

**NATIONAL**  
**GUIDELINES FOR**  
**APPRENTICESHIP STANDARDS**

developed by

**CenTec, Inc.**

for the occupation of

**MAINTENANCE REPAIRER, INDUSTRIAL**  
**(Multi-Skilled System Troubleshooter)**

**DEVELOPED IN COOPERATION WITH THE**  
**UNITED STATES DEPARTMENT OF LABOR**  
**BUREAU OF APPRENTICESHIP AND TRAINING**

**APPROVED AND CERTIFIED BY THE**  
**UNITED STATES DEPARTMENT OF LABOR**  
**OFFICE OF APPRENTICESHIP TRAINING, EMPLOYER AND LABOR SERVICES**

**BY: \_\_\_\_\_**  
**ANTHONY SWOOPE, ADMINISTRATOR**  
**OFFICE OF APPRENTICESHIP TRAINING, EMPLOYER AND LABOR SERVICES**

**CERTIFICATION DATE: September , 2005**

**CERTIFICATION NUMBER: C2005-05**

## **FOREWORD**

CenTec, Inc. recognizes the need for structured training programs to maintain the high level of skill and competence demanded in the occupation of Multi-Skilled System Troubleshooter. Registered apprenticeship is the most practical and sound training system available to meet that need, to develop individuals into skilled journeyworkers, and to ensure industry an adequate supply of skilled workers.

Title 29, Code of Federal Regulations, Part 29, outlines the requirements for registration of acceptable apprenticeship programs for Federal purposes, and sets forth labor standards that safeguard the welfare of apprentices. Such registration may be by the Bureau of Apprenticeship and Training, U. S. Department of Labor or by a State Apprenticeship Agency/Council recognized by the Bureau as the appropriate body in that State for approval of local apprenticeship programs for Federal purposes. Title 29, Code of Federal Regulations, Part 30 sets forth the requirements for equal employment opportunity in apprenticeship to which all registered apprenticeship programs must adhere.

The purpose of these National Guideline Standards is to provide policy and guidance to employers, employer associations and their local affiliates in developing Standards of Apprenticeship for local approval and registration. These National Guideline Standards developed by CenTec, Inc. are certified by the Office of Apprenticeship Training, Employer and Labor Services, U. S. Department of Labor, as substantially conforming to the requirements of Title 29, CFR Parts 29 and 30. State Apprenticeship Agency/Councils recognized by the Bureau of Apprenticeship and Training to register local programs, and/or local laws and regulations, may impose additional requirements that must be addressed in the local apprenticeship standards.

Local Standards of Apprenticeship must be developed and registered by each employer, employer association and/or their local affiliates that undertake to carry out an apprenticeship training program. The local Standards of Apprenticeship will be the written plan outlining all terms and conditions for the recruitment, selection, employment, training, and supervision of apprentices as defined by CenTec, Inc. and their affiliate members must meet all the requirements of the local Registration Agency.

## **CenTec, Inc.**

CenTec, Inc. is responsible for the development of National Guideline Standards and having them certified by the Office of Apprenticeship Training, Employer and Labor Services, U.S. Department of Labor for use by employer, employer associations and their local affiliates.

## **Duties of CenTec, Inc.**

CenTec, Inc. will endeavor to:

- a. Encourage association members to establish local apprenticeship programs in accordance with these National Guideline Standards.
- b. Cooperate with its affiliates in all areas of training.
- c. Make an annual report on progress made in apprenticeship.
- d. Cooperate with its affiliates on the development and use of related instruction material.
- e. Transfer an apprentice from one registered apprenticeship program to another where such transfer is justified and is agreeable to the apprentice and both employers affected.

## **DEVELOPMENT OF AFFIRMATIVE ACTION PLAN AND SELECTION PROCEDURES**

Equal employment opportunity is required of every registered apprenticeship program. Such requirements apply to the recruitment, selection, employment, and training of apprentices throughout their apprenticeship.

Those programs with five or more apprentices, or where there is a likelihood of five or more apprentices, must have a written Affirmative Action Plan and Selection Procedure that is approved by the Registration Agency as part of the Standards of Apprenticeship.

A sample Affirmative Action Plan and Selection Procedure are attached.

