.S. suppliers. In the case of developing nations, particularly those countries where the U.S. firm was considering local purchases as a means to gain sales entry into the country, difficulty was encountered in establishing a competitive position with other suppliers worldwide. For example, one South American country compelled the respondent to develop sources of supply within that country, even though they were not competitive with suppliers in other

countries. Another company reported that to successfully negotiate with Russia or East Germany, the final agreement must fit into the established economic plans of those countries.

The impediments to successful negotiation are not all on the non-U.S. side of the table. American representatives to negotiations have caused several companies "embarrassment" of both a financial and a political nature. One respondent discussed early difficulties his firm had caused by not authorizing its representatives to make key decisions. This caused negotiations to be drawn out while the U.S. negotiators communicated with the home office.

Some other negotiating peculiarities reported by respondents to the survey included the following:

-- The price quoted by some foreign suppliers is a firm fixed-price and is not subject to changes without concessions in specifications, delivery or some other factor.

-- Firm prices are not offered for more than a one year period.

-- Some foreign sources consider it a privilege to allow U.S. companies to do buisness with them. Consequently, they develop very opinionated positions.

-- "Metric" measurement inconsistency in specifications and units of measurement.

-- Currency fluctuations are a continual headache.

-- Orders cannot be rescheduled without added costs.

-- Concern over stability of employment, even at the expense of being non-responsive.

5. Sole Sourcing

The question of whether or not an overseas company can be depended upon to provide sole source support for a component caused the greatest divergence of opinion of all the questions asked in the survey. With appropriate qualifications to their answers, the respondents essentially were equally divided on this question.

A manufacturer of pumps and water systems expressed his reaction to foreign sole source support as follows:

> We would, under no circumstances, be totally dependent on a foreign source of supply. For every item that we import, we either have duplicate tooling or an alternate process available domestically. The vagaries of the international political situation and longer lines of supply are too risky for sole source dependence.

None of the respondents expressed total support for an overseas sole sourcing policy. Good business practices preclude the reliance on a single source, whether foreign or domestic. The risk of customer dissatisfaction is too great to adopt a sole sourcing policy. One company established a U.S. source for any component purchased overseas. Conversely, they did not hesitate to establish a foreign source if they were in a domestic sole source situation.

Several companies supported sole sourcing overseas with certain qualifications. A manufacturer of electronic components stated that some, but not all, overseas sole source companies can be depended upon. To guard against a permanent sole source situation, the U.S. company can

(1) increase protective inventories, (2) re-design, (3) multiple source and/or (4) reach agreement with a foreign source to establish a licensing arrangement with a U.S. source.

Several respondents recommended the establishment of larger inventories as an insurance against supply disruptions from an overseas sole source supplier. This policy is not without cost! More money must be tied up in inventory and, for short term obsolescent items, the company may end up with worthless stock on its shelves.

A sole source policy was defended in several situations. If a product is only available overseas, sole sourcing may be the only alternative. One company reported that, when the tooling costs are extremely high, they do depend on single foreign sourcing.

6. Foreign Technology

The United States has enjoyed a reputation as the world leader in technological advances. This leadership position has perpetuated the "not invented here" syndrome among many Americans. The survey asked whether foreign companies can provide technology superior to that available from U.S. companies.

Only five respondents provided a negative response to this question. One of the companies qualified their answer by stating that their response of inferior technology overseas was based only on the commodities used by their

firm. They did not comment on other commodities which might, in fact, represent superior technology from foreign sources.

The rather surprising results from this question were that most of the companies surveyed recognized that superior technology was available overseas. The products cited for technology excellence ranged over a wide spectrum of commodities. Respondents identified countries in both Europe and the Orient which had the reputation for technological excellence in certain areas.

Two companies qualified their responses to the question by pointing out that many foreign companies gain the reputation as superior technology manufacturers by producing products of superior quality consistency. Metal castings were specifically cited by both companies. The experience of the respondents revealed that the foreign sources they purchased castings from had excellent quality assurance programs and utilized methods to insure quality integrity that were often superior to methods used by domestic suppliers.

A manufacturer of construction equipment provided the following comments regarding its experiences with superior technology overseas:

> "There are many suppliers outside the U.S. who have achieved levels of technology that are superior to those in the U.S. We have technical agreements with several companies and rely on their technical contribution in developing components for our products.

