
A Data Generation Process for a Total Package Approach

By

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An international request for those of us in the F-4 Technical Coordination Group (TCG), is a Security Assistance request. We, in the TCG, work for the United States Air Force in the United States Security Assistance Program. It is the security of our nation that puts us in the jobs we are in, and the jobs we do for each individual country are, to us, as important as U.S. government (USG) job tasks.

In the USG, we generate a lot of data to support an Air Force Logistics process. When a foreign government sends a Letter of Request (LOR) to the USG asking to buy a U.S. weapon system, we, the government, are obligated to carefully evaluate the request. Of course, we take into consideration the country's standing with the United States and the various rules governing such a transfer, as prescribed in the Foreign Assistance Act of 1961 and the Arms Export Control Act. In this connection, we must consider such issues as security and technology release, potential applications of the system, etc. [For a good summary of such factors, see pp. 22-23 of this issue which identifies the major factors which the U.S. Army Security Assistance Command uses in addressing foreign requests for U.S. weapons exports.] In this process, the LOR filters down through the State Department, the Office of the Secretary of Defense, the Deputy Under Secretary of the Air Force for International Affairs, and the Air Force Material Command.

A great number of people are involved in the work of data generation which accompanies all such transfers. In the F-4 TCG, the spearhead for this data generation is the Logistics Management Specialist (LMS) or Program Manager. Meetings are an important part of data generation. There is a set of defined meetings that may (or may not) take place during this process. Data collection must precede actual data generation. Getting the right people together to talk about supporting an LOR is just as important as all of the paperwork that gets generated from such meetings. It is always good to get the job done as fast as possible, and if data can be generated without a meeting, that is how the task should be done. However, pulling the right players (i.e., experts) together ultimately will prove to be the smartest and most important approach to compiling and generating required data.

That is the reason for this article—to inform our customers, as well as those who work in international logistics, about the work effort associated with a *new acquisition* and the experts and the process that gets us to the Letter of Offer and Acceptance (LOA) stage and beyond. A *new acquisition*? For the F-4? Anything that is considered brand new and never bought before by a country, and anything that is a new and different added to a fleet, an aircraft, a flight line, or a depot/repair capability is considered a new acquisition. It is important for the people who work in support areas for a country to know what they are up against and why it sometimes takes time, red tape, and obstacles to overcome in order to get what they need. It is also important for the people who work in the areas of new acquisitions. There is a new reality in the F-4 business. That new reality is the fact that F-4 FMS countries are now having to pay all costs for new add-ons, upgrades, etc., because the USAF no longer has a need for these items. It is helpful for country liaison officers to know that in the new world of the F-4 there really is a logistics process, and it really has a definite set of rules, plans, and taskings. It is carried out, not by the F-4 TCG *technical* side of the house, but by the F-4 TCG *logistics* side

of the house, which in many ways, is part of this new world of F-4 business. The one really nice thing about having both the *technical* and *logistics* areas together now in the F-4 TCG is the cohesion we gain by complementing one another with all of the information the customer needs to understand. The process flow you read about here will fall into place and surprise you when you see that it leaves nothing to the imagination and everything to a strong logistics system structure.

I have seen many definitions for the word *logistics*. My definition is pretty simple. Logistics is everything it takes to make a defense system work. The *everything* is what I focus on here. If your information bank requires a more expanded definition, please refer to the various regulations mentioned below.

The *LOR* mentioned in the introduction is what happens first. An official in a foreign country sends a letter requesting the purchase of a defense article or service or military training from the United States Government (USG). This letter can be written on a note pad such as the infamous *yellow sticky*, but usually, it is a formal official government letter. Whatever the form of the request, it must be signed by someone in the requesting government who previously has been identified as having the authority to make such requests. When the letter is received and verified, the complex process of deciding whether or not to support the country's request is initiated. Presuming the decision is favorable to the country, the next step involves the delegation of tasking among the various agencies which will be involved in the process hereafter.

