CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

National Policy

**ORDER
JO 3000.24
CHG 2**

Effective Date:
01/05/2011

SUBJ: ATO Terminal Automation Specialist Training

1. Purpose. This change transmits revised pages to Order JO 3000.24, ATO Terminal Automation Specialist Training and Attachment 1, FAA Form 3000-28, ATO Automation Training Record.

2. Who This Change Affects.

 a. This document affects all FAA Operational Support Facilities. It is distributed electronically via the FAA intranet and special mailing to all Operational Support Facilities within the FAA, the FAA Academy, selected offices in FAA headquarters and the William J. Hughes Technical Center (WJHTC). This order can be accessed via the FAA Employee website.

 b. For electronic copies, use the Technical Library websites at http://nas.amc.faa.gov/technical_library/index.jsp,   or https://employees.faa.gov/tools_resources/orders_notices/.

3. Risks.

 a. In compliance with the latest edition of Orders 1100.161, Air Traffic Safety Oversight and JO 1000.37, Air Traffic Organization Safety Management System (SMS) all NAS changes require an SRM assessment prior to delivery. This applies to all products developed under this order.

 b. The Safety Risk Management Report is available at: http://nas.amc.faa.gov/technical_library/browse?type=mtd&file=3000_24_mthb_chg2_srmrpt.pdf.

4. Disposition of Transmittal. Keep this change**.**

5. Explanation of Changes. These changes include:

 a. Adds general editorial and administrative changes.

 b. Updates appendix 1 instructions to clarify the course references between FAA Form 3000-28 and the Instructional Program Guides in appendices 2 and 3 of this order.

 c. Updates appendixes 2 and 3 instructional program guides (IPG) to include on-the-job training (OJT), and courses for new programs currently used by ATO Terminal Automation Operational Support Facilities.

 d. Adds Appendix 4, STARS System Administration IPG.

Distribution: Electronically distributed via FAA intranet   **Initiated By**: AJT-1

PAGE CONTROL CHART

Remove Pages	Dated	Insert Pages	Dated
All Pages	01/27/2009	All Pages	01/05/2011

for Malcom Andrews
Director, Terminal Program Operations

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUBJ: ATO TERMINAL AUTOMATION SPECIALIST TRAINING

This order provides guidance and prescribes instructions and standards for the administration of Air Traffic Organization (ATO) Terminal Automation Specialist training. All persons involved in this training are required to be familiar with and comply with this order. The chapters contain information generally applicable to all ATO Terminal Automation Specialties. The appendices contain instructions for creation and maintenance of official training records and information specific to individual automation specialties such as Common Automated Radar Terminal System (ARTS) and Standard Terminal Automation Replacement System (STARS). The required FAA Form 3000-28, ATO Automation Training Record is included as attachment 1.

Teri L. Bristol
Director, Terminal Program Operations

Distribution: Electronically distributed via FAA intranet and Special Mailing to all OSFs and selected offices in FAA headquarters, WJHTC, and FAA Academy

Initiated By: AJT-1

RECORD OF CHANGES

DIRECTIVE NO. **JO 3000.24**

CHANGE TO BASIC	SUPPLEMENT			OPTIONAL	CHANGE TO BASIC	SUPPLEMENT			OPTIONAL
1									
2									

FAA Form 1320-5 (6-80) USE PREVIOUS EDITION

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APPENDIX 4. STARS SYSTEM ADMINISTRATION INSTRUCTIONAL PROGRAM GUIDE (IPG)

RESERVED

ATTACHMENT 1. FAA FORM 3000-28, ATO AUTOMATION TRAINING RECORD

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CHAPTER 1. INTRODUCTION

SECTION 1. GENERAL

100.   PURPOSE OF THIS ORDER. This order conveys instructions, standards, and guidance for the administration of Air Traffic Organization (ATO) Terminal Automation Training Program.

101.   WHO THIS ORDER AFFECTS. This order affects all FAA Operational Support Facilities (OSFs). It is distributed electronically via the FAA intranet and Special Mailing to all OSFs within the FAA, the FAA Academy, and selected offices in FAA headquarters and William J. Hughes Technical Center (WJHTC). This order can be accessed via the FAA Employee website.

102.   CONTENTS. Instructions for creation and maintenance of training records, Common Automated Radar Terminal System (Common ARTS) Instructional Program Guide (IPG), Standard Terminal Automation Replacement System (STARS) IPG, and STARS System Administration IPG are included as appendices to this order. The required FAA Form 3000-28 ATO Automation Training Record is included in its entirety as Attachment 1.

103.   DELEGATION OF AUTHORITY. The Director of Terminal Program Operations is the delegated authority in all matters related to the training programs and policies described in this order. Supplemental changes and requests for waivers to programs and policies transmitted by this order must receive prior approval through written requests to the Director of Terminal Program Operations. If a conflict arises between the contents of this order and other FAA issuances, managers must request clarification from the Director of Terminal Program Operations.

104. – 119. RESERVED.

SECTION 2. TERMS OF REFERENCE

120.   WORD USAGE AND DEFINITIONS.

a. Word Usage. This order follows the word usage guidelines provided in the latest version of Order 6000.36, Communications Diversity.

b. Acronyms.

1)	AD	Automation Developmental
2)	ARTS	Automated Radar Terminal System
3)	ATO	Air Traffic Organization
4)	CBI	Computer Based Instruction
5)	CARTS	Common ARTS
6)	EHOT	Enhanced Hands On Training
7)	EPF	Electronic Project Folder
8)	FPL	Full Performance Level
9)	IPG	Instructional Program Guide
10)	NAP	Needs Assessment Program
11)	NAR	National Automation Request
12)	OJF	On-the-Job Familiarization
13)	OJT	On-the-Job Training
14)	OJTI	On-the-Job Training Instructor
15)	OSF	Operational Support Facility
16)	OSFM	Operational Support Facility Manager
17)	OAR	Operational Analysis Request
18)	OAT	Out-of-Agency Training
19)	PTR	Program Technical Report
20)	SOP	Standard Operating Procedures
21)	STARS	Standard Terminal Automation Replacement System
22)	WJHTC	William J. Hughes Technical Center

c. Definitions.

1)   Additional On-the-Job Training (OJT) Hours. OJT hours authorized beyond the normal target hours.

2)   Automation Developmental (AD). A terminal automation specialist who has not achieved journeyman level for the assigned facility/automation specialty.

3)   Automation Specialty. Specific air traffic computer system supported by the specialist's automation support facility. These include systems such as Common ARTS and STARS terminal computer systems.

4)   Centralized Training. Agency training conducted at a location other than the AD's regularly assigned facility (for example, FAA Academy or Center for Management and Executive Leadership). This may include resident courses conducted locally and funded centrally.

5)   Certification Skill Check. An assessment used to determine if an AD demonstrates the knowledge and skill level necessary to certify on a job task or function for a particular automation specialty.

6)   Certification Training. Training conducted to develop the knowledge and skills required to qualify specialists for certification to perform automation duties on the system(s) required by their specialty.

7)   Classroom Training. Instructional presentations administered in a classroom environment.

8)   Comprehensive Certification. An assessment made by the OSFM or designee to determine if an AD possesses all the skills necessary for an automation specialty and therefore achieves journeyman status.

9)   Computer Based Instruction (CBI). Instructional delivery method using interactive computer technology.

10)   Correspondence Study. Program conducted primarily by self-paced lesson plans.

11)   Discontinuation of Training. A result of a training review that recommends no further training be conducted.

12)   Direct Monitoring. Observing and reviewing all activity related to performing automation duties at an automation specialist's duty location.

13)   Electronic Project Folder (EPF) Database. The EPF Database is used for generating, storing, tracking, and maintaining PTR and Project Folders.

14)   Facility Training. Training conducted at the employee's regularly assigned duty location.

15)   Failed. Grade assigned to a student who does not satisfactorily complete a course.

16)   Full Performance Level. Status of a terminal automation specialist who is able to perform all required duties of a CARTS or STARS terminal automation specialist for their assigned facility. Journeyman level.

17)   Incomplete. Grade assigned to a student who does not complete a course because of mitigating circumstances that are not related to performance (e.g., prolonged illness, death in family, etc.).

18)   Instructional Program Guide (IPG). Guide that outlines required On-the-Job Training content for unique ATO automation specialties. Terminal Automation IPGs are included as appendixes to this order.

19)   Journeyman Level. Status of a terminal automation specialist who is able to perform all required duties of a terminal automation specialty.

20)   Laboratory Training. Training conducted with actual air traffic control computer systems or alternative backup or simulation computer equipment.

21)   National Automation Request (NAR). Facility's primary method of reporting problems or requesting a change to its site adaptation.
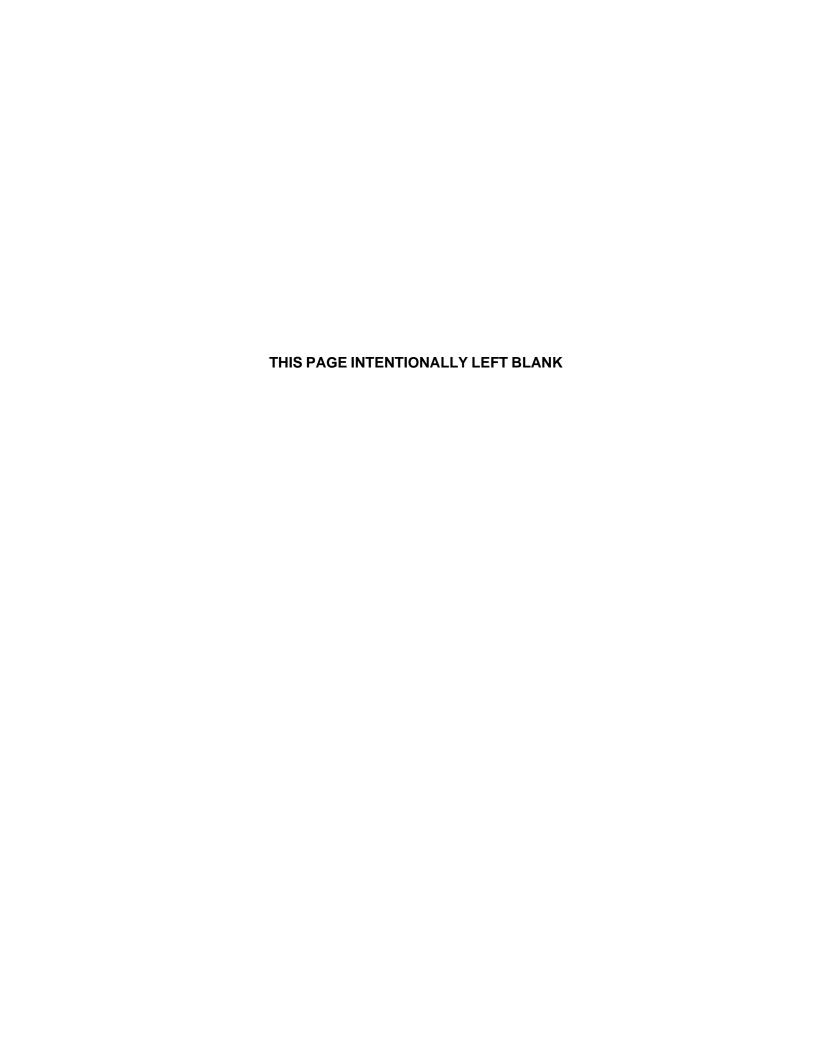
22) Needs Assessment Program. Provides the capability to capture, validate, and approve project needs as NAS requirements.

23) On-the-Job Familiarization (OJF) Hours. Time that an AD is assigned to observe the conduct of automation work before entering official training status.

24) On-the-Job Training (OJT). Training conducted by a supervisor or OJTI that provides direct experience in a work environment.

25) On-the-Job Training Instructor (OJTI). An individual who instructs the AD during OJT.

26) Operational Support Facility Manager (OSFM). Individual responsible for the overall efficiency and effectiveness of the terminal automation specialist training program.

27) Out-of-Agency Training (OAT). Training conducted by or obtained from sources other than the FAA.

28) Proficiency. Understanding and ability to apply a set of knowledge and procedures necessary to maintain air traffic control computer systems.

29) Proficiency Training. Training conducted to maintain and update the knowledge and skills necessary to maintain air traffic computer systems.

30) Program Technical Report (PTR). PTRs are used for reporting all computer/firmware trouble and program improvements.

31) Refresher Training. Recurring training conducted to maintain and update previously learned knowledge and skills.

32) Skill Enhancement Training. Training designed to increase the proficiency of a terminal automation specialist in the skills necessary to maintain the systems in the specialty for which the specialist is certified.

33) Standard Operating Procedures (SOP). The Operational Support Facility Standard Operating Procedures.

34) Supplemental Training. Training conducted when changes occur pertaining to new/revised procedures, regulations, or equipment.

35) Suspension of On-the-Job Training (OJT). An action taken by the AD's supervisor to temporarily stop OJT.

36) Target Hours. The OJT training hours normally required for comprehensive certification in a particular automation specialty.

37) Training Proposal. A written document that identifies a training need and specifies tasks, target audience, schedule, and priority for the proposed training.

38) Withdrew. Grade assigned to an AD who does not complete a course because of circumstances that would prohibit reentry into the training program at the present facility (i.e., withdrawing from training in anticipation of failure and/or resigning when in unsatisfactory training status).

39) WJHTC Terminal Operational Support Facilities Manager. Responsible for implementation, administration, and evaluation of the Terminal Automation Training Program.

121. **FORMS AVAILABILITY.** Soft copy of the forms required by this Order are attached for printing onsite on an as needed basis. Complete the forms as described in appendix 1.

a. FAA Form 3000-28, ATO Automation Training Record includes a title page and a Table of Contents page.

b. Replacement pages:

1) FAA Form 3000-28-1, Employment Data/FAA Certificates, Equipment Certification, or Ratings:

(a) FAA Form 3000-28-1a/1b, Employment Data/FAA Certificates, Equipment Certification, or Ratings

(b) FAA Form 3000-28-1b cont., FAA Certificates, Equipment Certification, or Ratings.

2) FAA Form 3000-28-2, Formal Automation Training (FAA Academy and Out-of-Agency).

3) FAA Form 3000-28-3, ATO Terminal Automation OJT Record:

(a) FAA Form 3000-28-3a, Job Tasks and Comprehensive Certification

(b) FAA Form 3000-28-3b, Daily OJT Activities

(c) FAA Form 3000-28-3c, Job Subtask Evaluations

(d) FAA Form 3000-28-3d, Job Task Comments.

4) FAA Form 3000-28-4, Proficiency Training (Refresher, Supplemental, Skill Enhancement).

5) FAA Form 3000-28-5, Management and Other Training.

122. – 199. RESERVED.

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CHAPTER 2. AUTOMATION TRAINING

SECTION 1. GENERAL

200.   TRAINING OF CONTRACT PERSONNEL. Personnel contracted to work as terminal automation specialists in the OSFs are required to attend the formal training and participate in the on-the-job (OJT) process for their automation specialty as outlined in this order. Only the receiving Operational Support Facilities Manager (OSFM) may waive parts or all of this training for personnel who possess the proper specialty specific experience.

201. – 219. RESERVED.

SECTION 2. ROLES AND RESPONSIBILITIES

220.   IDENTIFICATION OF TRAINING REQUIREMENTS. The William J. Hughes Technical Center (WJHTC) Terminal Operational Support Facilities Manager and field OSFMs, with the support of the FAA Academy, are responsible for identifying and reviewing job tasks and training requirements. The following steps are required to establish or modify training requirements:

    a. Transmit the training requirements in the form of a training proposal through established channels to the Director of Terminal Program Operations.

    b. The WJHTC Terminal Operational Support Facilities Manager and field OSFMs will review the proposal and make appropriate recommendations.

221.   DEVELOPMENT OF TRAINING.

    a. The Director of Terminal Program Operations must take appropriate action to establish training programs for identified requirements.

    b. All terminal automation specialist training courses must be developed and administered in accordance with agency directives.