> A good example is pistons in the U.S. A very limited knowledge exists on the technology of piston design. We rely heavily on German piston designers for this technology."

The practice of many Japanese companies to hire only engineering graduates was cited by one respondent as a reason for superior Japanese technology. The companies place these graduates in all departments of the company, not just engineering or quality assurance. The respondent felt that this practice was one of the major reasons behind the stunning successes of many Japanese firms.

Some of the superior technology areas cited by the respondents as available overseas were as follows:

-- consumer electronics

-- machining (close tolerance)

-- aerospace componentry

-- metallurgy (particularly high alloys and inlay procedures)

-- metalworking and metalforming

-- high test concrete

-- ceramic tubing

-- instruments (e.g., tachometers)

-- fuel injection systems

-- electrical assemblies (e.g., alternators)

7. Foreign Costs

Although most companies did not specify cheaper prices as the prime reason for buying from overseas companies, the survey asked about their experiences with overseas costs.

The question was divided into two categories, labor intensive items and capital intensive items.

The general consensus on all foreign costs was that they were rising. Due to the fluctuation of the U.S. dollar in the world marketplace and inflation, most of the relatively cheaper labor available in Europe several years ago had all but disappeared. Most respondents reported that labor intensive costs were still lower in the developing countries, particularly Korea, Mexico, Taiwan and Singapore. One aircraft company responded that these costs were stable in the short run, but that currency changes, inflation and unstable labor situations were causing increasing costs in the long run.

Most respondents agreed that capital intensive costs overseas were generally competitive with U.S. costs. Several companies gave the edge to Germany, Japan and Sweden in preferential capital intensive costs. This response was probably motivated as much by the consistent superior high quality of many of their products, particularly metal products, as it was by the actual cost of the commodities themselves.

8. Other Foreign Purchasing Experiences

Several companies related other experiences in doing business overseas which they considered noteworthy. One company stressed that all negotiations should be conducted in English, regardless of the U.S. company negotiator's

familiarity with a foreign language. Care should be exercised to eliminate slang, colloquialisms and jargon in these negotiations. Another company advised that, if an interpreter were used, the American party must be cautioned to be straightforward and speak slowly.

Business customs and traditions of the host country were emphasized. One respondent advised that, prior to negotiations, the business customs and traditions should be studied and understood. The strategy used in negotiations varies from country to country. An aircraft manufacturer stressed that the English were very status conscious, while the French and Japanese have social customs that are part of doing business and which may appear to be a waste of time to Americans. Another respondent emphasized that to effectively do business with the Japanese, the American negotiator must be a good listener. On the other side of the world, this company recommended using a strong speaker when dealing with the West Germans.

A manufacturer of electrical equipment replied that it is more difficult to locate a qualified supplier in another country than in the United States. Once a foreign supplier is accepted, business is usually conducted as in this country, except that longer material transit times can be expected.

One respondent stated that the company had had no unsuccessful foreign procurements. The company lamented,

however, that the major problem was U.S. customs. As a taxpayer, the respondent had no complaints with customs. As a businessman, the forms and suspicions of customs inspectors "drove him 'bananas'."

Another respondent summarized the future of his company in overseas buying as follows:

> Although we intend to proceed cautiously, we will be increasing our utilization of foreign supply sources in the next few years.

C. DEPARTMENT OF DEFENSE IMPLICATIONS

Foreign purchasing appears to be a well-established practice in most American companies. Their experiences should be valuable to the Department of Defense as it expands foreign defense article acquisition.

The DOD project manager, however, operates under laws and regulations which complicate entry into the foreign marketplace. Although NATO RSI policy facilitates access to foreign defense articles, the project manager must continue to exercise the same controls, such as testing and quality assurance procedures, as in a domestic acquisition. The experiences of private industry do apply to the Department of Defense in several areas. The following chapter summarizes these areas.

VI. SUMMARY

A. GENERAL

Research for this thesis revealed a wide spectrum of opinions and experiences in doing business with overseas companies. The task of expanding to foreign sources of supply, whether motivated by government policy or company economics, is certainly not an easy one. The DOD project manager must somehow find adequate time and resources to add NATO RSI requirements to his already overcrowded list of responsibilities. In private industry, purchasing managers must overcome some inertia from within their companies to take advantage of the economies that foreign acquisition offer.