Representatives of the Registration Agency are available to assist the program sponsor in developing Standards of Apprenticeship, Affirmative Action Plan and Selection Procedure using the sample provided. Once developed, the Standards of Apprenticeship, as well as the Affirmative Action Plan and Selection Procedure must be submitted to the Registration Agency for approval and registration.

**OFFICIAL ADOPTION OF NATIONAL GUIDELINES FOR  
APPRENTICESHIP STANDARDS:**

CenTec, Inc. hereby officially adopts these National Guidelines for Apprenticeship Standards on this \_\_\_ day of \_\_\_\_\_, 2005.

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**DAVID CROCKETT**  
**President/CEO of CenTec, Inc.**

**SAMPLE**  
**STANDARDS OF APPRENTICESHIP**

**DEVELOPED BY**

**CenTec, Inc.  
P.O. Box 5127  
Greenville, SC 29606**

**FOR THE APPRENTICEABLE OCCUPATIONS:**

**Maintenance Repairer, Industrial  
(Multi-Skilled System Troubleshooter)**

**RAIS Code: 0311  
O\*Net Code: 49-9042.00**

*These models of National Guidelines for Apprenticeship Standards are an example of how to develop apprenticeship standards that will comply with 29 CFR Parts 29 and 30 when tailored to a sponsor's apprenticeship program. These model Standards do not create new legal requirements or change current legal requirements. The legal requirements related to apprenticeship that apply to registered apprenticeship programs are contained in 29 U.S.C. 50 and 29 CFR Parts 29 and 30. Every effort has been made to ensure that the information in these models of Apprenticeship Standards are accurate and up-to-date.*

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## **FOREWORD**

CenTec, Inc. recognizes the need for structured training to maintain the high level of skill and competence demanded in Manufacturing and other Industries.

Registered apprenticeship provides the most practical and sound method to meet that need, to prepare individuals to be a Multi-Skilled System Troubleshooters, and to ensure industry an adequate supply of skilled workers.

In furtherance of those goals CenTec, Inc. has established these Standards of Apprenticeship outlining all terms and conditions for the recruitment, selection, employment and training of apprentices in the occupation of Multi-Skilled System Troubleshooter.

## **DEFINITIONS**

**APPRENTICE:** Any individual meeting the qualifications described in the Standards of Apprenticeship who has signed an Apprenticeship Agreement with the Employer/ Sponsor providing training and related instruction under the Standards, and who is registered with the Registration Agency.

**APPRENTICESHIP AGREEMENT:** The written agreement between the apprentice and the Employer/Sponsor setting forth the responsibilities and obligations of all parties to the Agreement with respect to the Apprentice ' s employment and training under the Standards. Each Apprenticeship Agreement must be registered with the Registration Agency.

**CERTIFICATE OF COMPLETION:** The Certificate of Completion issued by the Registration Agency to those registered apprentices certified and documented as successfully completing the apprentice training requirements outlined in the Standards of Apprenticeship.

**DIRECT SUPERVISION:** All apprentices shall perform their on-the-job duties under the Direct Supervision of an experienced Multi-Skilled System Troubleshooter. Direct Supervision shall consist of, on average, at least two (2) hours of time spent daily working side by side with an experienced supervisor or Multi-Skilled System Troubleshooter learning the trade skills as listed in the accompanying work process schedule.

**EMPLOYER:** Any person or organization employing an apprentice whether or not such person or organization is a party to an apprenticeship agreement with the apprentice

**JOURNEYWORKER:** An individual who has sufficient skill and knowledge of this occupation, either through formal apprenticeship or through practical on-the-job experience, and/or is recognized by a State or Federal registration agency and this industry as being fully qualified to perform the work of the occupation.

**O\*NET-SOC CODE:** The Occupational Information Network (O\*NET) codes and titles are based on the new Standard Occupational Classification (SOC) system mandated by the federal Office of Management and Budget for use in collecting statistical information on occupations. The O\*NET classification uses an 8-digit O\*NET-SOC code. Use of the SOC classification as a basis for the O\*NET codes ensures that O\*NET information can be readily linked to labor market information such as occupational employment and wage data at the national, State, and local levels.

**ON-THE-JOB LEARNING (OJL):** Learning acquired through the completion of work processes in which the apprentice will receive supervised work experience and training on the job with an allocation of the approximate time to be spent in each major work process;

**PROGRAM SPONSOR:** The Employer or Employer Association in whose name the Standards of Apprenticeship will be registered, and which will have the full responsibility for administration and operation of the apprenticeship program.