222.   TRAINING EVALUATION. The Director of Terminal Program Operations is responsible for program guidance, operational effectiveness, evaluation of technical training, coursework/curriculum review, and validation of new training developed to support the national program. The purpose of the curriculum review is to ensure that the courses meet Terminal Automation Training Program requirements.

223.   NATIONAL SUPPORT. The Director of Terminal Program Operations obtains support for training. Support includes planning, development, validation, conduct, and administration of the Terminal Automation Training Program.

    a. The Director of Terminal Program Operations provides support for terminal automation training through:

        1)   FAA Headquarters.

        2)   FAA Academy.

        3)   Other educational institutions.

        4)   Individual OSFs provide personnel support for OSF specific Academy training and conduct OJT onsite.

    b. If training support is not available through the sources listed above, the WJHTC Terminal Operational Support Facilities Manager may coordinate to obtain support through:

        1)   Service area offices.

        2)   Any school or institution.

224.   OPERATIONAL SUPPORT FACILITIES. The WJHTC Terminal Operational Support Facilities Manager is responsible for implementation, administration, and evaluation of the Terminal Automation Training Program.

225.   FAA ACADEMY. The FAA Academy supports the Director of Terminal Program Operations by developing, maintaining, and conducting FAA Academy courses of instruction. The FAA Academy is encouraged to coordinate with the WJHTC Terminal Operational Support Facilities Manager and the OSFMs for additional resources to assist with training functions as necessary.

226.   FACILITY TRAINING RESPONSIBILITIES. All personnel involved in terminal automation specialist training must maintain a comprehensive working knowledge of the procedures and guidelines outlined in this order and applicable training directives.

    a. OSFM.

        1)   General. Operational Support Facility Managers (OSFM) must ensure that:

        (a)   A training program is established, tailored, and conducted in accordance with this Order, other applicable training directives, and IPGs.

        (b)   Required training is organized, developed, managed, and conducted using FAA approved methods and procedures.

        (c)   Individuals who conduct classroom training or develop lesson plans attend an FAA-approved instructor training course. Briefings conducted by staff personnel do not constitute classroom training.

        (d)   The ATO Terminal Automation Training Record (FAA Form 3000-28) is initiated and maintained for each terminal automation specialist. See appendix 1 of this order for detailed instructions.

        (e)   Resource requirements necessary to conduct the facility training program are submitted to the WJHTC Terminal Operational Support Facilities Manager.

        2)   OJT and Certification Process. OSFMs must:

        (a)   Select and certify on-the-job training instructors (OJTI).

        (b)   Ensure that individuals entering certification training receive adequate facility orientation and are thoroughly briefed on this Order and other associated directives prior to entering training.

        (c)   Ensure that OJT is accomplished in accordance with Chapter 3, Terminal Automation Specialist On-the-Job Training and Certification.

        (d)   Ensure that training records are properly completed and maintained.

        (e)   Ensure that an annual schedule of required proficiency training is maintained and that proficiency training is accomplished.

        (f)   Ensure that an evaluation of the efficiency and effectiveness of the OJT program is conducted and a written report is prepared after completing OJT for one or more ADs in a given year. The report must be sufficiently detailed to provide a basis for improving the facility training program.

        (g)   Ensure that all OJTIs meet the qualification criteria in this order.

        (h)   When possible, ensure that OJTIs have no other duties to perform during face-to-face training sessions. This does not apply when the AD is performing independent work under general supervision of the OJTI.

        (i)   Ensure that OJT is productive and appropriate for the experience level of the AD.

        (j)   Ensure that performance feedback is provided to the AD as soon as possible after each OJT session.

        (k)   Identify, recommend, coordinate, and schedule additional OJT hours and skill enhancement training, as necessary.

(l)   Forward comments and information concerning curriculum or training requirements to the WJHTC Terminal Operational Support Facilities Manager through established channels.

(m)   Make the final determination regarding comprehensive certification or suspension of OJT after reviewing the Terminal Automation OJT Record (FAA Form 3000-28, Section 3) and considering training team recommendations.

(n)   Address any reported extenuating circumstances that may impede the AD's training progress.

3)   Training Administration. OSFMs must:

(a)   Administer the facility training program.

(b)   Ensure that the facility training program is planned, conducted, assessed, and revised on a continuous basis.

(c)   Ensure that the training is administered in accordance with this Order and other applicable training directives.

(d)   Monitor and assess the performance of OJTIs on a continuous basis.

(e)   Ensure that local course materials, visual aids, and automation scenarios are developed and properly labeled.

(f)   Plan and direct the training of personnel involved in the OJT/certification process.

(g)   Maintain training documentation. Sign the appropriate certification entries in the employee's ATO Terminal Automation Training Record (FAA Form 3000-28), including the Terminal Automation OJT Record (FAA Form 3000-28, Section 3). These signatures certify that the employee has completed specific certification training for an automation specialty.

b. OJTI. The OJTI is responsible for assisting the AD in acquiring the knowledge and skills necessary to certify. The OJTI must:

1)   Ensure that the OJT process includes preferred methods of teaching through a combination of instruction, demonstration, and practical application. OJT instruction must be based on current Standard Operating Procedures (SOP) and other pertinent documents.

2)   Be familiar with the AD's previous training performance before the start of OJT.

3)   Document OJT results on the Terminal Automation Specialist OJT Record (FAA Form 3000-28, Section 3). Make one log entry for each OJT shift conducted with the AD.

4)   Discuss the AD's performance with the AD as soon as possible after each OJT session.

5)   Primarily perform OJT duties during training sessions when possible.

6)   Satisfy training objectives as specified in the training plan and applicable IPG.

7)   Keep the OSFM informed of training progress.

c. AD. The AD must:

1)   Actively participate in training to achieve certification.

2)   Review, discuss, and make suggestions to enhance the training plan with the OSFM or OJTI.

3)   Ensure that all aspects of the training plan and OJT training record are understood.

4)   Review, discuss, and sign applicable FAA Form 3000-28, Section 3.

5)   Immediately advise the OSFM of any extenuating circumstance(s) that might impede training progress.

6)   Be physically and mentally prepared to receive OJT, exercise initiative, and study to ensure satisfactory training progress and certification.

7)   Verify that all OJT times are recorded accurately.

8)   Be receptive to training performance feedback from OJTIs and OSFM.

227. – 229. RESERVED.

SECTION 3. TRAINING REQUIREMENTS FOR TERMINAL AUTOMATION SPECIALISTS

230.   CERTIFICATION TRAINING.

a. Each AD must receive certification training as outlined in the IPG contained in the appendices of this order. Certification training must be consistent with the automation specialty supported by the AD's facility. If certification is not achieved, the OSFM must initiate action in accordance with appropriate agency directives.

b. Terminal automation specialists coming from another ATO automation specialty are not required to start training at the beginning of the new automation specialty IPG. The specialist must be entered into the appropriate development stage of the training program as determined by the receiving facility OSFM with the training tailored to the specific needs of the incoming AD.

c. Automation Specialists employed at the OSFs during the initial implementation of this order may have received comprehensive certification at the discretion of the OSFM. Such certification should be annotated on Employment Data (FAA Form-3000-28-3a/3b) in accordance with appendix 1 of this Order and inserted into the specialist's ATO Automation Training Record.

231.   PROFICIENCY TRAINING (REFRESHER, SUPPLEMENTAL, SKILL ENHANCEMENT).

a. Requirement. Proficiency training is required for certified terminal automation specialists. The purpose of this training is to maintain and upgrade the knowledge and skills necessary to support current and enhanced terminal automation systems.

  1)   Proficiency training needs will differ from facility to facility and, therefore, should be tailored to meet identified requirements.

  2)   Proficiency training may include mandatory briefing items distributed by headquarters/service area offices/facilities.

  3)   All proficiency training must be documented in the employee's Proficiency Training (Refresher, Supplemental, Skill Enhancement) (FAA Form 3000-28-4).

b. Refresher Training. Each facility must establish in writing an annual refresher training program. OSFMs must stress that refresher training is for proficiency improvement, not performance evaluation.

  1)   This program must include, but is not limited to, training on the following topics.

    (a)   Minimum Safe Altitude Warning/Conflict Alert (MSAW/CA).

    (b)   Updated support tools.

    (c)   Configuration Management procedures and tools.

c. Supplemental Training. Terminal automation personnel must complete supplemental training prior to the utilization of new/revised procedures, regulations, or equipment.

d. Skill Enhancement Training for Journeyman Automation Specialists. This training is administered by the OSFM or designee when it is determined that a need exists to increase the proficiency of an automation specialist.

  1)   The specialist must be advised in writing of the skill that is targeted for training.

2)   The OSFM, in collaboration with the specialist, is responsible for developing the training to be administered to the specialist. The methods and contents will be tailored to meet the identified needs of the individual and may include laboratory exercises, classroom instruction, Computer Based Instruction (CBI) lessons, and OJT. The OSFM must determine the most effective method.

3)   Full Performance Level (FPL) skill enhancement training must be documented in Proficiency Training (Refresher, Supplemental, Skill Enhancement) (FAA Form 3000-28-4).

232. – 239. RESERVED.

SECTION 4. TRAINING AND PROFICIENCY RECORDS

240.   POLICY.

    a. The ATO Automation Training Record (FAA Form 3000-28) must be prepared and maintained in an individual binder for each terminal automation specialist. The record will be used to document the results and the completion of training requirements for each certification course, OJT, proficiency training, and other agency-approved courses. The guidance contained in appendix 1 must be followed in making entries in the ATO Automation Training Record and is governed by the provisions of the Privacy Act of 1974.

    b. For reporting purposes, the terms "student / trainee / automation developmental / AD" apply to anyone receiving training for the terminal automation specialist journeyman level.

    c. A facility may maintain the ATO Terminal Automation OJT Record (FAA Form 3000-28 Section 3) outside of the specialist's training binder during OJT to provide easier access for review and update. When Section 3 is kept outside the specialist's training binder, precautions must be taken to ensure that the provisions of the Privacy Act and other record maintenance requirements are met and that there is no displacement of the records.

241.   RESPONSIBILITIES.

    a. The OSFM or designee is responsible for initiating and maintaining the employee's ATO Automation Training Record (FAA Form 3000-28.)

    b. An organization providing a centralized training course must provide the facility with a record of each specialist's performance and achievement for inclusion in the specialist's training record (FAA Form 3000-28) after completion of the course.

242.   TERMINAL AUTOMATION OJT RECORDS. This record, which is a part of the ATO Automation Training Record (FAA Form 3000-28), must be completed for OJT sessions or laboratory simulation exercises. Forms reflecting certifications must contain the signature of the certifying official. Specific instructions regarding completion of OJT records are contained in chapter 3 and appendix 1 of this order.

243.   DISPOSITION OF RECORDS.

    a. ATO Automation Training Record (FAA Form 3000-28) must be retained during the terminal automation specialist's employment. See appendix 1 for FAA Form 3000-28 instructions.

    b. At termination of employment due to a training failure, the complete ATO Terminal Automation Training Record binder including any OJT training records must be retained at the facility for a period of one year. After one year, the record must be handled in accordance with Order 1350.15, Records Organization, Transfer, and Destruction Standards.

    c. At involuntary termination of employment, except for training failures, the ATO Terminal Automation Training Record (FAA Form 3000-28) must be forwarded to the Human Resource Management division.

d. The Agency may require retention of records beyond the periods specified above under special circumstances (for example, litigation or appeals). In these cases, OSFs must comply with the guidance provided by these offices.

e. At voluntary separation or retirement, all training documents must be offered to the employee before these documents are disposed of by the Agency.

244. – 299. RESERVED.

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CHAPTER 3. TERMINAL AUTOMATION SPECIALIST ON-THE-JOB TRAINING (OJT) AND CERTIFICATION

SECTION 1. GENERAL

300. **GENERAL.** This chapter establishes requirements and procedures for standardization of
instruction and evaluation of the OJT and certification process.   ▪

301. – 319. RESERVED.

SECTION 2. ON-THE-JOB TRAINING (OJT) AND CERTIFICATION

320.   SELECTION, CERTIFICATION, AND EVALUATION OF OJTIs.

a. The selection of on-the-job-training instructors (OJTI) must be accomplished as follows.

1)   To be eligible for selection as an OJTI, a candidate must meet the following minimum qualification criteria.

(a)   Certified a minimum of six months in the automation specialty involved.

(b)   Recommended by OSFM.

2)   The OSFM should consider the following personal attributes when selecting OJTIs.

(a)   Human relations skills.

(b)   Communication skills.

(c)   Motivation and attitude.

(d)   Objectivity.

(e)   Credibility.

321.   TRAINING TEAMS.

a. The OSFM must establish a training team. The training team must facilitate the training of the AD by continuously assessing training progress and providing feedback. The specific individuals on this team may change as the AD's training progresses in order to meet individual and/or facility needs. The training team must consist of:

1)   The lead OJTI.

2)   Other OJTI and specialty certified automation specialists as required.

3)   The AD.

4)   The OSFM.

b. The training team must:

1)   Develop and review an OJT Training Plan and an ATO Terminal Automation OJT Record and recommend modifications to the OSFM.

2)   Meet periodically to ensure training plan objectives are met. The training team must determine the frequency of meetings.

3)   Review the AD's training history before the AD starts OJT.

4)   Determine what on-the-job familiarization (OJF), if any, should be done prior to the actual start of OJT.

5)   Ensure continuous and objective assessment of progress during training, including a review of all training documentation and input from all training team members.

6)   Provide recommendations on the AD's readiness for certification.

7)   Identify areas requiring improved performance and:

(a)   Recommend the types of skill enhancement training to be provided, and/or

(b)   Recommend additional OJT hours.

c. The OSFM must act as the training team leader and retain the responsibility to direct the AD's training by modifying the OJT Training Plan and Record after considering the recommendations of the training team. The OSFM must facilitate training team functions and seek support of WJHTC Terminal Operational Support Facilities Manager and staff personnel when necessary. ▌

d. The lead OJTI is responsible for providing the majority of the AD's OJT. The OJTI will usually train the AD. The OSFM will ensure training continues using alternative personnel when the lead OJTI is not available.

e. OJT performance feedback must be provided to the AD as soon as possible after each OJT session. This discussion should include an overview of the session, an identification of the AD's strengths and weaknesses, and specific recommendations to improve performance.

322.   OJT TRAINING PLAN AND RECORD.

a. The training team must develop and document an OJT Training Plan before beginning OJT. (An example of an OJT Training Plan is shown in figure 3-1.) At a minimum, the OJT Training Plan must include requirements, team responsibilities, target hours, time frames, and individual training needs.

b. The training team must develop an ATO Terminal Automation OJT Record using FAA Form 3000-28, Section 3 that will be placed into the AD's OJT Record. This will be used to document the AD's progress during the OJT and certification process. The training team must use the following steps to construct the OJT Training Record.

1) Locate the electronic version of attachment 1, (3000_24_form_att1.pdf) of this order that contains the blank forms needed for this record. (See the paperclip icon in the bottom left corner of the pdf). ▌

2) Use the applicable IPG contained in the appendices of this order to complete the appropriate forms necessary for the OJT Record. ▌

3) Complete and print ATO Terminal Automation OJT Record (FAA Form 3000-28-3a).

(a) Use the applicable IPG to determine which job tasks and functions will be included in the AD's OJT. The AD's automation experience and background should factor into the training team's decision on which tasks to include in the OJT. Enter the OJT hours specified in the IPG for each job task and function onto the FAA Form 3000-28-3a/3b list.

(b) Each OSF must establish target OJT hours for subject matter that is not covered in the IPG pertaining to each automation specialty within the facility. Enter the locally determined OJT hours for local job tasks and functions on FAA Form 3000-28-3a/3b.

(c) Standard OJT hours assume the AD has or will attend the mandatory formal training specified in the IPG in a timely manner. If the mandatory formal training is not available, multiply the OJT hours by a factor of two for all tasks and functions except for those that are purely administrative in nature such as those used for general office automation work.