The review process begins almost immediately after the USG receives the LOR. It's even possible in some cases to lump the review process with the LOA data gathering function. When that is done, a lot of times it is informally called the "*Pre Buy*," a process which results in either a task or a meeting. The Pre-Buy meeting is chaired by the Deputy Under Secretary of the Air Force for International Affairs (SAF/IA) at the Pentagon and really involves many players, such as the financial people in the Air Force Security Assistance Command (AFSAC) responsible for follow-on support, as well as the System Program Office people responsible for management of the requested defense items. The System Program Office can bring in the right engine managers, and the Air Force Security Assistance Training Group (AFSAT) at Randolph AFB, TX must have a training representative.

Guess what folks? The LOR may even be received after the Pre-Buy function is complete. Yes! You can count on that one too; it happens when "word of mouth" from an international liaison officer regarding the pending request has already started the ball rolling. Yes! These things have happened.

LOA data [formerly, P&A data] must be determined. The rules call for an LOA to be provided to the Foreign Military Sale (FMS) customer 60 days following receipt of the LOR. We try to make this happen in that time frame. For cases involving a new aircraft acquisition, the Office of the Secretary of the Air Force/International Affairs (SAF/IA) gets in touch with the appropriate System Program Office responsible for the requested items; for follow-on support items, the direction comes from the Air Force Security Assistance Center at Wright-Patterson AFB, OH. The System Program Office for the F-4 Aircraft is the Logistics Program Section located in the F-4 Technical Coordinating Group (TCG) at Ogden Air Logistics Center (OO-ALC) at Hill AFB, Utah.

As part of LOA preparation, AFSAC initiates all preliminary financial planning. AFSAC accomplishes this preliminary work by loading all data as it is gathered into the Case Management Control System (CMCS), the Air Force's automated financial control system. From this LOA data, AFSAC will begin developing the LOA. But, it should be recognized

that the Logistics Program Office in the F-4 TCG had already started gathering LOA data. They feed this information directly to AFSAC so it can be loaded into the CMCS.

As mentioned earlier, experts are needed to come up with the costs for every piece, part, and functional area of support that must be reported, including costs incurred by the United States Air Force (USAF). The experts are also needed to come up with availability, i.e., source and time. The term *source* encompasses USG contractors, manufacturers, hardware stores, storage locations, and any and all places where defense items can be made or found. Higher headquarters may have already determined that the requested items fall within the criteria for releaseability, but now much more discussion takes place about the subject of releaseability and interface with other major defense programs. All sorts of impacts are determined/discussed, and deliveries of the items are forecast. Forecast is a key word here. It must be understood here that LOA data represent estimates. They show estimated costs and projected availability of material or services. (Instead of an LOA, the potential customer country may ask for preliminary data, i.e., Pricing and Availability data [formerly, Planning and Review data] which provide rough order of magnitude estimates which are far less specific than LOA data estimates.)

At this point in the process (Pre-Buy or LOA development), the Program Manager begins formulating a program management plan. This plan must fulfill the requirements of *TPA—Total Package Approach*. Some readers may believe that this is just a cost gathering process, but while cost is an important part of it, there is far more involved. This gathering process encompasses the entire gamut of logistics support. TPA ensures that FMS customers are afforded the opportunity to obtain all necessary support items and services to efficiently introduce and operationally sustain the aircraft they have acquired from the U.S. Meeting the requirements of TPA involves a complete “Data Generation Process.” The five major areas that must be included in TPA are *training, technical assistance, initial support, follow-on support, and sustainment*. A caution is in order: consideration and action in these areas does not occur in a systematic phased order. Rather, one must expect that data and events involving TPA development will occur in almost random order.