**REGISTRATION AGENCY:** The Office of Apprenticeship and Training, Employer and Labor services and the Bureau of Apprenticeship and Training, U. S. Department of Labor.

**REGISTERED APPRENTICESHIP INFORMATION SYSTEM (RAIS):** The Federal system which provides for the automated collection, retention, updating, retrieval and summarization of information related to apprentices and apprenticeship programs.

**RELATED INSTRUCTION:** shall mean an organized and systematic form of instruction designed to provide the apprenticeship with knowledge of the theoretical and technical subjects related to his/her trade

**STANDARDS OF APPRENTICESHIP:** This entire document including all appendices and attachments hereto, and any future modifications or additions approved by the Registration Agency.

**SUPERVISOR OF APPRENTICES:** A qualified supervisor or individual who has sufficient skill and knowledge of this occupation designated by the employer to be responsible for the apprentice's work assignment ensuring the apprentice is working under the supervision of a Journeyworker.

## **SECTION I. - EQUAL OPPORTUNITY PLEDGE - 29.5(b)(20)**

The recruitment, selection, employment, and training of apprentices during their apprenticeship, shall be without discrimination because of race, color, religion, national origin, or sex. The Sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Title 29 of the Code of Federal Regulations, Part 30, as amended (insert applicable state regulations here, if applicable).

## **SECTION II. - AFFIRMATIVE ACTION PLAN - 29.5(b)**

If the Sponsor employs five or more apprentices, the Sponsor will adopt an Affirmative Action Plan and Selection Procedure as required under Title 29, CFR Part 30. A sample Affirmative Action Plan and Selection Procedure are included in this document attached as Attachment C for guidance in development of local plans and procedures.

## **SECTION III. - QUALIFICATIONS FOR APPRENTICESHIP - 29.5(b)(10)**

Applicants shall meet the following minimum qualifications:

### A. Age

An applicant, who is sixteen (16) years of age and is participating in a school-to-work program or equivalent and who otherwise meets all qualifications may be rated, ranked and placed on the list of eligible applicants,. Such an applicant must be eighteen (18) years of age prior to being accepted into the apprenticeship program.

### **EXAMPLES:**

### B. Education

A high school diploma or GED equivalency is required. Applicant must provide an official transcript(s) for high school and post high school education and training. All GED records must be submitted if applicable.

Applicants must submit a copy of their DD-214 to verify military training and/or experience if they are a veteran and wish to receive consideration for such training/experience.

### C. Physical

Applicants shall be physically capable of performing the essential functions of the apprenticeship program without posing a direct threat to the health and safety of the individual or others.

Qualified applicants may be subject to a physical examination or drug screening or both on acceptance into the program and prior to being employed. The cost of the examination and/or drug screening shall be the responsibility of the Sponsor or the Employer.

## **SECTION IV. - RATIO OF APPRENTICES TO JOURNEYWORKERS - 29.5(b)(7)**

The ratio of apprentices to Journeyworkers shall be consistent with proper direct supervision, training, safety, and continuity of employment throughout the apprenticeship. This ratio of apprentices to Journey Workers shall be one (1) apprentice to one (1) Journeyworker.

## **SECTION V. - TERM OF APPRENTICESHIP - 29.5(b)(2)**

The term of apprenticeship shall be a period of reasonably continuous employment, including the probationary period, as stated on the Occupation Schedule (Attachment A).

An apprentice, who by exceptional aptitude or as a result of past education and/or practical experience achieves the desired level of competency in a phase of the apprenticeship program in less than the time designated, may be advanced to the next phase. However, in no event shall a Completion Certificate be issued until the apprentice has completed 8,000 hours of On-the-Job Learning (OJL) and demonstrated technical competency in those areas covered by the Related Instruction (RTI) portion of this document.

## **SECTION VI. - PROBATIONARY PERIOD - 29.5(b)(8), (b)(19)**

All applicants selected for apprenticeship shall serve a probationary period of 6 months (approximately 1,000 hours) of on-the-job learning.

During the probationary period either the apprentice or the Sponsor may terminate the Apprenticeship Agreement, without stated cause, by notifying the other party in writing. The records for each probationary apprentice shall be reviewed prior to the end of the probationary period. Records shall consist of periodic reports regarding progression made in both the on-the-job learning and Related Instruction, and any disciplinary action taken during the probationary period.