4) Complete and print FAA Forms 3000-28-3a/3b and 3000-28-3b. Add several pages of this form with the heading properly filled out for daily documentation of OJT Activities.

5)   Complete and print FAA Forms 3000-28-3c and 3000-28-3d.

(a)   A pair of these forms will be completed and printed for each of the tasks and functions previously added to FAA Form 3000-28-3a. Complete header information for these forms as necessary. The subtasks for local job tasks and functions will be locally generated.

(b)   Using the appropriate IPG as reference, enter all subtasks and their ID numbers (letters) on FAA Form 3000-28-3c.

6)   It is recommended that the OJT Training Record that has just been constructed be kept in a binder separate from the AD's other Training Record forms during the OJT process.

7)   The OJT Training Record is the sole responsibility of the OJTI and must be secured when not being used to document daily OJT activities.

8)   At the AD's Comprehensive Certification and end of the OJT process, FAA Form 3000-28-3a must be moved to the AD's ATO Automation Training Record. All the other OJT Documentation (Forms 3000-28-3b, 3000-28-3c, and 3000-28-3d) must be given to the AD, now Journeyman, to dispose at their discretion.

c. Any modifications to the OJT Training Plan or Record must be discussed with the AD and documented as an addendum to the original Training Plan.

d. Retention of OJT Training Plans and Records must be in accordance with paragraph 243, Disposition of Records.

ATO TERMINAL AUTOMATION OJT TRAINING PLAN

Automation Developmental: ADAMS, DAVID D

Automation Support Facility: North Texas OSF

OSFM: Duncan, Mike

The purpose of this document is to outline the training objectives for David D. Adams. The members of the training team agree to implement these objectives in a positive and timely manner. The training team will revise this training plan as appropriate.

Automation Specialty: Common ARTS

Target Hours: 1000.0   **Effective Date: 07/31/2006**

OJTI: John Smith   **Secondary OJTI: Harold Jones**

Objectives: To provide actual on-the-job training and experience in all the job tasks and processes required for this Automation Specialty as outlined in the Automation Developmental's OJT Training Record. Initially forty (40) hours of OJF will be provided to allow the AD to become comfortable with the work environment prior to the commencement of actual OJT. OJT will then commence with a goal of accomplishing at least six (6) hours of OJT training each day. The first forty hours of OJT will be conducted processing less complex Adaptation. All familiarization and OJT shall be accomplished, to the maximum extent possible, use the OJTIs identified in this plan. In the event these OJTIs are not available, then other specialist designated by the OSFM may conduct training.

On a monthly basis, the training team shall meet to discuss training progress as well as identify any potential problem areas that require resolution and will revise this training plan as appropriate.

ADAMS, DAVID D Automation Developmental	Date	DUNCAN, MIKE OSFM	Date
OJTI	Date	OJTI	Date
Other	Date	Other	Date

FIGURE 3-1. SAMPLE TRAINING PLAN

323.   DOCUMENTING TRAINING PROGRESS.

    a. The OJTI must use the AD's Terminal Automation OJT Record (FAA Form 3000-28, Section 3) to perform the following.

        1)   Compare the knowledge and skill levels of an AD to those required for certification.

        2)   Identify those areas that require improvement to achieve certification.

    b. Using the AD's Terminal Automation OJT Record (FAA Form 3000-28, Section 3) the OJTI must:

        1)   Document the hours spent in OJT status each day.

        2)   Document the initial review date for each subtask listed within the AD's OJT record.

        3)   Initial and document the date that each individual subtask was observed to be performed satisfactorily without guidance from the OJTI.

        4)   Certify the AD as competent in each listed subtask by initialing and dating the appropriate box.

        5)   Recommend a certification evaluation by the OSFM for a particular job task or function after the AD has been certified by the OJTI in each subtask required of that job or function**.**

324.   CERTIFICATION SKILL CHECKS.

    a. Process. The AD's OSFM or designee can certify the individual or suspend OJT. The AD's application of the knowledge and skills required for certification must be assessed through a certification skill-check session performing actual automation tasks. This may be supplemented by verbal questioning, simulation, or other methods.

    b. Requirements. The OSFM or designee must conduct a certification skill check for a particular job task or process after receiving a recommendation from the AD's OJTI. In addition, a certification skill check must be conducted when an AD completes their maximum OJT target hours or additional OJT hours.

    c. Responsibilities. Certification skill checks must be performed by the AD's OSFM or a designee who is sufficiently skilled in the automation specialty being evaluated. The certification skills check must be accomplished through monitoring of the actual work in progress and/or review of the finished product at the end of that process.

    d. Documentation. The results of the Certification Skill Check must be documented on the Terminal Automation OJT Record (FAA Form 3000-28, Section 3).

    e. Considerations. After the certification skill check, the AD's OSFM or designee must consider all of the following.

        1)   The AD's performance during OJT.

        2)   The AD's performance demonstrated during the certification skill check session.

        3)   Input from the AD's OJTI and other training team members.

    f. Outcome. The AD's OSFM or designee must then take one of the following actions.

        1)   Job Task/Function Certification. For a certification skill check to result in certification, all applicable job subtasks must be rated as satisfactory. The job task or process certification must be documented in the AD's OJT Training Record.

2) Comprehensive Certification Review. If all job tasks and processes have been certified, then the OSFM must make a determination whether the AD is fully competent in all job tasks and functions required for the particular automation specialty. At determination that the AD is competent, the OSFM must sign off the Comprehensive Certification Block on the AD's Terminal Automation OJT Record Job/Tasks and Comprehensive Certification (FAA Form 3000-28-3a) to complete the OJT process for this automation specialty.

3) Continuation of OJT. The OSFM may elect to have the AD continue OJT with a Certification Skill Check to follow at a later date.

4) Suspension of OJT. OJT may be suspended by the OSFM if the maximum number of OJT hours have been met or exceeded. See paragraph 326 for Training Review Process.

325. ADDITIONAL OJT HOURS.

a. Additional OJT hours may be:

1) Used for those ADs who did not achieve Comprehensive Certification within the target hours but, in the opinion of the training team, can certify within the additional hours.

2) Assigned by the AD's OSFM at completion of target hours. The additional hours must not exceed 25 percent of total target hours.

b. At the completion of additionally assigned OJT hours, a certification skill check must be conducted.

c. After the certification skill check, additional OJT hours may be assigned as long as the total additional OJT hours do not exceed 25 percent of the total target hours. If the additional 25 percent of the target hours has been used, the AD's OSFM must take one of the following actions:

1) Comprehensive Certification, or

2) Suspension of OJT.

326. TRAINING REVIEW PROCESS.

a. The purpose of the training review process is to ensure that all opportunities for training success were used while maintaining the integrity of the training program. Training reviews must be conducted when requested by an OSFM or when training has been suspended due to the AD's training performance.

b. The training review must be conducted by a group consisting of one of each of the following individuals selected by the local OSFM.

1) An OSFM from an alternate automation support facility.

2) An OJTI Certified Terminal Automation Specialist not involved with the AD's training. (If not available on site, the OSFM may request the participation of an OJTI Certified Terminal Automation Specialist from another support facility.

c. The OSFM and/or training team members may be asked to provide information during the training review, but may not be part of the training review group.

d. This training review must include an assessment of the AD's training history. Interviews of the training team members and/or other persons may be conducted.

e. At the completion of the review, recommendation(s) are forwarded to the OSFM. Recommendations must include one of the following.

    1) Continuation of training, which may include:

        (a) Personnel changes in the training team.

        (b) Assignment of a new amount of OJT hours.

        (c) Other actions that may help the individual to certify.

    2) Discontinuation of training.

f. The OSFM must consider the recommendation(s) resulting from the training review in making a final determination for continuation or discontinuation of training for the AD.

g. The results of this training review process must be communicated to the AD as soon as possible, and the training review process may not exceed 30 days from the date of suspension of OJT.

h. Exceptions to the training review process may be approved by the WJHTC Terminal Operational Support Facilities Manager without coordination with headquarters.

327. – 399. RESERVED.

APPENDIX 1. AUTOMATION TRAINING RECORD GUIDE
FAA FORM 3000-28

1. **GENERAL.** This appendix gives instructions for recording employment, training, and certification data entries on ATO Automation Training Record (FAA Form 3000-28).

a. OSFMs must ensure that training record entries conform to the requirements of this appendix. These requirements apply to all training occurring on or after the effective date of this order. The requirements described herein are not retroactive.

b. Training and certifications must be documented in this record.

c. When completing the form, enter only the required data. Training record entries must be complete and accurate. Some entries may be entered electronically when the form is initially created. The remaining entries must be handwritten in blue or black ink when appropriate. Entries must not be erased or otherwise obliterated. If an entry must be changed, line out the incorrect entry and insert the correct information. Effected employees must initial such changes. The person making the change must initial the new entry.

d. All entries, including the employee's initials and certification signature, must be recorded on FAA Form 3000-28 no later than 90 calendar days following the month in which the training was completed. By initialing or signing, the employee acknowledges that the training recorded has been provided.

e. The certification signature for any classroom training conducted, including briefings, indicates that the entry is correct. Therefore, the certification signature for classroom training entries should be that of the OSFM or his/her designee who has knowledge that the training was conducted.

f. If no entry is made in a block, it must have a diagonal line drawn through it. Portions of a page not intended for future use must also have a diagonal line drawn through them.

g. Each training entry must have a separate signature and/or set of initials as required.

2. **SECTION 1A, EMPLOYMENT DATA.** The entries in this section pertain to specific employment information. See Figure 1, Sample Section 1a, Employment Data.

Name: Enter the employee's full name. In the event of a legal name change, because of marriage or other reasons, put a single line through the old name and insert the new name and the date of the entry in this block. Do not obliterate the old name since it may be necessary to refer to this name at a later time. The employee must initial next to the name change. The person making the change must initial the new entry.

Date EOD with FAA: Enter the date the employee entered on duty (EOD) with the FAA. Do not use the employee's service computation date. The entry in this block is made only at the employee's first facility of assignment.

Facility: As applicable, enter the facility's three-character identifier and type. Add "Auto" if this entry is an automation support facility.

EOD: Enter the date the employee was officially assigned to the facility. Use the effective date shown on the official Notification of Personnel Action (SF-50).

Empl. Init.: The employee must initial in this block.

Section 1A EMPLOYMENT DATA					
Name: Derrick Melvin McGuire Jr.				**Date EOD with FAA:** January 15, 2000	
Facility	**EOD**	**Empl. Init.**	**Facility**	**EOD**	**Empl. Init.**
WJHTC-Auto	1/15/98	*DM*			
ZLA ARTCC	2/14/02	*DM*			
North Texas OSF-Auto	6/6/04	*DM*			

FIGURE 1. SAMPLE SECTION 1A, EMPLOYMENT DATA

3.   SECTION 1B, FAA CERTIFICATES, EQUIPMENT CERTIFICATIONS, OR RATINGS.
This section relates to FAA certificates, equipment certifications, and ratings received by the terminal automation specialist. See Figure 2, Sample Section 1B, FAA Certificate, Equipment Certification, or Rating.

FAA Certificates and Equipment Certification, or Rating: Enter the certificate title, equipment name, or rating.

Certificate Number or Facility: Enter number for the certificate or the name of the facility where the certification or rating was earned.

Date Issued: Enter the date certificate was issued or date certification or rating was earned.

Empl. Init.: The employee must initial in this block.

Section 1B FAA CERTIFICATES, EQUIPMENT CERTIFICATION, OR RATINGS			
FAA Certificate, Equipment Certification, or Rating	Certificate Number or Facility	Date	Empl. Init.
Pilot Weather Briefing Certificate	68358	9/11/00	*DM*
CTAS System Administration	WJHTC	1/4/01	*DM*

FAA Form 3000-28-1a/1b   [Print Form]

**FIGURE 2. SAMPLE SECTION 1B, FAA CERTIFICATE,
EQUIPMENT CERTIFICATION, OR RATINGS**

4.   **SECTION 2, FORMAL AUTOMATION TRAINING.** Enter information on classes specifically addressing automation subject material taken since beginning automation support work. FAA Academy classes, field conducted FAA training, and out-of-agency contractor or university conducted training is applicable. See Figure 3, Sample Section 2, Formal Automation Training (FAA Academy and Out-of-Agency.

Name: Same as Section 1A.

Date EOD with FAA: Same as Section 1A.

Date: Enter the date the training was completed.

Course: Enter the course title and the FAA course number, if applicable, as described on the training certificate, transcript, or other official course document. Refer to the FAA Catalog of Training Courses or the CBI course catalog for this information. Regardless of length, all courses assigned an FAA course number, or courses specified in FAA directives must be recorded in this section.

Location: Enter the location where the training was conducted (for example, FAA Academy, university name, facility, service area office, or correspondence course).

Hours: Enter the number of hours indicated in the FAA course catalog. If not contained in the catalog, use the hours in the course description document. Exception: for college/university courses, enter the number of quarter or semester credit-hours attained.

Empl. Init.: The employee must initial in this block.

Section 2 FORMAL AUTOMATION TRAINING (FAA Academy and Out-Of-Agency)				
Name: Derrick Melvin McGuire Jr.			**Date EOD with FAA:** January 15, 2000	
Date Completed	**Course**	**Location**	**Hours**	**Empl. Init.**
8/4/99	44096 - UNIX for the NAS	FAA Academy	160	*DM*
5/30/00	Intro to C++ Programming	Olympus Height Community College	3	*DM*
3/22/01	Multi-Center CTAS Adaptation	WJHTC	80	*DM*
4/23/03	STARS Adaptation	Raytheon Training, Washington D.C.	128	*DM*

FIGURE 3. SAMPLE SECTION 2, FORMAL AUTOMATION TRAINING (FAA ACADEMY AND OUT-OF-AGENCY)

5.   SECTION 3, ATO TERMINAL AUTOMATION OJT RECORD. This record is used to document the AD's OJT progress and certification for on the job tasks and processes required of their automation specialty. This record consists of Forms 3A, 3B, 3C, and 3D. Form 3A is kept as a permanent part of the AD's training binder after successful completion of OJT. The remaining forms (3B, 3C, and 3D) are kept at the discretion of the OSFM and copies are given to the AD. In the event of a training failure, all forms will be retained in accordance to paragraph 243 of this order. A separate set of these forms is used to document the OJT training and certification for each Automation Specialty for which a specialist might receive training. See Figure 4, Sample Section 3, ATO Terminal Automation OJT Record, Job Tasks and Comprehensive Certification (Form 3A).

6.   FORM 3A — JOB TASKS AND COMPREHENSIVE CERTIFICATION.

Name: Specialist's Name.

Start of OJT: The date OJT began for this automation specialty.

Automation Specialty: The automation specialty for which OJT is being conducted.

Job Task ID: Character designation of Job Task listed in IPG.

Job Tasks and Functions: List the major tasks required to perform this automation specialty. These tasks and functions are outlined in the pertinent IPG appendix of this Training Order. The training team in conjunction with the OSFM may tailor the list of tasks/subtasks and functions contained in the IPG to fit the unique requirements of their facility. Detailed subtasks for each task and function are broken out on Form 3C.

Date Certified: The OSFM will initial and date this column to indicate the AD is certified to perform this job task or function.

OJT Hours: Enter the number of hours a particular task should take to master. Note these OJT hours accumulate into a value that is the overall figure used for tracking purposes.

Total OJT Hours: The accumulated total of the OJT hours for each job task or function listed. This figure is the maximum number of OJT hours the AD has to be comprehensively certified in their Automation Specialty. The AD OJT hours are only tracked against the total and not against the individual job task/function hours used to get this value.

Additional OJT Hours: If an AD uses his maximum OJT hours without comprehensive certification, the OSFM may, after review with the training team, approve additional OJT hours up to 25% of the original maximum.

