

Meeting the Requirements of DoD 8570.1-M

Leigh Armistead, *Honeywell Technology Solutions Inc* and PhD (c) *Edith Cowan University, Perth, AU*

The long awaited final portion of the Department of Defense instruction on tracking and certifying Information Assurance education and training was released in December 2005. This paper delineates how one military contractor proposes to ensure that not only do they meet the requirements of this mandate, but also to offer a solution to support the government as well. This proposal could benefit a number of the CISSE institutions as they are listed as organizations that can provide the required training and education that the IA Workforce will need to comply with this requirement.

I. INTRODUCTION

On 15 August 2004, DoD Directive 8570.1 *Information Assurance Training, Certification, and Workforce Management* was issued which required the training and education the entire Department of Defense (DoD) IA Workforce with the appropriate tracking and certification mechanisms. This instruction will revolutionize the management and certification of Information Assurance (IA) professionals across the military services over the next four years, because it mandates the training and mapping of the IA Workforce across the entire department to include contractor personnel. It is designed to increase the quality and level of computer security education knowledge of these personnel, and to ensure that the DoD retains the right people to conduct operations in the Information Age. If done correctly, this directive can revolutionize the manner in which the DoD trains and manages its IA workforce.

On 16 December 2005, the DoD approved the 8570.1-M *Information Assurance Training, Certification and Workforce Management Manual*, and it is the “how to” directions to ensure that all IA personnel, whether military, civilian and contractor, are trained and certified correctly within the four year period. In this document, personnel are primarily divided into two categories, technical and managerial, with three levels, with another section devoted to the DAA.

IA Technical I, II and III (IAT)
IA Management I, II and III (IAM)

Likewise this new manual provides guidance and procedures for the training, certification and workforce

management of the DoD IA workforce, as well as information and guidance on reporting metrics and the implementation schedule for reference. In addition, the training and qualification of this IA workforce will depend on a clear understanding of the job requirements, the skills needed, industry standards for training and the individuals’ current skill level.

II. MEETING THIS REQUIREMENT INSIDE HONEYWELL

Honeywell like other DoD contractors, has to abide by this new requirement. Per para C2.3.9 of this instruction, “Contractor personnel supporting IA functions in Chapters 3 and 4 shall be appropriately certified prior to being engaged. The contracting officer will ensure that contracting personnel are appropriately certified and provide verification to the Defense Eligibility Enrollment System (DEERS).” So it is imperative that Honeywell ensure that its IA career path maps to this forthcoming new requirement. In addition, it appears that contracts will start reflecting this change as well, per para C3.2.4.8.1, “New contract language must specify certification requirements. Existing contracts must be modified, at an appropriate time during the phased implementation, to specify certification requirements.” In addition, specific language exists that all contractors must abide by as shown below:

C7.3.4. Contractors:

C7.3.4.1. Identify all contractors performing IA functions and align with the categories and levels described in Chapters 3 and 4.

C7.3.4.2. Ensure that contractor personnel, including Local Nationals, have the appropriate IA certification and background investigation.

C7.3.4.3. Ensure the capability to report in detail on individual contractor employee certification(s) and certification status.

C7.3.4.4. Specify contractor certification and training requirements in all contracts that include acquisition of IA services. Eligible contractor personnel must have their IA certification and function level documented in the Defense Enrollment Eligibility Reporting System (DEERS).

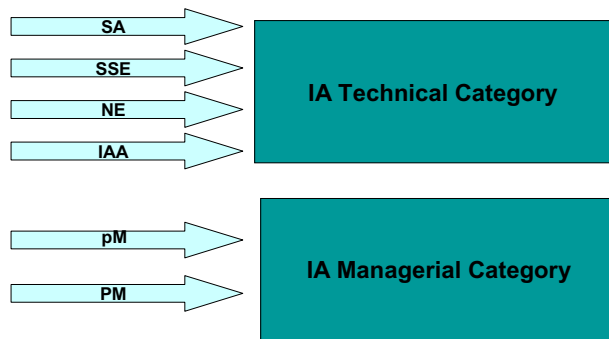
C7.3.4.5. Contracting officers’ technical representatives will enter the required data into a Defense

Manpower Data Center application which will feed into DEERS.