Private industry has been active in the international marketplace for many years. Survey responses indicated that many of the same problems being encountered within Department of Defense activities today also were evident in private industry when foreign sources were first evaluated. Although the tasks of government and industry differ in many respects, the lessons learned from private industry can be selectively applied in overcoming internal DOD resistance. This resistance manifests itself in four major areas of concern: foreign product quality; adequacy of foreign technology; timeliness of foreign suppliers in meeting shipment schedules and the dependability of foreign sources to meet continuing

needs. A review of how private industry overcame resistance in each of these areas should provide some helpful insights to the DOD project manager in implementing NATO RSI policy.

B. FOREIGN PRODUCT QUALITY

The belief that foreign-produced products are generally inferior to U.S. products manifested itself in many of the personal interviews and survey responses from government and industry. In most cases, government representatives based their responses on perceptions of the quality available overseas. Few DOD project management personnel had sufficient experience to form firm convictions regarding foreign product quality.

Purchasing personnel in private industry had encountered considerable resistance from within their organizations when foreign components were first being considered for use in company products. Most of the resistance was from engineering and quality assurance personnel who had the responsibility to ensure that the final product met company standards. This resistance was overcome in a very convincing manner. The personnel in these departments were allowed to perform the same tests on foreign products as they did on domestic products prior to acceptance by the company of the foreign components. They discovered that, in most cases, these products were equal to or better than some items purchased domestically.

As the Department of Defense becomes more involved in purchasing systems, subsystems and components overseas, it is imperative that an adequate testing program be utilized to ensure that foreign products do meet government specifications. This may be an easier program for DOD to initiate than it was for private industry. Facilities and organizations such as the Naval Air Test Center, Patuxent River, Maryland, and the Operational Test and Evaluation Force are already in existence to perform testing functions in this country. Some resistance may be experienced in establishing on-site quality assurance functions in foreign companies due to the differences in overseas business practices. With the NATO Maintenance and Supply Agency organizing quality assurance teams in member nations, much of this resistance should be overcome.

C. FOREIGN TECHNOLOGY

The general perception of most personnel interviewed within DOD organizations was that foreign technology was inferior to U.S. technology. The belief that the United States was advancing the state-of-the-art in most warfare areas offered little incentive for these respondents to investigate foreign technology. In many cases, it was felt that the U.S. would be the loser in cooperative research and development projects. The United States' superior technology would be provided to allied governments, with little new technology available in return.

Private industry reported that, on the contrary, there were several areas of superior technology overseas. Experience had shown that modern manufacturing processes, particularly in Europe, were capable of producing selected items that were superior to domestic products. In addition, overseas manufacturers frequently exhibited the capability to perform high quality workmanship on a more consistent basis.

The Department of Defense should be able to identify the areas of overseas technological excellence through the testing process discussed in the previous section. If project offices are evaluating foreign weapons systems in accordance with DOD Directive 2010.6 during the normal acquisition process, areas of superior foreign technology should also be identified. It is recommended that project managers take advantage of the experiences of private industry, where applicable, in evaluating overseas technology. The "not invented here" syndrome will have less influence on future DOD acquisitions when the capabilities of foreign industry are placed in the proper perspective.

D. TIMELINESS OF FOREIGN DELIVERIES

The ability of foreign suppliers to meet delivery schedules required by DOD project offices was investigated in some depth. Most DOD respondents felt that foreign companies, with proper controls, could be held to the same standards required of U.S. companies.

Private industry experience has been generally good in this area. Since the receipt of critical components could be even more crucial to the successful operation of a production line, many private companies adopted a practice of increasing the inventory depth of several foreign produced components to insure against costly stockouts. In addition, to reduce excessive inventories, many companies encouraged overseas suppliers to establish distribution centers in the United States for their products.

The DOD project manager should ensure that potential foreign suppliers are aware of the critical delivery requirements in government contracts and require these firms to demonstrate their capabilities to meet schedule commitments. An emergency plan to provide critical components when the normal transportation method is disrupted would also be advisable. In evaluating overseas companies, project offices should solicit the experiences of domestic companies with these same foreign sources of supply.

E. DEPENDABILITY OF FOREIGN SOURCES

Both DOD and private industry respondents expressed concern that overseas businesses may become sole sources of supply for certain equipments and components. Licensing agreements with United States companies have been utilized to develop alternate sources for components used on foreign weapon systems in the U.S. inventory. This practice, however, does not necessarily coincide with either the family of

weapons concept or the "two-way street" planned for NATO nations.