Comprehensive Certification: This block is used by the certifying official to certify that the AD is fully functional. Comprehensive Certification is completed once the AD has been certified in all of the individual job tasks and functions listed on this form.

	Section 3		
	ATO TERMINAL AUTOMATION OJT RECORD		
	JOB TASKS AND COMPREHENSIVE CERTIFICATION (Form 3A)		

Name:	Derrick Melvin McGuire Jr.		Start of OJT:	12/04/08	Automation Specialty:	Common ARTS

Task ID	Job Tasks and Functions	Date Certified	OJT Hours
A	PC Microsoft Office Products including Windows and Internet Explorer		20
B	Lotus Notes (e-mail) / CRU-X / LDR		20
H	Process Change Management System (PCMS)		40
J	EPF Database (PTR handling process)		20
E	Customer Support Database (CSD) / Site Status Board Updates		10
M	PCARTS / EZ PCARTS Utility Program		80
O	Continuous Data Recording (CDR) Editor Data Reduction and Analysis		40
P	ACES Viewer		10
R	Scenario Development PC ARTS		60
S	Common ARTS Site Delivery Process		80
K	MSAW/CA Validation Tool		40
T	Common ARTS MSAW Retrofit Imagery (MRI) Google Earth		20
V	MSAW Support Tools (AVN Data Reader, Obstruction Data Reader, and Lookahead Analyzer Tool)		20
U	NOP Application Software		100
I	Complete the NAR Process		40
	Total Target OJT Hours:		580

Additional OJT Hours (up to 25% of total)

Authorizing Signature: _____ Date: _____

Comprehensive Certification
I certify that this employee is fully competent in all the job tasks and functions required of this Automation Specialty.

Signature of Certifier: _____ Date: _____

FAA Form 3000-28-3a   [Print Form]

FIGURE 4. SAMPLE SECTION 3, ATO TERMINAL AUTOMATION OJT RECORD, JOB TASKS AND COMPREHENSIVE CERTIFICATION (FORM 3A)

7.   FORM 3B — DAILY OJT ACTIVITIES. See Figure 5, Sample Section 3, ATO Terminal Automation OJT Record, Daily OJT Activities (Form 3B)

Name: Enter employee's name.

Automation Specialty: Enter automation specialty for which OJT is being conducted.

Date: Enter the date OJT was conducted.

Summary of Activities: Provide a brief summary of training subjects covered. Use form 3D for additional comments as required.

Today's Hours: Enter hours spent in OJT today.

Running Total: Enter total OJT hours to date.

OJTI/AD Initials: The OJTI and AD should initial this block to confirm agreement on the hours spent in OJT.

Note: OJT activities may include training where the AD is working independently on a specific task as part of their training.

Section 3 ATO TERMINAL AUTOMATION OJT RECORD DAILY OJT ACTIVITIES (Form 3B)					
Name: Derrick Melvin McGuire Jr.			**Automation Specialty:** Common ARTS		
Daily OJT Record (Page _____ of _____)					
Date	Summary of Activities	Today's Hours	Running Total	OJTI Initials	AD Initials
7/18/05	Reviewed PCMS entries and Slick Edit	4.5	4.5	HD	DM
7/19/05	Updated NARS and Adaptation	6.0	10.5	HD	DM

FIGURE 5. SAMPLE SECTION 3, ATO TERMINAL AUTOMATION OJT RECORD, DAILY OJT ACTIVITIES (FORM 3B)

8.   Form 3C — JOB SUBTASK EVALUATIONS. A copy of Form 3C is created for each major job task or function listed on form 3A. See figure 6 for a sample of Form 3C for Job Task Evaluations showing Task L.

Name: Enter employee's name.

Automation Specialty: Enter automation specialty for which OJT is being conducted.

Job Task or Function and Job Task ID: Both can be derived from Form 3A.

Job Subtasks: List identifiable subtasks required in order to complete the job task or function. These subtasks can be derived from the appropriate IPG located in appendixes 2 and 3 of this order.

Date Fully Capable of Performing Job Subtask: OJTI initials and dates this box when the AD is fully capable of performing this subtask. When all subtasks have been signed off, the OFSM will be notified that the AD is ready for task certification.

Section 3
ATO TERMINAL AUTOMATION OJT RECORD
JOB SUBTASK EVALUATIONS (Form 3C)

Name: Derrick Melvin McGuire, Jr.

Automation Specialty: Common ARTS

Job Task ID: L   ☐ Continued on another page   Job Task or Function: Visual CARTS (GTM)

Sub Task #	Job Subtasks	OJTI Initials / Date Fully Capable of Performing Job Subtask
1	Obtain all appropriate files	
2	Open site adaptation file(s)	
3	Perform MSAW/CA functions	
4	Analyze data	
5	Graphically display adaptation and other support data	

Performance (All dates must be initialed by OJTI or Certifying Official)

FAA Form 3000-28-3c

[Print Form]

FIGURE 6. SAMPLE FORM 3C, JOB TASK EVALUATIONS SHOWING TASK L

9.   Form 3D - JOB TASK COMMENTS

Name: Enter employee's name.

Automation Specialty: Enter automation specialty for which OJT is being conducted.

Job Task or Function and Job Task ID. Both can be derived from Form 3A

Comments: Use this section to elaborate on items from the Form 3B.

Section 3 ATO TERMINAL AUTOMATION OJT RECORD JOB TASK COMMENTS (Form 3D)		
Name:		Automation Specialty:
Job Task or Function:		Job Task ID:

COMMENTS:

FAA Form 3000-28-3d

Print Form

FIGURE 7. SAMPLE JOB TASK COMMENTS (FORM 3D)

10.   SECTION 4, PROFICIENCY TRAINING (Refresher, Supplemental, Skill Enhancement).
Entries in this section must specifically describe the training provided. Refer to Chapter 2, paragraph 231 of this order for the type of training to be entered in this section.

Name: Same as Section 1A.

Date EOD with FAA: Same as Section 1A.

Date Completed: Enter the date the training was completed.

Major Subject Area: Specifically describe the training provided. If training is conducted via CBI, add CBI to the end of the description.

Type: Indicate the type of training by number: 1 = Refresher, 2 = Supplemental, 3 = Skill Enhancement.

Hours: Enter the number of actual training hours.

Certification Signature: The certifying official must sign or use a signature stamp in this block.

Empl. Initials: The employee must initial in this block.

	Section 4 PROFICIENCY TRAINING (Refresher, Supplemental, Skill Enhancement)					
Name: Derrick Melvin McGuire Jr.				Date EOD with FAA: January 15, 2000		
Date Completed	Major Subject Areas	Type	Hours	Certification Signature	Empl Initials
2/2/01	MSAW/CA Review	1	16	J. Doe, Manager	DM
3/19/02	PCMS Revision	2	4	J. Doe, Manager	DM
10/3/03	Script Writing in UNIX	3	16	J. Doe, Manager	DM

| Training Type: | 1=Refresher | 2=Supplemental | 3=Skill Enhancement |

FAA Form 3000-28-4

Print Form

FIGURE 8. SAMPLE SECTION 4, PROFICIENCY TRAINING (REFRESHER, SUPPLEMENTAL, SKILL ENHANCEMENT)

11.   SECTION 5, MANAGEMENT AND OTHER TRAINING. All management and other agency-approved training not previously listed must be entered in this section. This includes, but is not limited to other technical training, correspondence, college, out-of-agency, and instructor training courses. Only training that was completed during employment with FAA as an Automation Specialist must be recorded in this section. See Figure 9, Sample Section 5, Management and Other Training.

Name: Same as Section 1A.

Date EOD with FAA: Same as Section 1A.

Date: Enter the date the training was completed.

Course: Enter the course title and the FAA course number, if applicable, as described on the training certificate, transcript, or other official course document. Refer to the FAA Catalog of Training Courses or the CBI course catalog for this information. Regardless of length, all courses assigned an FAA course number, or courses specified in FAA directives must be recorded in this section.

Location: Enter the location where the training was conducted (for example, FAA Academy, university name, facility, service area office, or correspondence course).

Hours: Enter the number of hours indicated in the FAA course catalog. If not contained in the catalog, use the hours in the course description document. Exception: For college/university courses, enter the number of quarter or semester credit-hours attained.

Empl. Init.: The employee must initial in this block.

Section 5 MANAGEMENT AND OTHER TRAINING				
Name: Derrick Melvin McGuire Jr.			**Date EOD with FAA:** January 15, 2000	
Date Completed	**Course**	**Location**	**Hours**	**Empl. Init.**
9/9/01	Fundamentals of Supervision	Correspondence	40	*DM*
3/6/02	43059 Traffic Management for Controllers	FAA Academy	72	*DM*
4/4/04	01210 Leadership Development	FAA Management School	40	*DM*

FIGURE 9. SAMPLE SECTION 5, MANAGEMENT AND OTHER TRAINING

12.   SECTION 6, PREVIOUS FAA TRAINING RECORDS. All training records covering the employee prior to becoming a Terminal Automation Specialist must be placed in this section in their original order for future reference. An example of such records is the 3120.1, the Air Traffic Training and Proficiency Record used for Air Traffic Controllers (2152).

APPENDIX 2. COMMON ARTS INSTRUCTIONAL PROGRAM GUIDE (IPG)

SECTION 1. INTRODUCTION

This IPG includes information about the following two development phases used to train newly selected ATO Terminal Automation Specialists in the specialty of Common ARTS (CARTS) Automation. The first phase consists of formal off the shelf training courses available from FAA Academy and other educational vendors. The second phase consists of OJT which covers all subject matter needed for the job in a one-on-one training methodology.

FAA Academy Training Courses:
Course descriptions can be viewed at**:**   http://www.academy.faa.gov/catalog/

Number	Course Name	Hours	
42062	Common ARTS Software for OSF Personnel	160	Required
40617	ARTS Color Display Complete (ACD, RGW, SONY DDM)	80	Recommended
40688001	Radar Concepts and Fundamentals	160	Recommended
42052	ARTS IIIE Hardware Maintenance (LRU)	160	Recommended
42054	ARTS IIIE NAS/NOM	80	Recommended
42055	ARTS IIIE Software Maintenance for System Programming Specialists	160	Recommended
48368	Common ARTS Mosaic	32	Recommended
53004	Common ARTS for AT Support Specialist	64	Recommended
97536	A+ Certification		Recommended
50043	Air Traffic Basics	200	Recommended (for non-AT background)

SECTION 2. NON-FAA ACADEMY TRAINING

Non-FAA Academy Training Courses:
The following courses may be replaced by courses with the same content offered by other accredited training sources including local collegiate educational institutions.

	Course Name	
A.	Fundamentals of Internetworking (or FAA course 40418)	Recommended
B.	UNIX (or FAA course 40423)	Recommended

2A. Fundamentals of Internetworking

GENERAL: This course provides training for technicians, engineers, system performance specialists, and ATSSs on networking using PCs in a local area network (LAN). Course content should include: network terminology; LAN/WAN topology; components and architecture; network protocols and standards; IP address classes and subnets; Windows NT server, workstation, configuration and management; capture/analyze ethernet management traffic; isolate, decode/analyze, TCP/IP, UDP, RUP, ARP headers; troubleshoot connectivity problems; examine/configure a basic router; troubleshoot network connectivity w/protocol analyzer and the domain reflectometer. Proficiency with Windows is required.

Note: FAA Course 40418, Fundamentals of Internetworking is equivalent to this course

2B. UNIX

GENERAL: This course provides training for technicians, engineers, system programming specialists, NAS managers, and computer operators on the UNIX operating system used on various PCs. Course content should include: UNIX concepts, processing utilities, power user utilities, shell programming, user admin utilities, dialects, using basic UNIX commands and network utilities, exploring advanced command functionality, using complex regular expressions, and identifying important syntax for dialects.

Note: FAA Course 40423, UNIX is equivalent to this course.

SECTION 3. COMMON ARTS AUTOMATION
ON THE JOB TRAINING (OJT) AND CERTIFICATION

GENERAL: The purpose of this phase is to provide the AD with local facility orientation and site-specific training. Lessons must include all applicable directives and procedures. This OJT supplements and reinforces Course 42062 training and prepares the AD to perform second level support for Common ARTS.

The job tasks and functions outlined on the following pages form the core of the OJT training for the AD, and as such, may be modified as necessary to cover all unique aspects of the automation job within a specific OSF. Applicable job tasks and functions along with their associated subtasks should be annotated to the AD's Automation Training Record Section 3 (Form 3000-28) as directed by appendix 1 of this order. This Record will then be used to track the AD's OJT progress up to and through the Certification for this Automation Specialty.

The job tasks, functions, and subsequent subtasks contained in this IPG form an outline of the subject matter to be covered in the AD's OJT. The specific methodology needed to accomplish this training will be determined by the OSF's training team.

PREREQUISITE:	The AD may begin OJT prior to attending Course 42062, Common ARTS Software for OSF Personnel outlined in Section 1 of this appendix. The majority of time spent in OJT should follow the AD's attendance in Course 42062. In the event the AD is unable to attend Course 42062, OJT hours must be increased in the manner specified in paragraph 322b(3) of this order.
LOCATION:	OSF.
TRAINING LENGTH:	This will vary depending on which job tasks and functions the AD's training team includes as part of the AD's OJT program. The training length will be determined by adding the number of OJT hours listed on the following pages for each job task or function and modifying this total as necessary to take into account any modifications, additions, or deletions the training team may make to the contents of this IPG for their training program.
ADMINISTRATION:	This training is conducted using standard equipment currently being used to perform the job. This may include networked PC equipment in addition to non operational parts of the ARTS equipment.

OJT JOB TASKS AND FUNCTIONS

ID	Job Tasks and Functions (Common ARTS)	Estimated OJT Hours
A	PC – Microsoft Office Products including Windows and Internet Explorer	20
B	Lotus Notes (e-mail) / CRU-X / LDR	20
C	Compression / FTP Programs	20
D	Travel Management Application	10
E	Customer Support Database (CSD) / Site Status Board Updates	10
F	Visual Slick Editor	40
G	Common ARTS Operator Functions	80
H	Process Change Management System (PCMS)	40
I	Complete the NAR Process	40
J	EPF Database (PTR handling process)	20
K	MSAW/CA Validation Tool	40
L	Visual Series Program	40
M	PC Based ARTS Utility Program	80
N	Site Adaptation (SA) Editor / Adaptation	320
O	Continuous Data Recording (CDR) Editor – Data Reduction and Analysis	40
P	ACES Viewer/ERAM Viewer	10
Q	Interfacility NAS FP Data Processing	20
R	Scenario Development	60
S	Common ARTS Site Delivery Process	80
T	Common ARTS MSAW Retrofit Imagery (MRI) Google Earth	20
U	National Offload Program (NOP) Application Software	100
V	MSAW Support Tools (AVN Data Reader, Obstruction Data Reader, and Lookahead Analyzer Tool	20
W	Simulation Driver Radar Recorder (SDRR) and Graphical Simulation and Generation Tool (GSGT)	120
*	Local or new Job Tasks deemed necessary by the OSFM	TBD

JOB SUBTASKS / DESCRIPTIONS

3A. PC – Microsoft Office Products including Windows and Internet Explorer
(20 OJT Hours)

GENERAL: A basic knowledge of the Microsoft Windows Operating System, Microsoft Internet Explorer and various Microsoft Office products (Word, Excel, PowerPoint, Access) is necessary to efficiently perform the duties of an automation specialist.

#	Job Subtasks	Description
1	Demonstrates proficiency in Microsoft Office programs	Using the menus available in Microsoft Office products: open, save, copy, paste, edit, and close a file.
2	Demonstrates proficiency in Internet Explorer	Navigate internet and intranet sites.
3	Demonstrates proficiency in Windows Explorer	Find, copy, move files, map/disconnect network drives.