Technical assistance, alone, involves many separate steps, one of which is the first major step after Pre-Buy—the *Site Survey*. SAF/IA gathers expert personnel from the applicable weapon system TCG Air Logistics Center (ALC) to see if a country can accommodate the requested aircraft system, whether new or used. This survey needs to be accomplished whether or not the country already has such aircraft in its inventory. Think of a site survey as insurance, i.e., to insure the system can function properly and effectively in the purchasing country. What the experts find upon performance of the site survey will have a considerable impact on case development. If a country is really serious about going through with a specific acquisition program, its personnel will take advantage of the advice of the experts regarding inclusions, changes, and/or expansions needed for the supporting infrastructure. Some areas include: facilities, organizational structure, intermediate shops, programmed depot maintenance, geographics, flight line, manpower, support equipment, test equipment, power supplies, training, and everything else. Yes! Everything! We try to ensure that they don't miss anything. Each one of these areas encompasses a large realm of possibilities and their requirements can and do overlap each other.

This is where this article gets complicated. For example, how does the country pay for a Site Survey? In most cases countries already have an existing LOA which they can use to pay for the survey before the LOA for the new acquisition is signed. If they do not have such an existing LOA, the Air Force can fund for the site survey from its FMS administrative budget, to be reimbursed, when the new LOA is written.

A key event occurs when SAF/IA calls for a "Kick Off Meeting"— a meeting where all the key players participate. These include Command Country Managers from SAF/IA and Case Managers from AFSAC; Program Managers and Spares/Support Equipment Managers from the System Program Offices at the Air Logistics Center's (ALC's); and Training Managers. It may seem as if the Kick Off Meeting should be the one in the very beginning which I previously called the Pre-Buy Meeting. But it's called "Kick Off" because we now have a signed LOA and we are initiating the implementation of the case.

Three types of support should be considered in the beginning stages when generating data during the Pre-Buy phase.

Initial support is driven by the development and production schedule, based upon the threat. Yes, they do look at the role of threat as one of the impacts on country requirements. Initial spares projections are decided upon for a period of time believed necessary to meet the threat, usually one year. According to the threat conditions at the time, some countries may get high priorities in these areas. (Usually, this determination is made in the early stages of LOA preparation.) When the LOA has been signed, procurement for the initial spares is initiated. Everyone gets involved with initial support from SAF/IA to AFSAC to the ALC. The types of items which constitute initial support are: Standard Support Equipment; Standard Weapon System Spares (such as aircraft, avionics, engines, Alternate Mission Equipment, and Precision Measurement Equipment Laboratories); Aircraft Ferrying; Peculiar Support Equipment; USAF Standard Technical Orders; Country Standard Technical Orders; and finally, Weapon System Drawings.

Follow-on support, the second type of support, is initiated by AFSAC since they manage follow-on support LOA requirements. There are different kinds of cases which AFSAC can establish to meet follow-on support requirements in accordance with AFMAN 16-101, International Affairs and Security Assistance Management. Follow-on support procurement should also be started at the same time initial support procurement is begun. The acquisition lead time is quite long for these items: substantial time is involved just in setting up follow-on support agreements, and lead time is further expanded by the time necessary to produce and procure the required items. The ALC/TCG plays a critical role in establishing the requirements and procurement for this support which encompasses on-going weapon system spares and support equipment, depot support, aircraft modification/avionics updates, and engine upgrades.

Sustainment, the third type of support, is the responsibility of the FMS TCG for the weapon system. The F-4 TCG located at Ogden ALC, Hill AFB, Utah, has a logistics office with four Program Managers who have sustainment program responsibility over the F-4 FMS countries. It is these managers who generate the LOA data and submit it to the AFSAC Case Managers for input into the CMCS. They have identified all of the equipment specialists, aerospace engineers, inventory managers, production managers, and possibly contracting officers who are considered the experts in the entire realm of support. They have already been holding their very own P&R meetings for the purpose of identifying requirements and generating the necessary data collection.

The tasks of data generation for a particular weapon system support are key to the development of an LOA. As data generation proceeds, further areas of *technical assistance* become necessary and important. In addition to the Site Survey team, SAF/IA must project funds for the entire *TCG support*. Costs of membership for the participating member countries (whose membership is based on having the same aircraft) are established on a pro-rata basis, factoring the number of aircraft involved in a particular weapon system sale.