From an internal perspective, Honeywell has developed a methodology to meet this mandate. For example, there will be multiple Honeywell Job Categories (HJCs) or functions that can fulfill these six positions, but all will allow career progression for IA personnel within the currently functions and tasks conducted for the DoD. These include Security Admin, Project Manager, Program Manager, Network Engineer and System Security Engineer. A sixth category of Information Assurance Analyst is proposed and together all of these functions would map into the two proposed career tracks. The goal is to work within Honeywell's culture, while still abiding by the DoD mandate as shown below:

- 1 Security Admin (SA) 1-3 = IAT 1-3
- 2 Networks Engineer (NE) 1-4 = IAT 1-3
- 3 System Security Engineer (SSE) 1-4 = IAT 1-3
- 4 IA Project Manager (IA pM) 1-3 = IAM 1-3
- 5 IA Program Manager (IA PM) 1-5 = IAM 1-3
- 6 IA Analyst (IAA) 1-4 = IAT 1-3

HJCs per DoD Category

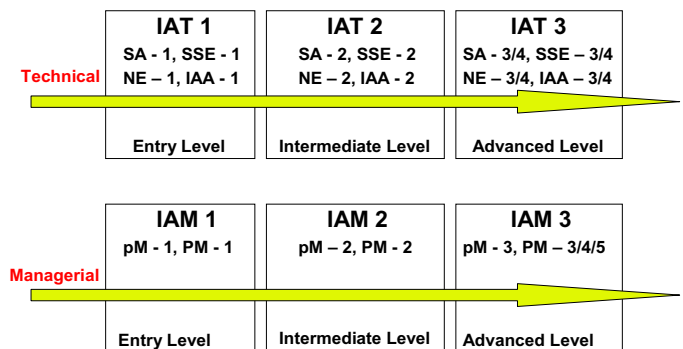


The specific details for each of the six positions are promulgated in the DoD 8570.1-M. A list of attribute and requirements has been promulgated, and these are applicable to all personnel in the DoD IA workforce including contractors. Therefore it is proposed that the HTSI IA Career Path will comprise two different tracks with three levels in each area, to correspond to the DoD mandate.

As mentioned above, a new HJC is proposed as well for Honeywell personnel, as shown in the last bullet. It would fit into the technical category and it would also cover certification and accreditation as well as security assessment tasks. Our goal at Honeywell is to minimize the addition of new HJC categories, and to instead use functions and titles that already exist within HTSI, verses

replacing all currently used categories. Therefore what you see is four HJCs to advance in the technical arena, to give our personnel the greatest flexibility. We did this because we prefer to keep existing categories and only add one new area, while still abiding by DoD minimum standards. In addition, one will notice that some HJCs have more than the required three categories. In that case, the level 3-5 personnel are simply grouped together in the senior level IAT or IAM 3 areas. Finally each career level will be automatically required to meet the IAT or IAM requirements in addition to those standards set by Honeywell on existing categories. We plan to do this to ensure that any HJC that is used for the IA career path is mapped to the existing categories that are adopted by the Office of the Secretary of Defense (OSD), so that ITAP will not be excluded from any future DoD opportunities.

Proposed Mapping of HJCs to DoD 8570.1-M



The diagram above shows a proposed mapping of the major tracks for Honeywell to the DoD standards and IA job categories. This chart shows the direct correlation between the proposed break out of the tracks with the DoD Standards and Honeywell Job Categories (HJC). This methodology incorporates a lot of flexibility, because it can accommodate changing standards from the OSD without having to change the HJC requirements. This is because the need to meet the 8570.1-M training is simply a single task in the specific code, as shown in the sample HJC. This proposed career path will of course include options for upward mobility with education and training opportunities to include formal certificates and certifications. Merit increases and promotions will be a factor, as with any standard personnel architecture. The Honeywell IA career path will conform to DoD regulations and will be a formal part of the Human Relations system.

The final part of the DoD 8570.1-M requirement maps to security certifications. These will be required for all contractor personnel serving as part of the DoD IA Workforce. The entire set of rules and regulations for these can be found in Appendix 3 of the instruction and

they lay out in detail any restrictions and additional requirements. So the bottom line is that soon DoD contractors will not only be required to meet certain IA attributes and requirements to be approved for different workforce positions, but they must also obtain technical IA certifications as well. Honeywell is addressing this issue as well with an aggressive in-house training program.