3B. Lotus Notes (e-mail) / CRU-X for LDR
(20 OJT Hours)

GENERAL: This particular section of OJT training covers general administrative tools used by Automation personnel on a daily basis. Lotus Notes is the e-mail tool used by the automation specialist for most written communications both within and outside the FAA. There are both PC Client and web-based versions of this tool that a specialist needs to know how to use. CRU-X is the Labor Distribution Reporting (LDR) tool used by the automation specialist to account for their hours. A specialist needs to be able to enter their time into the CRU-X client program for subsequent approval by supervisor for payroll purposes.

#	Job Subtasks	Description
1	Login to Lotus Notes from PC client	Login to user's Lotus Notes account using the PC client interface.
2	Display contents of mailbox folders	Display the contents of the inbox, sent, and trash mailbox folder.
3	View individual folder messages	View messages listed for the various mailbox folders.
4	Sending messages	Compose and send new messages. Also send messages by forwarding and replying to received messages.
5	Delete unwanted messages	Delete or send unwanted messages to the trash can and empty the trash can.
6	Create custom folders	Create unique folders to be used to store messages outside the primary inbox folder.
7	Modify contact list	Add, modify and delete contacts. Create and modify mailing lists.
8	Archive messages	Setup and archive messages
9	Electronic Leave Request	Create and delete leave request using Lotus Notes
10	Sametime	Instant messaging and electronic meetings
11	Access Lotus Notes from the internet interface	Perform the previously described subtasks from the internet interface for Lotus Notes.
12	Login to CRU-X system	Login into system and maneuver to data entry screen for logging hours.
13	Enter hours worked for pay period	Enter hours properly for work and non-work such as Annual leave.
14	Send pay period information to T&A clerk	After accounting for the 80 hour pay period, cause the Cru-X system to send the pay record to the T&A Clerk.
15	Amendments	Make an amendment to previous pay period hours.

3C. Compression / FTP Programs
(20 OJT Hours)

GENERAL: PC based program used to compress and uncompress files. FTP is a file transfer protocol used to efficiently transfer files between computers.

#	Job Subtasks	Description
1	Compress a file	Using compression program (and/or Windows right click menus, if installed) zip a file or files.
2	Uncompress a file	Using compression program (and/or Windows right click menus, if installed) unzip a file and specify the destination of the unzipped files.
3	Create a self-extracting file	Using compression menu (and/or Windows right click menus if installed) create a self-extracting file and specify the unzip destination.
4	Install WS_FTP Pro on PC	Using standard Windows installation procedures install WS_FTP Pro on a PC.
5	Configure an FTP site in WS_FTP Pro	Using WS_FTP Pro menu options configure access to an FTP site.
6	Upload/download a file	Using WS_FTP Pro menu options upload/download a file.
7	Configure an FTP site in Visual Slick Editor	Using Visual Slick Editor menu options configure access to an FTP site.
8	Upload/download a file	Using Visual Slick Editor menu options upload/download a file.
9	Access an FTP site using Internet Explorer	Log on to an FTP site. Reference the Internet Explorer Help menu if necessary.
10	Upload/download a file	Upload/download a file to the site logged on to in the previous task.

3D. Travel Management
(10 OJT Hours)

GENERAL: The FAA intranet is mandated to produce both travel authorizations and vouchers.

#	Job Subtasks	Description
1	Create a trip itinerary	Make necessary travel arrangements.
2	Create travel authorization	Enter all travel data.
3	Update travel authorization	Amend or delete travel arrangements
4	Create travel voucher	Go through the multiple stages to enter travel data such as actual trip dates and expense information.

3E. Customer Support Database
(10 OJT Hours)

GENERAL: The Customer Support Database (CSD) is a web based method used to track and monitor field support trouble calls. The CSD also contains the Site Status Board where information about each facility is maintained.

#	Job Subtasks	Description
1	Navigate main menu	Select correct user option.
2	Review field logs	Search for trouble calls
3	Enter a new trouble call	Make a problem and/or resolution entry and update an existing trouble call
4	Review/update Site Status Board	Update site specific build information such as annual MSAW review date, chart delivery date, assigned specialist.
5	Update CSD Site information	Edit POCs and other information
6	Update user preferences	Update password, change settings.
7	Obtain help if needed	Use the provided CSD tutorial and help

3F. Visual Slick Edit
(40 OJT Hours)

GENERAL: Visual Slick Edit is an advanced code/text editor. Graphical project tools help developers organize, analyze and manage code. The DIFFzilla™ differencing system provides side-by-side file and directory difference editing.

#	Job Subtasks	Description
1	Perform File functions	Create, Open, Close, Save files.
2	Perform Edit functions	Cut, Copy, Paste.
3	Use Search functions	Find, Replace.
4	Exercise View functions	Characters, Line Numbers.
5	Use Document dropdown	Format.
6	Use Tools dropdown	Configure, Sort, Merge, File Difference, Spell Check.
7	Configure window	Tile, Font, Split.

3G. Common ARTS (Operator Functions)
(80 OJT Hours)

GENERAL: This task covers functions necessary for the general operations of the Common ARTS computer systems.

#	Job Subtasks	Description
1	Initialize the ARTS	Perform a cold start, warm start, and re-initialize single components of the ARTS.
2	Re-configure the ARTS	Place chassis online/offline. Bring the ARTS online from backup. For ARTS IIIE, move a chassis from the maintenance to the operational network.
3	Telnet	Telnet into a chassis.
4	Perform a manual reset	Manually reset the various ARTS chassis.
5	Re-build a Power PC chassis	Manually rebuild an ARTS PPC chassis using the Power PC Boot CD.
6	Re-build an ARTS IIE AGW PC	Manually rebuild an ARTS IIE AGW PC using the AGW-PC Image Load CD-ROM.
7	Perform CDR functions	Check CDR Status and re-configure CDR.
8	Check Suicide Notes	Review Suicide Notes along with the extended suicide note data.
9	Check the software revision	Determine the operational revision of all chassis.
10	Download a new Build/Adaptation to the ARTS	Download to SP, CP, TP, SMC, ACD, R-ACD, RGW, AGW, SMC-PC,. as necessary.
11	Download power PC files	Download Power PC files to appropriate chassis.
12	Use ARTS program groups	Use the various programs, not already covered, available through the ARTS groups (Tools, Function Config, Reports).
13	Common ARTS Playback	Playback CDR data on CARTS chassis.

3H. Process Change Management System (PCMS)
(40 OJT Hours)

GENERAL: PCMS is a PC based networked system used for software build and adaptation configuration management including the tracking of National Automation Requests (NARs) and site deliveries via System Support Modifications (SSM). The OSF Terminal automation specialist must have an understanding of how this system works in order to properly update the adaptation for Common ARTS automation systems.

#	Job Subtasks	Description
1	Start PCMS	Execute the PCMS client, log in, open the desired project, and navigate the Design Part Structure.
2	Perform functions on items	Check in, check out, get, update, and action an item. This should include how to action an item to a state other than the next logical one.
3	Perform functions on a Request	Create a new Request, action it to its various states, edit attributes, browse, and add action description.
4	Relating Requests	Relate Request either to items or to other Requests (NAR to Site SSM).
5	Create Baselines and Releases	Create the Baselines and Releases and explain the purposes of them.
6	Use the Find feature	Use the Find feature to navigate directly to a site, Baseline, Release, Request, and Item.
7	Action Common ARTS SSM	Action Common ARTS SSM through lifecycles.
8	Priming a site	Prime a Site SSM from a Common ARTS SSM.
9	Create a Common ARTS Release	Download the Release to the local server; download the related tools.
10	Create a SOP PCP	Create a Process Change Proposal to the SOP.

3I. Complete the NAR Process
(40 OJT Hours)

GENERAL: The NAR is a configuration management tool that provides the OSF with a process to track and manage automation and TARP requests. The NAR provides for traceability of all changes to the site's adaptation.

#	Job Subtasks	Description
1	Access and interpret Order 6000.52	Be familiar with the structure and the content of the order.
2	Review incoming NAR	Determine appropriate course of action.
3	Action the NAR through each PCMS Lifecycle State	Action the NAR and be familiar with each state of the NAR lifecycle.
4	Enter the NAR	Enter a NAR using the NAR website and using PCMS.

3J. EPF Database (PTR Handling Process)
(20 OJT Hours)

GENERAL: The Electronic Project Folder (EPF) Database is a database for generating, storing, tracking, and maintaining Program Technical Reports (PTR) and Project folders.

#	Job Subtasks	Description
1	Logon to EPF through Citrix	Logon to EPF using appropriate passwords.
2	Review existing Case Files/PTRs	Using the dropdown file menu, open a folder and view a PTR or casefile.
3	Print a PTR	Open in .rtf format and save to a local drive.
4	Submit a new PTR	Submit a PTR.

3K. MSAW/CA Validation Tool
(40 OJT Hours)

GENERAL: The Minimum Safe Altitude Warning/Conflict Alert (MSAW/CA) Validation Tool is a PC based program. The program's primary function is to evaluate the adaptation against requirements of the MSAW/CA Standards and Guidelines and document discrepancies. The program will highlight questionable parameters and provide a link to the paragraph defining the requirements for the parameter.

The MSAW/CA Validation Tool also has two other functions. It will show you a list of all current tables and their values. It will also give you a list of the definitions for all defined geographic areas.

#	Job Subtasks	Description
1	Run MSAW/CA Validation Tool.	Verify correct version of the Validation Tool.
2	Select DTED Terrain Report and the MSAW/CA Validation Report	Click the DTED Terrain Report check box then click the MSAW/CA Validation Report button. (Leave the HTML check box checked.)
3	Load adaptation file and select appropriate avn.txt and obs.txt	Load these files from your appropriate adaptation folder.
4	Review all files that are automatically displayed	Resolve all warnings and discrepancies.
5	If adaptation is changed to resolve new warnings or discrepancies, submit a NAR for MSAW/CA review	Action the NAR to MSAW/CA Review status.

3L. Visual CARTS (GTM)
(40 OJT Hours)

GENERAL: The Visual CARTS (GTM) program provides a presentation of the system plane and adaptation for terminal radar approach control facilities. The program reads and displays the binary adaptation that runs on the system. A split panel at the bottom of the window provides a side or profile view of Type II areas. A three dimensional view of Type II areas and selected maps, obstructions, approaches, runways, etc., may be activated from the view pull down menu.

This tool is used to develop and verify MSAW/CA adaptation. Use of this program is dependant on a working knowledge of Order JO 6190.20, Standards and Guidelines to Define and Adapt Values for Minimum Safe Altitude Warning (MSAW) and Conflict Alert (CA) Site Variables.

#	Job Subtasks	Description
1	Obtain all appropriate files	Adaptation binary, DTED, AVN, CDR, and obstruction files.
2	Open site adaptation file(s)	Open the appropriate Visual GTM program based on adaptation version.
3	Perform MSAW/CA functions	GTM update; MSAW/CA review; troubleshooting MSAW/CA problems.
4	Analyze data	Use CDR data to troubleshoot radar and adaptation issues.
5	Graphically display adaptation and other support data	Show how various data can be displayed and give examples of the use of each.

3M. PC Based ARTS Utility Program
(80 OJT Hrs)

GENERAL: PCARTS is a PC based program that emulates ARTS and can be used for testing of certain functionalities. EZ PCARTS is a utility program that is used to start the PCARTS program and provide for a way to select displays to be initialized. DCARTS will be replacing PCARTS with Revision 36.

#	Job Subtasks	Description
1	Install PCARTS	Install/uninstall PCARTS.
2	Execute the PCARTS program	Start PCARTS, set the required display settings, start XTEST, and terminate the program.
3	Emulate Keyboard Functions	Emulate ARTS keyboard function entries using the PC keyboard.
4	Use the EZ-PCARTS Utility	Execute PCARTS using the EZ-PCARTS utility.
5	Enter System Monitor commands	Demonstrates various entries such as re-initializing a display.
6	Use the Desktop Toolbar	Check build and adaptation information, current state, etc.
7	Execute/terminate a scenario	Execute a scenario from D0 or floppy disk drive and terminate the scenario.
8	Use video maps with PCARTS	Display video maps.

3N. Site Adaptation (SA) Editor/Adaptation
(320 OJT Hrs)

GENERAL: SA Editor is a PC based program used to compile the site adaptation text file. SA Editor allows the specialist to enter, modify, verify, and save site adaptation parameters and files. SA Editor is released with each new software revision. OSF automation specialists must be thoroughly proficient in all uses of the SA Editor.

#	Job Subtasks	Description
1	Start the SA editor	Select the correct version of the SA Editor.
2	Open the adaptation text file	Select the correct text file.
3	Adapt tables	Adapt all appropriate tables for the facility and update file comments.
4	Import General Terrain Map	Select the current GTM.
5	Validate the adaptation	Ensure the validation completes successfully or take appropriate actions to correct any errors.
6	Generate the binaries	Create the system files.
7	Save the text file	Save the file to format the text file.

3O. Continuous Data Recording (CDR) Editor – Data Reduction and Analysis (40 OJT Hours)

GENERAL: The standalone CDR Editor provides the user with formatted output of previously recorded CDR data.

#	Job Subtasks	Description
1	Start the Editor	Start the editor from the ARTS Bin Directory or from the standalone program provided.
2	Select CDR File	Using the Input tab on the editor, select the CDR files to be edited.
3	Select CDR Classes	Using the Classes tab on the editor, select the data classes to be extracted.
4	Select Filters	Using the Filters tab on the editor, select the filters required to obtain the desired output.
5	Select Output Directory	Using the Output tab on the editor, select the destination for the output files.
6	Select Control Tab	Verify the correct parameters have been set. After starting the editing process, use the Control tab on the editor to view the progress of the edit.
7	View edited output	Using a text editor or other program capable of viewing a text file, open the CDR output file generated in the previous tasks.
8	Interpret edited output	Interpret various edited outputs per appropriate appendix in CSOM/SUM.

3P. ACES Viewer/ERAM Viewer
(10 OJT Hours)

GENERAL: The ACES Viewer/ERAM Viewer are PC based programs designed to display, browse, and calculate all information that has been adapted by the automation system (ARTCC). This program can be particularly helpful in determining fix pair configuration(s) between the ARTCC and a terminal facility.

Training in the use of ACES Viewer/ERAM Viewer should be conducted where resources and expertise is available**.**

#	Job Subtasks	Description
1	Locate appropriate database	Use NASE or other appropriate method to obtain file.
2	Open Viewer program	Click on program icon and select the desired database.
3	View site specific data	Retrieve the specific database information.

3Q. Interfacility NAS Flight Plan Data Processing
(20 OJT Hours)

GENERAL: Interfacility NAS Flight Plan Data Processing includes flight plan data, track data, and test data received by and transmitted from the terminal automation system. It also includes response messages, discarded messages, and retransmissions of specific messages.

Interfacility processing, message types, and responses can be found in the Common ARTS document NAS MD 640, Interfacility Data Transfer and Traffic Management System.

#	Job Subtasks	Description
1	Flight Plan processing	Identify and describe the four types of IF flight plans and their respective fields. Explain the fixed pair methodology. Determine flight plan status and its relevance. Describe the use of ECID and TCID.
2	Interfacility handoff process	Explain what messages are exchanged between facilities in a handoff string. Explain potential causes for errors in the string. PARs, PDRs and PDARs
3	ARSA FP processing	Interfacility requirements for ARSA handoffs.
4	Center DART	Be familiar with the Center DART (data reduction and analyses tool) as a way to capture and analyze interfacility message exchanges.
5	CENRAP (ARTS IIE)	Capabilities and limitations of CENRAP.
6	Interfacility error messages	Fault analyses.
7	NASQuest	NASQuest is a web based interface to a custom MySQL database system used to search Center flight plan data

3R. Scenario Development
(60 OJT Hours)

GENERAL: Various Common ARTS functionality can be tested by developing scenarios. Scenario data consists of keyboard entries (target initiate, flight data initiate, assigned code change.) plus indication of the entering controller position and the desired execution time.