Any probationary apprentice considered to be unsatisfactory after a review of the probationary period shall have his/her Apprenticeship Agreement canceled before the expiration of the probationary period, by means of written notice to the apprentice and to the Registration Agency.

Each probationary apprentice evaluated as satisfactory after a review of the probationary period shall be given full credit for the probationary period and continue in the program.

After the probationary period the apprenticeship agreement may be canceled at the request of the apprentice, or may be suspended or canceled by the Sponsor for reasonable cause after documented due notice to the apprentice and a reasonable opportunity for corrective action. In such cases, the Sponsor will provide written notice to the apprentice and to the Registration Agency of the final action taken.

## **SECTION VII. - APPRENTICESHIP AGREEMENT - 29.5(b)(11)**

After an applicant for apprenticeship has been selected, but before employment as an apprentice or enrollment in Related Instruction, the apprentice shall be covered by a written apprenticeship agreement (Attachment B) signed by the Sponsor and the apprentice and approved by and registered with the Registration Agency. Such agreement shall contain a statement making the terms and conditions of these standards a part of the agreement as though expressly written therein. A copy of each Agreement shall be furnished to the apprentice, the Registration Agency, the Sponsor and the Veterans Agency (if Applicable).

Prior to signing the Apprenticeship Agreement, each selected applicant shall be given an opportunity to read and review these Standards, the Sponsor's written rules and policies, and the Apprenticeship Agreement.

The Registration Agency will be advised promptly of the execution of each Apprenticeship Agreement and will be given all the information required for registering the apprentice.

## **SECTION VIII. - HOURS OF WORK**

Apprentices shall generally work the same hours as a Multi-Skilled System Troubleshooter except that no apprentice shall be allowed to work overtime if it interferes with attendance/participation in Related Instruction.

Apprentices who do not complete the required hours of on-the-job learning during a given segment may have the term of that segment extended until the required number of hours of training are accrued.

## **SECTION IX. - APPRENTICE WAGE PROGRESSION - 29.5(b)(5)**

Apprentices shall be paid a progressively increasing schedule of wages during their apprenticeship based on the acquisition of increased skill and competence on the job and in Related Instruction. Before an apprentice is advanced to the next segment of training or to a Multi-Skilled System Troubleshooter Journeyworker status, the Sponsor shall evaluate all progress to determine whether advancement has been earned by satisfactory progress in on-the-job learning and in related instruction. In determining whether satisfactory progress has been made, the Sponsor shall be guided by the work experience and related instruction records and reports.

The progressive wage schedule shall be an increasing percentage of Multi-Skilled System Troubleshooter wage rate as established by the Attachment A. The percentages that will be applied to the applicable Multi-Skilled System Troubleshooter wage rate are shown on the attached Occupational Schedule (Attachment A). In no case will the starting wages of apprentices be less than that required by any minimum wage law which may be applicable.

## **SECTION X. - CREDIT FOR PREVIOUS EXPERIENCE - 29.5(b)(12)**

The sponsor may grant credit towards the term of apprenticeship to new apprentices who demonstrate previous acquisition of skills or knowledge equivalent to that which would be received under these Standards of Apprenticeship.

Apprentice applicants seeking credit for previous experience gained outside the supervision of the Sponsor must submit the request at the time of application and furnish such records, affidavits, etc to substantiate the claim.

An apprentice granted credit shall be advanced to the wage rate designated for the period to which such credit accrues.

The granting of advanced standing will be uniformly applied to all apprentices.

### **Sample Process:**

Applicants requesting such credit who are selected into the apprenticeship program shall start at the beginning wage rate. The request for credit will be evaluated and a determination made by the Sponsor during the probationary period when actual on-the-job and Related Instruction performance can be examined. Prior to completion of the probationary period, the amount of credit to be awarded will be determined after review of the apprentice's previous work and training/education record and evaluation of the apprentice's performance and demonstrated skill and knowledge during the probationary period.

## **SECTION XI. - WORK EXPERIENCE - 29.5(b)(3)**

During the apprenticeship each apprentice shall receive such on-the-job learning and related instruction in all phases of the occupation necessary to develop the skill and proficiency of a Multi-Skilled System Troubleshooter. The on-the-job learning shall be under the direction and guidance of a Multi-Skilled System Troubleshooter Journeyworker.