A major part of this TCG support includes the Technical Order (T.O.) manuals for which each country must furnish publications money on a publications case. Similarly, funds must be considered/projected to support a country's *International Liaison Officer (ILO)* who will be assigned to work within the TCG. Support for this position would include the costs of office space, utilities, office supplies, and automated data processing equipment. If a country requests a U.S. *Weapon System Liaison Officer (WSLO)* to be located in the country, then cost projections for this position must also be determined. WSLOs are assigned to specific countries to assist them in resolving logistics and maintenance problems.

Finally, there is one other area of supply support that falls under the purview of technical assistance when gathering LOA data which we call *Country Team Management and Travel*. Funding for wages and travel are required for a team of USG personnel who are skilled in logistics/acquisition and technical areas and will be implementing the LOA. These are the Program Managers, Spares/Support Equipment Managers, and Equipment Specialists who will perform the many tasks involved in supply and technical assistance. In the case of a new acquisition, their travel costs are separate and apart from the regular TCG In Country Reviews (ICRs) and the TCG annual World Wide Reviews which are provided strictly for supply and technical questions involving a country's "existing fleet."

This Country Team is located at the ALC, and it is to FMS what icing is to a layer cake. They are an important link to the System Program experts. In the case of the support for the F-4 Aircraft, which is now far into the sustainment support stage, a whole team of people is unlikely even for a future sale of used aircraft. For such a case, one Program Manager is set up in the TCG with sole responsibility for the entire logistics supply support arena. The F-4 Program Manager for logistics very possibly manages two or more countries rather than just one, and handles everything that a Country Team normally would manage for a major, new aircraft acquisition case. The F-4 Program Manager also would seek the assistance of various Equipment Specialists in the TCG for Avionics, Mechanical and Structural aircraft areas. And of course, the Aerospace Engineers are always called upon. The following are just a few of the many different areas which technical assistance encompasses:

- Avionics Software Support
- Aircraft Structural Integrity Program
- Interim Contractor Support
- International Engine Management Program
- Contractor Engineering Technical Services (CETS)
- Test Measurement Diagnostic Equipment (TMDE) Calibration and Technical Services,
- Precision Measurement Equipment Laboratories
- Alternate Mission Equipment
- Ammunition
- Cartridge Actuated Devices/Propellant Actuated Devices (CADs/PADs)
- and all forms of Repair/Return and Repair/Replace.

LOA data in these areas must be requested from each applicable organization to include all commodity managers. The TCG collects the data from these groups when the FMS scenario applies.

Training considerations must also be reviewed. The Air Force Security Assistance Training (AFSAT) Squadron at Randolph AFB, Texas will generate all the cost projections for the training requirements of the LOA. These will include costs for facilities, travel, equipment, manpower, and everything else it takes to perform the required training, and to have country people trained to perform the training. AFSAT will provide all this data to AFSAC for consolidation and input to the LOA. Should the country choose to not ask for

training in the beginning but then comes in later with a training request, the TCG will generally coordinate the request because most of the time training is requested as the country begins to study and identify internal systems they have procured and match them with their manpower expertise.

Used Aircraft Sales entail all of the requirements discussed above. Program Managers who are part of a Country Team at the ALC, or in the case of the F-4, the Program Manager in the TCG, collect the data required for a used aircraft sale. Used aircraft can be found in many different places. For the procurement of used aircraft, many additional considerations come into play over and above the requirements associated with the procurement of new systems. Those personnel in the USAF who have responsibility for the upkeep of the used aircraft should be able to provide information about the aircraft, such as (1) configuration; (2) engine hours; (3) status of Line Replaceable Units (LRU's), (even the ones that might be missing); (4) Time Compliance Technical Orders (TCTO's) that have already been performed and ones remaining that need to be performed; (5) airframe hours (in the case of the F-4, all Damage Index computations showing structural fatigue history of the aircraft); (6) and overall status.