#	Job Subtasks	Description
1	Determine the purpose of the scenario	Determine what functionality you want to test.
2	Name scenario	Use the proper naming convention.
3	Write scenario	Use the proper scenario format.
4	Initiate scenario	Activate the scenario from the computer's hard drive or from a diskette.
5	Terminate scenario	Turn off the scenario.
6	Make adjustments to scenario	Make adjustments to scenario time, aircraft performance, etc.
7	Run scenario in ETG test mode	Enable/disable Target Generator.
8	Run scenario in training mode	Enable/disable Training status of a display.

3S. Common ARTS Site Delivery Process
(80 OJT Hours)

GENERAL: The Common ARTS Site Delivery Process is defined in detail in the Common ARTS Standard Operating Procedures (SOP). It describes the required steps for completing a Chart Date, Interim, or Non Delivery to a facility. The deliveries may be adaptation changes only or adaptation changes in conjunction with a new Common ARTS Release.

#	Job Subtasks	Description
1	Determine delivery requirements	Review the PCMS site folder to determine what type of delivery will be required. Adaptation and/or new Common ARTS Release, Chart Date, Interim, or Non Delivery.
2	Obtain the required files	"Check out" the [site_id].exe item and "Get" the other items.
3	Work on open NARs	Complete the NAR Process for each NAR that will be included in the delivery.
4	Common ARTS Release	If necessary, update an adaptation file to the new Common ARTS Release using the new Change File and the new Site Adaptation Editor. Create the Power PC Boot Disk, Power PC Diagnostic Disk, ARTS IIE ARTS Gateway Disk, and National Release Test Plan as required.
5	Update the General Terrain Map	Import the current GTM file and take the appropriate actions per SOP.
6	Review the current Obstruction file	Use the Visual CARTS Tool and the Obstruction file to determine if there are Type II area violations and if there any differences between the GTM and OBS files. If there are any violations or system plan differences, then take the appropriate actions per SOP.
7	Perform a DTED Scan	Use the Visual CARTS and MSAW Validation Program to perform a Digital Terrain Scan.
8	Execute the MSAW Validation Program	Validate the current file using the latest MSAW support tools. If there is a change to the MSAW justification file, then it will need to be updated.
9	Delivery Memorandums	Create the National Release, Interim, Chart Date, and R-ACD Delivery Memorandums as required.
10	Return Files to PCMS	Create the appropriate self-extracting [site_id].exe file and verify that it extracts to the correct sub-directory.
11	Create delivery Baseline	Create the delivery Baseline.
12	MSAW Review	Determine if the NAR will require MSAW Review and determine process for the Review.
13	Complete test plans	Execute each test plan and document as PASS or FAIL by the Tester.
14	File difference	Perform a file difference between the new and latest delivered adaptation text file.
15	Complete Tester roles	Perform Tester responsibilities per SOP.
16	Test Failed	Action back to Work.
17	Prepare delivery medium	Properly prepare the delivery medium with the appropriate labels.
18	Final check	Perform the final check of the delivery.
19	Deliver product	Properly prepare and ship the delivery via your local shipping procedures.

3T. Common ARTS MSAW Retrofit Imagery (MRI) Google Earth
(20 OJT Hours)

GENERAL: The MSAW Retrofit Imagery [MRI] program is designed for use with Google Earth. CARTS Adaptation files are converted to KMZ files and used by Google Earth to display geographic elements. KMZ files are compressed versions of Google Earth's KML file. KML files are an XML grammar and file format for modeling and storing geographic features such as points, lines, images, and polygons for display in Google Earth.

The MRI web site has two page options:

1) MSAW Data Page: At CARTS Site Selection, the MRI program converts all of the CARTS Site Geographic Areas including the MSAW/CA Approach Monitor Volumes (AMV), Filter Areas, Aural Alarm Areas. MRI also converts Obstruction files, Sensors, and Emergency Hospitals. All of these items are for use in Google Earth.

2) MSAW Bin Page: At CARTS Site Selection, the MRI program has been designed to obtain MSAW Bins for the target site and convert them to KMZ files for use in Google Earth.

#	Job Subtasks	Description
1	Navigate to MRI Web Site	Using Internet Explorer, enter web address for MRI
2	Navigate to desired MRI page	User need determines which MRI page to select.
3	Select CARTS Site	Select ARTS IE, IIE, or IIIE site.
4	Google Earth Validation	Google Earth is automatically activated at CARTS Site selection. Ensure correct CARTS Site is obtained and note site adaptation version for accuracy.
5	Program Operation	Select appropriate site adaptation items or MSAW Bin options.

3U. NOP (National Offload Program) Application Software
(100 OJT Hours)

GENERAL: The NOP (National Offload Program) is **not** an individual computer application, but is the name given to the endeavor of extracting operational data from the NAS computers and making that data available to end users. This functionality is facilitated in the terminal environment by hardware/software that is typically referred to as an NOP server.

Each NOP server acts as a 45-day repository of aircraft data received from co-located ARTS or STARS automation equipment. The aircraft data may then be accessed via the FAA intranet by properly authorized personnel via PC based programs such as CDR Player Plus (CDRPP) and Traffic Analysis and Review Program (TARP) for display and analysis. The OSF specialist may be asked for assistance to setup and execute these programs. The CDRPP and TARP programs can access either live or historical (45-day) data via specific NOP servers. CDRPP is used primarily to display a complete picture of the facility air traffic for a given time while TARP is specially designed to evaluate the separation of air traffic and to output alerts for aircraft pairs that violate separation standards.

#	Job Subtasks	Description
1	Obtain Access	Coordinate with facility managers and NOP access Manager.
2	Create Map files	Use Orion program to convert each site's map files for .dat to .ini format.
3	Setup file structure	Setup appropriate file structure to be used for each field site.
4	Setup PCs	Setup each PC for CDRPP and TARP.
5	Run TARP program	Execute TARP on both live and historical data for analysis.
6	Modify TARP Rules	Use TARP Rules editor or any text editor to modify rules as required for each site.
7	Run CDRPP program	Execute CDRPP on both live and historical data for analysis.
8	Run NOP Client	Obtain data for analysis, for example, flight plan data, radar data.

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3V. MSAW Support Tools
(AVN Data Reader, Obstruction Data Reader, and Lookahead Analyzer Tool
(40 OJT Hours)

GENERAL: The CARTS Look Ahead Analyzer program was designed to assist the Automation Specialist with the setting for the Look Ahead time in their adaptation. The Look Ahead time is the amount of time that the CARTS system will use to extrapolate a track when computing Low Altitude (MSAW) Alerts. This program only deals with the MSAW Alarms that occur inside of an Approach Path Monitor area.

In order to analyze the Look Ahead times, the program requires that the user provide CDR data. The user needs a sufficient amount of CDR data that covers various conditions from the site. The more data the user provides, the better the results will be. What constitutes a sufficient amount of data is determined by the Automation Specialist.

The AVN Data Reader program is used to read an AVN data file. AVN Data files are generated for each TRACON and contain Runway, Airport Reference Point, Approach, Navigational Aid, and Fix Information.

The Obstruction Data Reader program is used to read an Obstruction data file. Obstruction Data files are generated for each TRACON and contain Obstruction ID, LAT/LONG, Location/Altitude Error, Description, Type, State, Country and Altitude information.

#	Job Subtasks	Description
1	Obtain Software Tools	Install software tools on a PC.
2	Perform CDR Edit	Run CDR editor using TA, IL and MA data classes.
3	Run Look Ahead Analyzer	Set Start/End times. Default is 15 & 22 but can be changed later. Select ACCUM Totals. Select Write KMZ file if Google to be used. Select CDR File obtained in Job Subtask #2. Select Site's I86 file. Select RUN
4	Analyze Data	Observe output to determine validity of Look Ahead time.
5	AVNDataReader	Select file. Select Airport. Select Runway.
6	ObstructionDataReader	Select file. Select Latitude. Select Obstruction.

3W. Simulation Driver Radar Recorder (SDRR)
and Graphical Simulation and Generation Tool (GSGT)
(120 OJT Hours)

GENERAL: The Simulation Driver Radar Recorder (SDRR) is an economical and robust test tool, based on a PC hardware platform designed around industry proven hardware, running the Linux operating system. SDRR hardware and software can be easily configured to support a variety of Air Traffic Control (ATC) real-time simulations and test functions. SIRS can be used to debug external and internal cabling, assess hardware and software performance, assess system capacity and measure target throughput response time.

The SDRR can emulate multiple, full duplex, ATC data communications interfaces (data format, speed, and electrical characteristics). This allows the SDRR system to simulate, record and playback Interfacility and/or NAS Host communications, short range Airport Surveillance Radar (ASR), and the long range Air Route Surveillance Radar (ARSR), in a real-time environment. The SDRR system comes with offline utilities to convert ASR-9, ASR-8, and ARSR messages from CDR or LYNX data recordings into the FIRS file system format.

The Graphical Simulation Generation Tool (GSGT) provides equivalent functionality as the existing SIM system. It generates radar, non-radar, and combined radar/non-radar tapes for use by the NAS as a source of real time inputs and facilitates the testing and integration of NAS and related sub-systems. The GSGT will enable simulation (SIM) developers to perform the development activities in a fraction of the time that it would normally take using NAS SIM alone.

#	Job Subtasks	Description
1	Operate System	Startup and Shut down the system
2	Create Radar Scenario	Using actual CDR data create scenario with all adapted Radars and Host IF data by using the SDRR.
3	Run Scenario	From the workstation initiate scenario and view IF and Radar messages.
4	Create GSGT Scenario	Select adaptation, weather, Radar, airspace, Host and target parameters.
5	Run GSGT Scenario	Locate scenario and select adaptation.
6	Create and Manage Targets	Target attribute editor to control start time, route, speed, altitude, type. Pop up and replicated targets.
7	Flight Routes	Point and click route or use fixes.
8	Target Messages	Edit, delete, auto generate and create flight plans.
9	Target Maneuvers	Condition, Command, Radar and Misc.
10	Import/Export Functions	Import SAR and CDR date. Export SDRR data format.
11	Saving Scenarios	Archive scenarios
12	Tools	NAS listing, SAR plot.

APPENDIX 3. STARS INSTRUCTIONAL PROGRAM GUIDE (IPG)

SECTION 1. INTRODUCTION

This IPG includes information about the following two development phases used to train newly selected Terminal automation specialists in the specialty of STARS Automation. The first phase consists of formal off-the-shelf training courses available from FAA Academy and other educational vendors. The second phase consists of OJT, which covers all subject matter needed for the job in a one-on-one training methodology.

FAA Academy Training Courses:
Course descriptions can be viewed at: http://www.academy.faa.gov/catalog/

Number	Course Name	Hours	
40670	Full STARS Maintenance EHOT	200	Required
40676	STARS Software Administration and Security	160	Required
42056	STARS OSF Adaptation	280	Required
59403	STARS AT Coach Exercise Setup and Pilot Training	40	Required
40688001	RADAR Concepts and Fundamentals	160	Recommended
53017	STARS for Air Traffic Support Specialists	96	Recommended
50043	Air Traffic Basics	200	Recommended (for non-AT background)

SECTION 2. NON-FAA ACADEMY TRAINING

Non-FAA Academy Training Courses:
The following courses may be replaced by courses with the same content offered by other accredited training sources including local collegiate educational institutions.

	Number	Course Name	Hours	
A.	SA-100	Solaris Operating System Essentials (FAA course 49446041)	4 days	Required
B.	SA-200	System Administration for the Solaris OS Part 1 (FAA course 49446042)	1 week	Recommended
C.	SA-202	System Administration for the Solaris OS Part 2 (FAA course 49446043)	1 week	Recommended
D.	SA-245	Shell Programming for System Administrators	1 week	Recommended
E.	DTP-250	PERL Programming	1 week	Recommended
F.	XML	XML Fundamentals	1 week	Recommended
G.		A+ Certification		Recommended
H.		Fundamentals of Internetworking		Recommended

2A. Solaris Operating System Essentials
(Course SA-100)

GENERAL: The Solaris Operating System Essentials course provides instruction in the key features and capabilities of Sun's flagship Solaris OS. Topics include file and directory management, controlling the user work environment, archiving files and using remote commands. In addition, this course explains fundamental command-line features of the Solaris OS, including file system navigation, the vi text editor, file permissions, access control lists (ACLs), command shells, file compression, basic network use, and reading shell scripts. This course prepares students to take the Sun Certified Solaris Associate (SCSAS) Exam.

Note: FAA Course #49446041 is equivalent to this course.

LOCATION: Selected SUN Corporation Training Facility

CLASSROOM TRAINING: The classroom portion of training is administered using lesson plans developed by the SUN Corporation.

**CLASSROOM/
LABORATORY TRAINING**:   This training is administered using SUN prepared instructional materials and laboratory guides.

2B. System Administration for the Solaris OS - Part 1
(Course SA-200)

GENERAL: The System Administration for the Solaris Operating System, Part 1 course gets you further engaged with the most efficient, secure and reliable operating system ever built. This course gives you direct experience with the most essential system administration tasks in the Solaris OS. You will be instructed in crucial system management skills including: managing local disk devices, managing UFS and ZFS file systems, installing and removing Solaris packages and patches, performing system boot procedures and system processes. This course is the first of a two-part series that helps you to prepare for Part I of the Oracle Certified Professional: Oracle Solaris System Administrator examination.

Note: FAA Course #49446042 is equivalent to this course.

LOCATION: Selected SUN Corporation Training Facility

CLASSROOM TRAINING: The classroom portion of training is administered using lesson plans developed by the SUN Corporation.

**CLASSROOM/
LABORATORY TRAINING**:   This training is administered using SUN prepared instructional materials and laboratory guides.

2C. System Administration for the Solaris OS – Part 2
(Course SA-202)

GENERAL: System Administration for the Solaris Operating System, Part 2 course expands your mastery of the most advanced operating system on the planet: Solaris. This course provides students with hands-on experience working with more complex and integrated administration concepts, and builds upon the Part 1 course. Students will be instructed in essential system administration skills including: configuring network interfaces, managing swap configurations, crash dumps, and core files. The course also covers configuring NFS and AutoFS as well as system messaging, managing storage volumes and ZFS file systems, and setting up naming services and managing Solaris Zones. This course helps you to prepare for Part II of the Sun System Administration certification exam.

Note: FAA Course #49446043 is equivalent to this course.

LOCATION: Selected SUN Corporation Training Facility.

CLASSROOM TRAINING: The classroom portion of training is administered using lesson plans developed by the SUN Corporation.

CLASSROOM/
LABORATORY TRAINING: This training is administered using SUN prepared instructional materials and laboratory guides.

2D. Shell Programming for System Administrators
(Course SA-245)

GENERAL: The Shell Programming for System Administrators course provides students with the skills to read, write, and debug UNIX shell scripts. The course begins by describing simple scripts to automate frequently executed commands and continues by describing conditional logic, user interaction, loops, menus, traps, and functions. This course is intended for system administrators who have mastered the basics of a UNIX Operating System (OS) such as the Solaris OS or Linux and who would like to read and understand the various boot scripts and write their own scripts to automate their day-to-day tasks. This course explores, in detail, the Bourne and Korn shell scripting languages.

LOCATION: Selected SUN Corporation Training Facility.

CLASSROOM TRAINING: The classroom portion of training is administered using lesson plans developed by the SUN Corporation.

CLASSROOM/
LABORATORY TRAINING: This training is administered using SUN prepared instructional materials and laboratory guides.