III. SUPPORTING DOD ORGANIZATIONS TO MEET THIS REQUIREMENT

As mentioned earlier, all DoD IA and IT personnel must be identified, tracked, and managed to ensure Information Assurance (IA) positions are staffed with personnel trained and certified by category, level, and function. All positions involved in the performance of IA functions must be identified in appropriate databases by category and level as shown in Figure 1. The status of the DoD Component IA certification and training must also be monitored and reported as an element of mission readiness and as a management review item. Any DoD IA plan will therefore abide by all DoD mandated standards for IA training. Effective and efficient training and qualification of the IA workforce will depend upon a having clear definition of the job requirements, identifying the appropriate skills, utilizing industry standards for training and qualification, and understanding the current skill levels of the workforce. To do this Honeywell proposes a solution that meets the requirements of this new manual, while at the same time assisting the government clients in their need to abiding by the mandates of DoD 8570.1-M as shown in Figure 2.

- Define and develop training metrics to track compliance with this plan and with DoD Directive 8570.1
- Provide recommended changes to existing IA training products, processes, and systems
- Evaluate the IA Training Plan
- Document all procedures, processes, programs, and plans related to the implementation of the IA Training Plan.
- Map each IA identified position to the six relevant DoDD 8570.1 levels and ensure the categorization of skills and knowledge are in compliance with the DoD 8570.1 directive. This will include mapping existing resources to DoD requirements. Shown below are two examples of this for the IAM-1 and IAM-2 functional requirements and certifications.

This specific proposal defines a solution which not only can be used in a DoD enterprise-wide approach, but also

can also be used at the department or division level. It allows individual managers within DoD to use this program to satisfy the requirements of this policy quickly.

- These personnel will be assigned to one of the six aforementioned training levels (IAT 1-3, IAM 1-3) and training plans shall be mapped out for each individual per Figure 3.
- The Work Break Down Structure will be documented and available via web services on the IA Training, Certification and Education Management Tracker (IATCMT) which is a small program which Honeywell can integrate into any DoD Learning Management System (LMS). Shown below are examples of the tracker for an organization and by individuals.

In the screenshot above, the diagram shows a typical display that a manager would see and the type of report that could be used to understand their current status. This display also helps to explain status of different individuals to the chain of command, as each organization works to comply with the 8570 requirements. In this case, a number of the personnel that are rated at the higher levels have not completed their training. This capability is shown in the next two screenshots below where the available courses that could “gap fill” these particular requirements are displayed. These classes come from the mapping that would be conducted by Honeywell. All of this can be tracked and verified easily with the IATCMT, as shown in Figure 4.

With the use of the IATCMT, Honeywell will be able to quickly ascertain the level of training required for any DoD staffer. Of course not all personnel will be fully qualified immediately and additional training will be needed in order to comply with the DoDD 8570.1 requirements. The question is how the respective IA workforce obtains these IAT and IAM qualifications. Honeywell understands there are many ways that one can receive IA certification. Traditional classroom courses such as at the National Defense University (NDU) or any one of the NSA approved universities qualify in this category. Other brick and mortar training sites can be obtained through commercial vendors such as SANS which are funded through a variety of sources. Web-based or distance learning courses are also available, such as Karta, who offer a complete 4013 course online. All of these avenues offer different opportunities for individuals to meet the 8570.1 requirements per Figure 5. Therefore, a component of the IATCMT will show any DoD Program Manager all of the methods in which they can obtain additional training for their staff. Examples are shown below:

- DoD and DLA existing courseware
- Thomson NETg courses
- Thomson NETg Course ILT workbooks
- Karta Courses
- Other vendors, such as ISC² and SANS IA training courses

All of this capability will reside in the IATCMT as mentioned earlier and shown in Figure 6. This application will be web-based and can reside on any DoD LMS, thus providing easy access for the various program managers to update their personnel IA qualifications and training credentials online. Screenshots of the program are shown below. Not only will the standards be shown, but the locations where courses that teach these standards whether it is web-based such as NETg, or through an academic institution like Idaho State University, or ultimately through a DoD resident class.

IV. CONCLUSION

To summarize, what this proposal delineates is a possible solution to meeting the mandates for DoD 8570.1-M. This proposal is to demonstrate a small application that can be utilized by the government to map their workforce and meet this new mandate. There are of course many ways to do both of these tasks, but the bottom line to remember is that we are developing a process within a larger framework. This is a DoD requirement, therefore we must ensure that any methodology that we use, abide by mandated training and certification standards. In addition, besides the OSD, other Federal organizations have indicated that they will follow the DoD's lead and use their standards. Therefore the prudent approach that is advocated in this proposal is to develop a system that utilizes the 8570.1-M requirements as a baseline.