The following is a list of information which should be physically located where the used aircraft is found, i.e., a squadron office or storage facility file: (1) AF Forms 781, Aircraft Series; (2) AFTO Forms 95, Historical Records (all of them); (3) the "Jacket File" (that's Crew Chief talk, but I can assure you, they will know what it is); (4) the "Tree" (more Crew Chief talk) which is a computer-generated document that will consist of about 1000 pages of information for one aircraft. More specifically, a "Tree" will contain status and configuration for each aircraft, to include airframe and engine hours, missing LRU's, open TCTO's, and general problems. A tree may not exist on older aircraft such as the F-4; if available, a tree can be acquired through a Program Manager. Access/availability is usually provided at the area where the aircraft are located. For instance if the used aircraft are stored at the Aerospace Maintenance and Regeneration Center (AMARC) at Davis Monthan AFB, Arizona, we have an interrogation capability via remote terminal there. Hill AFB, Utah, also has remote terminal access to information for aircraft for which they are responsible. The "Tree", the "Jacket File," the various forms, etc., should all be used as tools by which to assess the aircraft's condition/suitability for sale, and to accurately cost the aircraft for the purpose of a sale.

Aircraft Regeneration comes after the used aircraft sale step. Whatever efforts must be taken to regenerate a used aircraft into a usable product involves various costs and represents a process which must not be left out of the LOA data estimates. Such regeneration costs should include, as a minimum, the following: costs for security deletions associated with classified hardware; functional check flights; CADs/PADs and personal life support systems installations; and wage costs for the labor of all required specialists. Technical guidance on aircraft regeneration are provided in applicable technical orders on mothballing, which describe procedures for how to unwrap an aircraft as well as to wrap it.

Aircraft Modifications, if any are still required, must be followed up. This is one of the bigger areas of the total package approach. An enormous amount of work is associated with Engineering Changes Proposals (ECPs). The costs of these ECPs, and all the associated costs that accompany them, must be identified where possible; if no information is possible, estimates of like systems may, and have been used in the past to provide cost estimates. Program Managers rely on system Modification Managers for all such information.

Engine Modifications, like aircraft ECPs, are just as lengthy and complicated to deal with as far as the whole acquisition process is concerned. It is a little easier in the F-4 case since we have regular access to the International Engine Management Program (IEMP) at the Oklahoma

City ALC for information dealing with the F-4's J-79 engine. With respect to the long term sustainment of the F-4 Aircraft, we have been advised that the IEMP will be available, albeit with a reduced staff, of engineers, technicians, and item managers, to support FMS requirements as long as necessary. Production managers will continue to contract for J-79 workload, and they are the single point of contact for all FMS customers who maintain their membership in the IEMP. We in the TCG are lucky since there is no need to redesign, modify, or improve components on the J-79 engine. The method used now is simply to replace problem parts with new parts to solve defects. IEMP has a safety contingency plan in place, and at the time of this writing, there are spare J-79 engines available for offer to FMS countries.

The final TPA item, *or maybe just the last one I can think of*, is *Mid Life Update*. As an aircraft ages, things begin to happen to it that may have never been anticipated by the engineers who worked on the initial development effort. Time Compliance Technical Orders (TCTO's) are generated and LRU kits are created. Installation procedures are written. New LOAs are established. Work to provide cost estimates for all these things, from hardware to installation to paperwork to expertise, is essential to the sustainment of an aircraft fleet from mid life support through aircraft final bed down. The TCG is totally responsible for all of the help provided to the foreign customer in this area.

Now, back to the Program Manager. Throughout the TPA data collection process, meetings are continuously underway to insure all necessary data is being collected. A sub-process entitled *Pre-Definitization* is begun to gather lists of all the aircraft items it will take to maintain support of a particular FMS fleet. The number of aircraft purchased and the projected flying hour program of the FMS fleet are the deciding factors in the size of the final items list. This list should include every item needed for fleet support, from initial activation through follow-on bench stock support, and through sustainment if possible. It is unlikely that the Pre-Definitization list will ever include all of these items, but it is the ultimate goal.