2E. PERL Programming
(Course DPT-250)

GENERAL: Learn the Perl programming language from basic through advanced syntax. Learn to write quick yet powerful scripts to take advantage of Perl's system administration capabilities and issue Perl commands

2F. XML Fundamentals

GENERAL: Learn to create and validate XML documents. Also, transform XML documents by using stylesheets and XPath expressions. Familiarize with the XML features in the database and the architecture of Oracle XML DB. Also, use XQuery language and the Oracle XDK tools and utilities

2G. A+ Certification

GENERAL: This exam is a CompTIA-sponsored testing program that certifies the competency of entry-level (6-months experience) computer service technicians. This exam contains situational, traditional, and identification types of questions. Twenty to thirty questions will be presented. All questions are multiple choices with only one correct answer for each question. The test covers a broad range of hardware and software technologies, but is not bound to any vendor-specific products. A+ certification signifies the individual possesses the knowledge and skills essential for successful entry-level computer service technicians, as defined by experts from companies across the industry

Note: FAA Course 97536, A+ Certification is equivalent to this course

2H. Fundamentals of Internetworking

GENERAL: This course provides training for technicians, engineers, system performance specialists, and ATSSs on networking using PCs in a local area network (LAN). Course content should include: network terminology; LAN/WAN topology; components and architecture; network protocols and standards; IP address classes and subnets; Windows NT server, workstation, configuration and management; capture/analyze ethernet management traffic; isolate, decode/analyze, TCP/IP, UDP, RUP, ARP headers; troubleshoot connectivity problems; examine/configure a basic router; troubleshoot network connectivity w/protocol analyzer and the domain reflectometer. Proficiency with Windows is required.

Note: FAA Course 40418, Fundamentals of Internetworking is equivalent to this course

SECTION 3. STARS AUTOMATION ON THE JOB TRAINING (OJT) AND CERTIFICATION ▮

GENERAL: The purpose of this phase is to provide the Automation Developmental (AD) with local facility orientation and site specific training. Lessons must include all applicable directives and ▮ procedures. This OJT supplements and reinforces Course 42056 training and prepares the AD to perform second level support for STARS.

The Job Tasks and Functions outlined on the following pages form the core of the OJT training for the AD, and as such, may be modified as necessary to cover all unique aspects of the automation job within a ▮ specific OSF. Applicable Job Tasks and Functions along with their associated subtasks should be annotated to the AD's Automation Training Record, FAA Form 3000-28, Section 3 as directed by the instructions in Chapter 3 and Appendix 1. This record will then be used to track the AD's OJT progress up to and through the Certification for this Automation Specialty.

Job tasks, functions and subsequent subtasks contained in this IPG form an outline of the subject matter to be covered in the AD's OJT. Specific methodology needed to accomplish this training will be determined by the OSF's training team.

OJT JOB TASKS AND FUNCTIONS

ID	Job Tasks and Functions (STARS)	Estimated OJT Hours
A	PC – Microsoft Office Products including Windows and Internet Explorer	20
B	Lotus Notes (e-mail) / CRU-X / LDR	20
C	Compression / FTP Programs	20
D	Travel Management Application	10
E	Customer Support Database (CSD) / Site Status Board Updates	10
F	Visual Slick Editor	40
G	Software Maintenance System (Maintenance, Users, Configurations)	200
H	Terminal Automation System (Maintenance, Users, Configurations)	320
I	Process Change Management System (PCMS)	20
J	Complete the NAR Process	20
K	MSAW/CA Validation Program	40
L	Visual STARS	40
M	ToolsMenu	60
N	Database Management System (DMS)	360
O	ACES Viewer/ERAM Viewer	20
P	Interfacility NAS Flight Plan Data Processing	20
Q	ATCoach	40
R	Simulation Driver Radar Recorder (SDRR) and Graphical Simulation and Generation Tool (GSGT)	120
S	STARS RULES Files	40
T	STARS Site Delivery Process	80
U	STARS KMZ Converter / Google Earth	20
V	National Offload Program (NOP)	100
W	STARS PC CDR Editor	20
X	MSAW Support Tools (AVN Data Reader, Obstruction Data Reader, and Lookahead Analyzer Tool)	40
Y	NAS Adaptation Service Environment (NASE)	20
Z	STARS Support Tools	80
*	Local or new Job Tasks deemed necessary by the OSFM	TBD

JOB SUBTASKS / DESCRIPTIONS

3A. PC – Microsoft Office Products including Windows and Internet Explorer
(20 OJT Hours)

GENERAL: A basic knowledge of the Microsoft Windows Operating System, Microsoft Internet Explorer and various Microsoft Office products (Word, Excel, PowerPoint, Access) is necessary to efficiently perform the duties of an automation specialist.

#	Job Subtasks	Description
1	Demonstrates proficiency in Microsoft Office programs	Using the menus available in a Microsoft Office product, open, save, copy, paste, edit, and close a file.
2	Demonstrates proficiency in Internet Explorer	Navigate internet and intranet sites.
3	Demonstrates proficiency in Windows Explorer	Find, copy, move files, map/disconnect network drives, etc.

3B. Lotus Notes (e-mail) / CRU-X for LDR
(20 OJT Hours)

GENERAL: This particular section of OJT training covers general administrative tools used on a daily basis by automation personnel. Lotus Notes is the e-mail tool used by the automation specialist for most written communications both within and outside the FAA. An automation specialist needs to know how to use both PC Client and web-based versions of this tool. CRU-X is the Labor Distribution Reporting (LDR) tool used by the automation specialist to account for their hours. The automation specialists enter their time into the CRU-X client program for subsequent approval by their supervisors for payroll purposes.

#	Job Subtasks	Description
1	Login to Lotus Notes from PC client	Login to user's Lotus Notes account using the PC client interface.
2	Display contents of mailbox folders	Display the contents of the inbox, sent, and trash mailbox folder.
3	View individual folder messages	View messages listed for the various mailbox folders.
4	Sending messages	Compose and send new messages. Also send messages by forwarding and replying to received messages.
5	Delete unwanted messages	Send unwanted messages to the trash can and empty the trash can.
6	Create custom folders	Create unique folders to be used to store messages outside the primary inbox folder.
7	Modify contact list	Add, modify and delete contacts. Create and modify mailing lists.
8	Archive messages	Setup and archive messages.
9	Login to Lotus Notes for Internet Interface and perform subtasks 2 to 7.	Perform the previously described subtasks from the internet interface for Lotus Notes.
10	Electronic Leave Request	Create, withdraw leave requests.
11	Sametime	Instant messaging and electronic meetings
12	Login to CRU-X system	Login into system and maneuver to data entry screen for logging hours.
13	Enter hours worked for pay period	Enter hours properly for work and non-work such as Annual Leave.
14	Send pay period information to T&A clerk	After accounting for the 80 hour pay period cause the Cru-X system to send the pay record to the T&A Clerk.
15	Amendments	Make an amendment to previous pay period hours.

3C. Compression / FTP Programs
(20 OJT Hours)

GENERAL A PC based program used to compress and decompress files. FTP is a file transfer protocol used to efficiently transfer files between computers.

#	Job Subtasks	Description
1	Compress a file	Using compression program (and/or Windows right click menus, if installed) zip a file or files.
2	Uncompress a file	Using compression program (and/or Windows right click menus, if installed) unzip a file and specify the destination of the unzipped files.
3	Create a self-extracting file	Using compression program (and/or Windows right click menus if installed) create a self-extracting file and specify the unzip destination.
4	Install WS_FTP Pro on PC	Using standard Windows installation procedures install WS_FTP Pro on a PC.
5	Configure an FTP site in WS_FTP Pro	Using WS_FTP Pro menu options configure access to an FTP site.
6	Upload/download a file	Using WS_FTP Pro menu options upload/download a file.
7	Configure an FTP site in Visual Slick Editor	Using Visual Slick Editor menu options configure access to an FTP site.
8	Upload/download a file	Using Visual Slick Editor menu options upload/download a file.
9	Access an FTP site using Internet Explorer	Log on to an FTP site. Reference the Internet Explorer Help menu if necessary.
10	Upload/download a file	Upload/download a file to the site logged on to in the previous task.

3D. Travel Management Application
(10 OJT Hours)

GENERAL: The FAA intranet is mandated to produce both travel authorizations and vouchers

#	Job Subtasks	Description
1	Create a trip itinerary.	Make necessary travel arrangements.
2	Create travel authorization	Enter all travel data.
3	Update travel authorization	Amend or delete travel arrangements.
4	Create travel voucher	Go through the multiple stages to enter travel data such as actual trip dates and expense information.

3E. Customer Support Database / Site Status Board Updates
(10 OJT Hours)

GENERAL: The Customer Support Database (CSD) is a web based method used to track and monitor field support trouble calls. The CSD also contains the Site Status Board and RULES status, where information about each facility is maintained.

#	Job Subtasks	Description
1	Navigate main menu	Select correct user option.
2	Review field logs	Search for trouble calls.
3	Enter a new trouble call	Make a problem and/or resolution entry and update an existing trouble call.
4	Review/update Site Status Board	Update site specific build information such as annual MSAW review date, chart delivery date, assigned specialist.
5	Update CSD Site information	Edit POCs and other information
6	Update user preferences	Update password, change settings.
7	Obtain help if needed	Use the provided CSD tutorial and help.
8	Review update site RULES status	Individual site status of specific RULES, version, and date implemented.

3F. Visual Slick Editor
(40 OJT Hours)

GENERAL: Visual Slick Edit is an advanced code/text editor. Graphical project tools help developers organize, analyze and manage code. The DIFFzilla™ differencing system provides side-by-side file and directory difference editing.

#	Job Subtasks	Description
1	Perform File Functions	Create, Open, Close, Save files.
2	Perform Edit Functions	Cut, Copy, Paste.
3	Use Search Functions	Find, Replace.
4	Exercise View Functions	Characters, Line Numbers.
5	Use Document Dropdown	Format.
6	Use Tools Dropdown	Configure, Sort, Merge, File Difference, Spell Check.
7	Configure Window	Tile, Font, Split.

3G. Software Maintenance System (Maintenance, Users, Configurations)
(200 OJT Hours)

GENERAL: The Software Maintenance System (SMS) is the STARS string where adaptation creation and development is hosted. This string is the platform on which the ToolsMenu and Database management System (DMS) reside along with the repository for all Software and data files. Each OSF serves as a support facility for software maintenance to include both site adaptation data and site support for associated STARS Operational Site (SOS). The purpose of the software maintenance role is to receive operational site software releases from the SCSC and integrate site adaptation to complete the operational program.

#	Job Subtasks	Description
1	Navigate Directory Structure	Able to navigate the directory structure to find files such as build list, data reduction files, Save Crash data and RULES files.
2	Execute Unix commands	Demonstrate knowledge of Unix commands that allow the user to perform basic job functions such as: TAR, File Compression, Copy Files, Move Files, File Permissions, Edit Files (vi Editor).
3	Use DMS laptop	Demonstrate ability to use DMS laptop to perform SMS functions. File transfer.
4	Upgrade software	Install new software (Image Archive, IDT, LCM).
5	Use Software Maintenance Tools	Access tools used for software maintenance such as: ToolsMenu, OSF GUI, Raytheon support tools, etc.
6	System Administration	Perform various security functions such as adding a user account, file maintenance, maintain system hardware.

3H. Terminal Automation System (Maintenance, Users, Configurations)
(320 OJT Hours)

GENERAL: Each OSF serves as a support facility for software maintenance to include both site adaptation data and site support for associated STARS Operational Sites (SOS). The purpose of the software maintenance role is to receive operational site software releases from the SCSC, integrate site adaptation to complete the operational program, and test the entire operational program prior to implementation at an SOS.

#	Job Subtasks	Description
1	System description	FSL, ESL
2	Software	Obtain, load and run Software (FSL/ESL).
3	Use Training system	ATCoach (Test mode, Training mode).
4	Performance Verification scenario	Run Performance Verification scenarios for both FSL and ESL.
5	Use SIRS	Create and Run SIRS scenarios.
6	FSL playback	Conduct an FSL Playback from a CDR Tape.
7	MCW operation	FSL, ESL
8	Software Tools	VA_Tools, LRIDs, CC Driver Task.
9	System administration	Security, adduser, hosts file, string defs. Routine housekeeping tasks and system recovery.

3I. Process Change Management System (PCMS)
(20 OJT Hours)

GENERAL: PCMS is a PC based networked system used for tracking of National Automation Requests and exchange of MSAW/CA information.

#	Job Subtasks	Description
1	Log In	Execute the PCMS client and log in successfully.
2	Navigate the Design Part Structure	Use the various tool bars and menu sets available to perform PCMS related functions.
3	Perform functions on items	Check in, check out, get, update, and action an item. This should include how to action an item to a state other than the next logical one.
4	Perform functions on a Request	Create a Request, action it to its various states, edit attributes, browse, and add action description.

3J. Complete the NAR Process
(20 OJT Hours)

GENERAL: The National Automation Request (NAR) is a configuration management tool that provides the OSF with a process to track and manage automation and TARP requests. The NAR provides for traceability of all changes to the site's adaptation.

#	Job Subtasks	Description
1	Access and interpret Order 6000.52	Be familiar with the structure and the content of the order.
2	Review incoming NAR	Determine appropriate course of action.
3	Action the NAR through each PCMS Lifecycle State	Action the NAR and be familiar with each state of the NAR lifecycle.
4	Enter the NAR	Enter a NAR using the NAR website and using PCMS.

3K. MSAW/CA Validation Tool
(40 OJT Hours)

GENERAL: The STARS MSAW Validation program is a Minimum Safe Altitude Warning (MSAW) validation tool. The purpose of the STARS MSAW Validation program is to validate the FAA automation specialist's adaptation files for sites running STARS. All program checks are in accordance with the *STARS COMPUTER PROGRAM Standards And Guidelines* document. This is the governing document and serves as the specification for this program. The program will generate a set of reports detailing the adaptation data and any problems associated with that data. The Automation Specialists should use this program in conjunction with the Visual STARS program to assist in their adaptation data development.

#	Job Subtasks	Description
1	Run MSAW/CA Validation Tool.	Verify correct version of the Validation Tool.
2	Select DTED Terrain Report and the MSAW/CA Validation Report.	Click the DTED Terrain Report check box then click the MSAW/CA Validation Report button. (Leave the HTML check box checked.)
3	Load adaptation file and select appropriate avn.txt and obs.txt	Load these files from your appropriate adaptation folder.
4	Review all files that are automatically displayed.	Resolve all warnings and discrepancies.
5	If adaptation is changed to resolve new warnings or discrepancies, submit a NAR for MSAW/CA review.	Action the NAR to MSAW/CA Review status.

3L. Visual STARS
(40 OJT Hours)

GENERAL: The Visual STARS Program provides a presentation of the system plane and adaptation for terminal radar approach control facilities. The program reads and displays the binary adaptation that runs on the system. A split panel at the bottom of the window provides a side or profile view of Type II areas. A three dimensional view of Type II areas and selected maps, obstructions, approaches, and runways may be activated from the view pull down menu.

This tool is used to develop and verify MSAW/CA adaptation. Use of this program is dependant on a working knowledge of the Order JT 6190.20, Standards and Guidelines to Define and Adapt Values for Minimum Safe Altitude Warning (MSAW) and Conflict Alert (CA) Site Variables.

#	Job Subtasks	Description
1	Obtain all appropriate files	Adaptation binary, DTED, AVN, CDR, GTM, and obstruction files.
2	Open site adaptation file(s)	Open the appropriate Visual GTM program based on adaptation version.
3	Perform MSAW/CA functions	GTM update; MSAW/CA review; Troubleshooting MSAW/CA problems.
4	Analyze data	Use CDR and/or NOP data to troubleshoot radar and adaptation issues.
5	Graphically display adaptation and other support data	Show how various data can be displayed and give examples of the use of each.

3M. ToolsMenu
(60 OJT Hours)

GENERAL: The ToolsMenu is the primary interface for the OSF used to provide operational support to the SOSs. The OSF uses this menu driven software tool for a variety of functions such as create, maintain, and support adaptation, distribution and installation of software, problem reporting and trouble shooting tools and CDR data reduction tools.

#	Job Subtasks	Description
1	Use adaptation tools	Create, access, compare, and delete adaptation databases.
2	Distribution and management tools	Obtain, deliver, and install software.
3	Problem reporting and troubleshooting tools	Report and create PTR using the Distributed Defect Tracking System (DDTS). Obtain and distribute SaveCrash data.
4	Data reduction and analysis tools	Start CDR editor, select output format, filter data as necessary, and analyze results.