Private industry generally does not depend on sole-source suppliers in either the foreign or domestic marketplace. Increased inventories, licensing arrangements and product redesign are utilized to reduce or eliminate this dependence. Certain situations were cited, however, where excessive tooling costs and unique capabilities made overseas sole sourcing the only practical alternative.

Department of Defense project managers should tailor acquisition strategies based on the type of equipment being purchased from overseas sources. If an item is "off the shelf" or a stand-alone type equipment (e.g., truck, tank, etc.), a sole-source dependency situation may be feasible. This is the type of equipment visualized to be included in future family-of-weapons programs. Past experiences of government and private industry have shown that foreign sources generally can be depended upon to support their equipments adequately. Equipments, however, which have a large interdependence on other equipment in the U.S. inventory (e.g., communication equipment) should be considered for acquisition from multiple sources.

F. "TWO-WAY STREET"

The DOD project manager must not lose sight of the fact that transactions with foreign governments and companies are two-way in nature. The successful application of defense

regulations to a domestic acquisition is a significant challenge to any project manager. When the same project manager must expand his horizons to include the overseas marketplace, the entire spectrum of acquisition regulations must be re-examined to ensure its compatibility with foreign business practices.

Mr. Teck Wilson, the president of Teledyne Ryan Aeronautical, provided the following perception of a foreign businessman doing business with the U.S. government for the first time. He stated:

> ...Beyond this, doing business with the U.S., at least for the first time, is a Kafkaesque experience. Only our [U.S.] procedures, specifications, processes, tests, formats, controls, etc., are acceptable; our auditors wish to know things even their company controller *may not; competition* is next to godliness; the customer is an adversary, not a partner. And, if he [the foreign businessman] does not understand our English, we will speak louder. [16:215]

Success in international acquisition requires the cooperation and understanding of both the U.S. and foreign representatives. The path to successful acquisitions may not be smooth, but the results should be technically rewarding and economically beneficial.

APPENDIX A

PROJECT MANAGER QUESTIONS

1. DOD Directive 2010.6 requires military departments to consider NATO standardization and interoperability objectives in all development, procurement and product improvement activities. What is being done in your project to implement this directive?

2. Private industry has had considerable success in the foreign marketplace. Do you feel that DOD (and the U.S. Navy) can acquire foreign systems for our own use which meet the cost, schedule and performance criteria we require? Why?

3. What is the user community in DOD which will exhibit the most resistance to procurement of foreign systems? What will be their major objections?

4. Can the U.S. Navy successfully support a foreign system which requires parts support from an overseas business source? Must a U.S. source of supply be developed to ensure proper support?

5. What is your perception of the ability of overseas manufacturers to meet their performance "claims"? Who should monitor these manufacturers?

6. The DOD RSI directive emphasizes cooperative or interdependent R&D programs between the U.S. and allied nations. Is there a possibility (or was there a possibility earlier in your program) to take advantage of foreign R&D efforts in designing your weapon system (or major components of the system)?

7. What would be the reaction of your prime contractor to subcontracting with overseas companies?

8. European manufacturing costs are usually higher. If direct sales to European countries can be increased by producing a certain percentage of the system components in these countries, can the higher costs be justified?

9. Do you feel that Congressional pressure from constituents may impede effective implementation of the DOD NATO RSI policy?

APPENDIX B

PRIVATE INDUSTRY SURVEY

1. Does your company consider purchase of components from overseas businesses? What are the prime considerations in buying (or not buying) from foreign sources?

2. What departments within your organization expressed the most resistance to offshore procurement? If you are now buying foreign components, how did you overcome the resistance within your organization?

3. What were your early experiences (first 18 months) in buying from a foreign source? Later experiences with this source?

4. Have you experienced difficulty in negotiating with overseas companies? (Describe some of the negotiating peculiarities you have encountered.)

5. Can an overseas company be depended upon to provide sole source support for a component? If not, what do you do to ensure support of your components of foreign origin?

6. Can foreign companies provide technology superior to that available from U.S. companies? If so, what areas of technology excellence are available overseas?

7. What has been your experience with overseas costs?

   a. For labor intensive items?

   b. For capital intensive items?

8. Do you have any other experiences in doing business overseas which you feel are noteworthy (e.g., language, business practices, customs, etc.) and which you are willing to share with us?

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