Definitization is the process by which the support requirements for the foreign fleet are adjusted to meet a purchaser's requirements. Many Definitization Conferences may be required to complete this process. The countries must go over each item on the list individually and determine, first and foremost, if they can afford the quantity that has been computed. In some cases, these decisions may have already been made and a budget may have been set. Nevertheless, the purchasing country must have the right kind of people in attendance at these conferences to make technical, maintenance, and funding determinations. Experts need to be available from both the USG and the purchaser country to make assessments of these individually items. These experts even need to be capable of seeing the unseen, as, for example, determining that a Line Replaceable Unit (LRU) on a list has omitted all the Shop Replaceable Units (SRUs) that apply to it; or, the opposite can happen, as when an SRU is listed without its LRU. Definitization is a long and complicated task which should not be undertaken lightly. When these dual processes of definition are complete, the Spares/Support Equipment Managers and Case Managers input all of the requisitions which are required to get everything on order.

A variety of formal management meetings are conducted during the implementation of a case. For example, *Program Management Reviews (PMR's)* may be held twice annually. They are chaired by the Program Manager, and bring together all the key U.S. and foreign managers involved in a case. They coincide with the milestone completion of each stage of a program. The support of specific items can be discussed; however this review is usually based on the requirements which were identified in definitization process and what were established as program milestones. While whole system problems can be discussed, the PMR usually focuses on the *here and now* status of *who needs to do what and how it should be done* at a

particular stage in the program development. (Milestones are defined in AFMAN 16-101 Attachment 23.) Problem solving and the clear definition of tasks to be performed is important during these reviews.

In addition to the PMRs there are meetings of *Management Action Teams (MAT's)* which are held at various times of the year to review the implementation of tasks identified at the PMRs. A variety of tasks—large and small—are accomplished during and after these little get-togethers. These meetings don't always sound important but each one is a form of communication that is much needed; and without such meetings, very important tasks may be delayed, lost, or discarded. The action items that come out of the MAT are the very core of milestone achievement.

Finally, there is the *Supportability Assessment Review (SAR)*. Whenever someone brings a concern to the attention of the Program Manager, a SAR can be held. Some Program Managers do this on a periodic basis in order to keep Item Managers (IMs) aware of their needs, or when contractor performance has become a management issue. It is always important to have the IMs present at these SARs, inasmuch as they are the ones who directly perform support for an item. Similarly, country representatives should be in attendance at all of these SAR meetings. Every problem item which has been requisitioned in support of an LOA can be discussed at a SAR, to include anticipated problem items which must be discussed to curtail any possible future non support.

An important variant in this process involves the requisitions that are supported by the Parts Repair and Ordering System (PROS) program. The IM has no information pertaining to the support status of PROS requisitions. While this may seem to be a program shortcoming, PROS personnel regularly deal with these support issues, and they can provide the necessary information regarding non-standard item requisitions, such as vendor identification, problems, repair, costs, etc. A Program Manager can help obtain item status for a country from the PROS representatives. For your information, an update to AFM 67-1, Vol IX, Chapter 8, Section G; is currently being finalized which will provide a very good tool for Program Managers to use in supporting their countries. This change will provide a thorough explanation of all the phases of support at the time that requisitions enter the Security Assistance Management Information System (SAMIS).

One further factor must be mentioned. Throughout the implementation of the TPA Data Generation Process, the Program Manager must screen all data for releasability to the foreign country. In some areas, the PM will seek the assistance of the Foreign Disclosure Policy Office (FDPO) to ensure that only USG approved information is furnished to an eligible foreign government. Similarly, since data on the programs of different countries is maintained at the TCG, it is important to screen all materials to make sure that information one country's information is not improperly given to another country.

Summary: The data collection process is critical to success in supporting a foreign government's acquisition of a U.S. Air Force weapon system. As indicated above, such data is generated by real technical, logistic, and financial experts, some of whom built the original weapon system and worked on it from Day one. Support for such systems is secure when the USAF acquisition process is used. Some downsizing has occurred, but many of the experts remain. Consolidation has occurred in the F-4 program, and will likely take place with other weapon systems as well. One manager may handle an expanded effort, such as more than one country, multiple weapon systems, etc. Nevertheless, purchaser countries can be assured that we will continue to support their requirements to the best of our abilities.