3N. Database Management System (DMS)
(360 OJT Hours)

GENERAL: The DMS is used to adapt site-specific values and store them in an Oracle database. Adaptation data is modifiable data that is provided to customize the system for specific installations and desired operational characteristics. DMS is the primary vehicle for configuration management of STARS adaptation.

#	Job Subtasks	Description
1	Adapt system configuration	System Plane, Radars, sensors, TCPs, communications gateways, AIGs, User Interface, MSAW/CA.
2	Adapt local data	Facilities, SSR codes, User Interface, SIM files, NAS/ETMS, Significant Points, Graphical Data, VSPs, Map Groups, FMA, Global Parameters.
3	Import/export external data	RVM, GTM, Rules, System Parameters, reports, and other external adaptation files.
4	Adapt ESL specific data	Workstations, Display Parameters, System Configuration.
5	Adapt and view graphical data	Filter areas, tile sets, safety critical parameters, BGS, maps.
6	Reports	Produce and analyze Adaptation Definition, Site Adaptation, Adaptation History, and MSAW GTM Differences.

3O. ACES Viewer/ERAM Viewer
(20 OJT Hours)

GENERAL: The ACES Viewer/ERAM Viewer are PC based programs designed to display, browse, and calculate all information that has been adapted by the automation system (ARTCC). This program can be particularly helpful in determining fix pair configuration(s) between the ARTCC and a terminal facility.

Training in the use of ACES Viewer/ERAM Viewer should be conducted where resources and expertise is available**.**

#	Job Subtasks	Description
1	Locate appropriate database	Use NASE or other appropriate method to obtain file.
2	Open Viewer program	Click on program icon and select the desired database.
3	View site specific data	Retrieve the specific database information.

3P. Interfacility NAS Flight Plan Data Processing
(20 OJT Hours)

GENERAL: Interfacility NAS Flight Plan Data Processing includes flight plan data, track data, and test data received by and transmitted from the terminal automation system. It also includes response messages, discarded messages, and retransmissions of specific messages.

Interfacility processing, message types, and responses can be found STARS ICD 21058100A.

#	Job Subtasks	Description
1	Flight Plan processing	Identify and describe the four types of IF flight plans and their respective fields. Explain the fixed pair methodology. Determine flight plan status and its relevance. Describe the use of ECID and TCID .
2	Interfacility handoff process	Explain what messages are exchanged between facilities in a handoff string. Explain potential causes for errors in the string. PARs, PDRs and PDARs.
3	ARSA FP processing	Interfacility requirements for ARSA handoffs.
4	Host/Non Host Center DART	Be familiar with the Host Center DART (data reduction and analyses tool) as a way to capture and analyze interfacility message exchanges.
5	Interfacility error messages	Fault analyses.
6	NASQuest	NASQuest is a web based interface to a custom MySQL database system used to search Center flight plan data

3Q. ATCoach
(40 OJT Hours)

GENERAL: ATCoach provides the capability for running exercises and developing site and scenario data for the purpose of training and evaluating Air Traffic operators and testing the STARS system. ATCoach can display simulation data on the STARS Full Service Level (FSL) and Emergency Service Level (ESL) displays. ATCoach is hosted and run on the Test and Training Simulator (TTS) and General Purpose Workstation (GPW). The TTS serves as the Instructor Platform, the GPW serves as the pseudo pilot platform and the TCW/TDWs serve as the student workstations. Support Functions include Scenario Editor, Aircraft Model Editor, Site Editor, File Manager, Student Record Manager, Scenario Error Check, Site Error Check, Free Hex Editor, Message Filter Editor and Runtime Error Check.

#	Job Subtasks	Description
1	Run ATCoach	Load, error check, and run scenario.
2	Create scenario files	Design situational scenarios.
3	Create site files	Tailor site file to better simulate real world conditions.
4	Maintain Aircraft Model file	Add /update aircraft types as necessary.
5	Include file	Add site specific data.

**3R. Simulation Driver Radar Recorder (SDRR) and
Graphical Simulation and Generation Tool (GSGT)
(120 OJT Hours)**

GENERAL: The Simulation Driver Radar Recorder (SDRR) is an economical and robust test tool, based on a PC hardware platform designed around industry proven hardware, running the Linux operating system. SDRR hardware and software can be easily configured to support a variety of Air Traffic Control (ATC) real-time simulations and test functions. SIRS can be used to debug external and internal cabling, assess hardware and software performance, assess system capacity and measure target throughput response time.

The SDRR can emulate multiple, full duplex, ATC data communications interfaces (data format, speed, and electrical characteristics). This allows the SDRR system to simulate, record and playback Interfacility and/or NAS Host communications, short range Airport Surveillance Radar (ASR), and the long range Air Route Surveillance Radar (ARSR), in a real-time environment. The SDRR system comes with offline utilities to convert ASR-9, ASR-8, and ARSR messages from CDR or LYNX data recordings into the FIRS file system format.

The Graphical Simulation Generation Tool (GSGT) provides equivalent functionality as the existing SIM system. It generates radar, non-radar, and combined radar/non-radar tapes for use by the NAS as a source of real time inputs and facilitates the testing and integration of NAS and related sub-systems. The GSGT will enable simulation (SIM) developers to perform the development activities in a fraction of the time that it would normally take using NAS SIM alone.

#	Job Subtasks	Description
1	Operate System	Startup and Shut down the system
2	Create Radar Scenario	Using actual CDR data create scenario with all adapted Radars and Host IF data by using the SDRR.
3	Run Scenario	From the workstation initiate scenario and view IF and Radar messages.
4	Create GSGT Scenario	Select adaptation, weather, Radar, airspace, Host and target parameters.
5	Run GSGT Scenario	Locate scenario and select adaptation.
6	Create and Manage Targets	Target attribute editor to control start time, route, speed, altitude, type. Pop up and replicated targets.
7	Flight Routes	Point and click route or use fixes.
8	Target Messages	Edit, delete, auto generate and create flight plans.
9	Target Maneuvers	Condition, Command, Radar and Misc.
10	Import/Export Functions	Import SAR and CDR date. Export SDRR data format.
11	Saving Scenarios	Archive scenarios
12	Tools	NAS listing, SAR plot.

3S. STARS Rules Files
(40 OJT Hours)

GENERAL: Rules adaptation files are provided as ASCII text files in the STARS DMS software. The statements in Rules adaptation files are compiled by a Rules Compiler that converts Rules text files into binary executable files. The executable files generated by the Rules Compiler are provided to a STARS site in the adaptation buildlist delivered to the site. The contents of these files (the "Rules") are used by the Situation Data Display (SDD) software executing in STARS FSL TCW/TDWs. Rules control the location and appearance of display outputs (such as data blocks, lists, and leader lines), as well as the format of command inputs via the keyboards and Display Control Bar available on the STARS FSL TCW/TDW. Only rules contained in the STARS Site Rules Document (SRD) are approved for use.

3T.   STARS Site Delivery Process
(80 OJT Hours)

GENERAL: The STARS Site Delivery Process is defined in detail in STARS Standard Operating Procedures (SOP). It describes the required steps for completing a Chart Date, Interim, or Non Delivery to a facility. The deliveries may be adaptation changes only or adaptation changes in conjunction with a new STARS Release.

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3U. STARS KMZ Converter / Google Earth
(20 OJT Hours)

GENERAL: The STARS KMZ Converter program is designed to convert the FAA STARS Adaptation files into KMZ files. KMZ files are used by Google Earth to store geographic elements. KMZ files are compressed versions of Google Earth's KML file. KML files are an XML grammar and file format for modeling and storing geographic features such as points, lines, images, and polygons for display in Google Earth. The program is designed to convert all of the STARS Geographic Areas including the MSAW / CA Approach Monitor Volumes (AMV), Filter Areas, Aural Alarm Areas.. In addition, the program will convert Obstruction files, Sensors, and Emergency Hospitals. Lastly, the program will convert the adapted MSAW Bins, but in this case the output will be to a separate file due to the size of the bin files.

#	Job Subtasks	Description
1	Obtain Data Source Files	Binary ".ad" FSL file, Video Map file, Obstruction file
2	Selecting Data Choices	Geo Areas, Sensors, Hospitals, Video Maps, Obstructions, MSAW Bins.
3	Google Earth.	Load Output files into Google Earth
4	Program Operation	Access and display adaptation data.

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3V. National Offload Program (NOP)
(100 OJT Hours)

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GENERAL: The NOP (National Offload Program) is **not** an individual computer application, but is the name given to the endeavor of extracting operational data from the NAS computers and making that data available to end users. This functionality is facilitated in the terminal environment by hardware/software ■ that is typically referred to as an NOP server.

Each NOP server acts as a 45-day repository of aircraft data received from co-located ARTS or STARS automation equipment. The aircraft data may then be accessed via the FAA intranet by properly authorized personnel via PC based programs such as CDR Player Plus (CDRPP) and Traffic Analysis and Review Program (TARP) for display and analysis. The OSF specialist may be asked for assistance to setup and execute these programs. The CDRPP and TARP programs can access either live or historical (45-day) data via specific NOP servers. CDRPP is used primarily to display a complete picture of the facility air traffic for a given time while TARP is specially designed to evaluate the separation of air traffic and to output alerts for aircraft pairs that violate separation standards.

#	Job Subtasks	Description
1	Obtain Access	Coordinate with facility managers and NOP access Manager.
2	Create Map files	Use Orion program to convert each site's map files for .dat to .ini format.
3	Setup file structure	Setup appropriate file structure to be used for each field site.
4	Setup PCs	Setup each PC for CDRPP and TARP.
5	Run TARP program	Execute TARP on both live and historical data for analysis.
6	Modify TARP Rules	Use TARP Rules editor or any text editor to modify rules as required for each site.
7	Run CDRPP program	Execute CDRPP on both live and historical data for analysis.
8	Run NOP Client	Obtain data for analysis, for example, flight plan data, safety critical data, radar data.

3W. STARS PC CDR Editor
(20 OJT Hours)

GENERAL: This program will read a Stars CDR (Continuous Data Recorder) file and produce an output file that is in a spreadsheet style. This style is referred to as an "edt" file. The edt file will be a text file with each field delimited by a tab. The user may use a spreadsheet program to view this output file or use the Visual Stars program to display the data. The edt file will have the output that corresponds to the manual TI 6191.419. Please refer to this manual for more information on the various outputs. Currently, this program only supports Class 2, 2X, 3, 3X, 4, 5, 6, 7, 8, 9, 13, 14 and 17 data (see TI 6191.419). Please note that the name "Editor" is a misnomer. The program simply reads "raw" CDR data and produces text output.

#	Job Subtasks	Description
1	Install Editor	Obtain the editor program from PCMS and install on a PC.
2	Start the Editor	Start the Editor program.
3	Select CDR File	Using the Open CDR File button select the CDR file to be edited.
4	Select Filters	Using the Set Filters Button access the Filters Dialog box. Select the time frame and filters required to obtain the desired output.
5	Select Options	Using the Options Button access the Options Dialog box and select the desired values
6	Generated EDT File	Select the Generate EDT File Button and select output location.
7	View Edited Output	A Tab delimited ASCII file is created and can be viewed using and text editor or spreadsheet program.
8	Interpret Edited Output	Interpret various edited outputs per TI 6191.405 and TI 6191.419 chapter 13. Edited output may also be imported into the Visual STARS Program for graphical analysis.

3X. MSAW Support Tools
(AVN Data Reader, Obstruction Data Reader, and Lookahead Analyzer Tool)
(20 OJT Hours)

GENERAL: The STARS Look Ahead Analyzer program was designed to assist the Automation Specialist with the setting for the Look Ahead time in their adaptation. The Look Ahead time is the amount of time that the STARS system will use to extrapolate a track when computing Low Altitude (MSAW) Alerts. This program only deals with the MSAW Alarms that occur inside of an Approach Monitor Volume (AMV). In order to analyze the Look Ahead times, the program will require that the user provide a set of adaptation files for the site being tested and STARS Class 7 CDR data. The user will need a sufficient amount of Class 7 data covering various conditions from the site. What is a sufficient amount of data is a decision that is up to the Automation Specialist. Obviously, the more data the user provides, the better the results will be.

The AVN Data Reader program is to be used to read an AVN Data file. AVN Data files are generated for each TRACON and contain Runway, Airport Reference Point, Approach, Navigational Aid, and Fix information. The files are binary, thus this reader was develop for the OSF Specialist to be able to view the data. AVN Data Files can be found on the PCMS server under each TRACON.

The Obstruction plotter reads an AVN Obstruction file for actual obstructions. It will display detailed information about specific obstructions. Obtain the required XXX.obs input file from PCMS before using this feature.

#	Job Subtasks	Description
1	Obtain data for Look Ahead Analyzer.	Obtain Class 7 data (Tracking) and correct adaptation files and place in folder on PC.
2	Run Look Ahead Analyzer	Set Filters such as ACID, Exercises, Runways, Process MSAW Inhibited Targets, Process Frozen Targets, Process Coast Targets.
3	Analyze Data	Observe output to determine validity of Look Ahead time.
4	AVNDataReader	Select file, Select Airport, Select Runway.
5	ObstructionDataReader	Select file, Select Latitude, Select Obstruction.

3Y. NAS Adaptation Service Environment (NASE)
(20 OJT Hours)

GENERAL: The Adaptation Improvement Program strives to modernize the way the FAA collects, stores, standardizes, distributes, and manages aeronautical and adaptation data. At this time, the primary focus is on the NAS Adaptation Services Environment (NASE).

  1. The goals of NASE are to:
  • Improve NASE services for existing customers
  • Provide NASE services to additional NAS programs
  • Promote and distribute aeronautical data based on FAA Aeronautical Data Standards
  • Distribute aeronautical data based upon desired interchange models.

  2. NASE services include:
  • Secure Data Repository Services
  • Customized Data Extraction and Transformation Services
  • Data Distribution Services
  • Transaction Logging Services
  • Automated Data Notification Services
  • Collaboration Services
  • Platform Services
  • Training Services.

#	Job Subtasks	Description
1	Login	Define Profile, Set Web Alerts, Set Data Subscriptions and Customize layout.
2	STARS Home	Select from a list of data sources (gears) to display and access from this page.
3	STARS Data	Select from a list of data sources (gears) to display and access from this page.
4	STARS Collaboration	Select from a list of data sources (gears) to display and access from this page.
5	STARS Rules	Access Rules Code, Test Plans, Scenarios, and Discussions.

3Z. STARS Support Tools
(80 OJT Hours)

GENERAL: STARS support tools are hosted on the STARS Software Maintenance Server (SMS) and are created and supported by Raytheon, SCSC and OSF personnel. Tools can be accessed through the OTI menu bar. This will be a dynamic list.

#	Job Subtasks	Description
1	Adapt Tools	DMS Helper, Rules Editor, Rules Manager, Rules Compiler, MAZU, PVER, Database Validation, Create Scenarios, Fix Pair Scenario Generator.
2	Admin Tools	Database Info, Fix Caris, VA Tools.
3	Tape Tools	IDT Tool, Build Tape Cksums.
4	VPN Tool	VPN Tool
5	User Tools	Add User defined Tools.
6	SCSC Tools	System Archive Tool, CDR Launch Tool, Detect Tape Drives, Personal ToolsMenu, BL Tape Generator.
7	STARS DMS Support Tools	Graphical View to SIFA Conversion, Configuration Plan by Fix Pair, Oracle Database Table Statistics, TCW/TDW Keyboard Assignments, Graphical NUNIO Viewer, TCP List Location Viewer, Buildlist Browser, DCP/DCB Map Assignments.

APPENDIX 4. STARS SYSTEM ADMINISTRATION INSTRUCTIONAL PROGRAM GUIDE (IPG)

RESERVED

SECTION 1. INTRODUCTION

SECTION 2. NON-FAA ACADEMY TRAINING

SECTION 3. ON THE JOB TRAINING (OJT) AND CERTIFICATION

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