The Work Process Schedule for Multi-Skilled System Troubleshooter is covered in the attached Occupational Schedules (Attachment A).

## **SECTION XII – RELATED INSTRUCTION - 29.5(b)(4)**

During each segment of training each apprentice is required to participate in related instruction in subjects related to the job as outlined in Attachment A. For each occupation, the recommended term of apprenticeship will include no less than 144 hours of related instruction for the Multi-Skilled System Troubleshooter for each year of the apprenticeship. Apprentices agree to take such subjects as the Sponsor advises. The Sponsor shall secure the instructional aids and equipment it deems necessary to provide quality instruction. Apprentices will be paid for hours spent attending related instruction classes.

The Sponsor is encouraged to inform each apprentice of the availability of college credit where available through CenTec, Inc. To the extent possible, Related Instruction shall be closely correlated with the practical experience and training received on the job. The Sponsor shall monitor and document the apprentice ' s progress in Related Instruction.

### **Sample Process**

Any apprentice who is absent from related instruction, unless officially excused, shall satisfactorily complete all class work missed before being advanced to the next period of training. In cases of failure of an apprentice to fulfill the obligations regarding Related Instruction or on-the-job learning without due cause, the Sponsor shall take appropriate disciplinary action and may terminate the Apprenticeship Agreement after due notice to the apprentice and opportunity for corrective action.

The Sponsor is encouraged to secure technically competent instructors whose knowledge, experience, and ability to teach will be carefully examined and monitored by the Sponsor.

### **SECTION XIII - SAFETY AND HEALTH TRAINING - 29.5(b)(9)**

All apprentices shall receive instruction in safe and healthful work practices both on-the-job and in Related Instruction that are in compliance with the Occupational Safety and Health Standards promulgated by the Secretary of Labor under Public Law 91-596, dated December 29, 1970, and subsequent amendments to the Public Law, or State Standards that have been found to be at least as effective as the Federal Standards.

Apprentices shall be taught that accident prevention is very largely a matter of education, vigilance, and cooperation and that they should strive at all times to conduct themselves in their work in such manner as to ensure their own safety and that of their fellow workers.

### **SECTION XIV - SUPERVISION OF APPRENTICES - 29.5(b)(14)**

The Sponsor shall be responsible for the training of the apprentice on the job learning. The Supervisor of the apprentice(s) (if one is available) designated by the employer shall be responsible for the apprentice's work assignment ensuring the apprentice is working under the supervision of a Multi-Skilled System Troubleshooter, evaluation of work performance, and completion and submittal of progress reports to the Sponsor.

All apprentices shall perform their on-the-job duties under the Direct Supervision of an experienced technician. Direct Supervision shall consist of, on average, at least two (2) hours of time spent daily working side by side with an experienced supervisor or technician learning their trade skills in the accompanying work process schedule.

Apprentices may be responsible for maintaining a record of their work experience/training on the job and in Related Instruction and for having this record verified by their supervisor at the end of each week. The apprentice shall authorize an effective release of their completed Related Instruction records from the local school authorities to the Sponsor if necessary. The record cards and all data pertaining to the apprenticeship will be the property of the Sponsor and will be included in each apprentice ' s record file maintained by the Sponsor.

Before each period of advancement, or at any other time when conditions warrant, the Sponsor shall evaluate the apprentice ' s record to determine whether he/she has made satisfactory progress. If an apprentice ' s Related Instruction or on-the-job progress is found to be unsatisfactory, the Sponsor may determine whether the apprentice will continue in a probationary status, or require the apprentice to repeat a process or series of processes before advancing to the next wage classification. In such cases, the Sponsor should initiate a performance improvement plan with the apprentice. Should it be found that the apprentice does not have the ability or desire to continue the training to become a Multi-Skilled System Troubleshooter, the Sponsor will, after the apprentice has been given adequate assistance and opportunity for corrective action, terminate the Apprenticeship Agreement.

Written records of progress evaluations and corrective and final actions shall be maintained by the Sponsor.

The Sponsor shall maintain for a period of not less five (5) years from the date of last action, all records relating to apprentice applications (whether selected or not), the employment and training of apprentices, and any other information relevant to the operation of the program. This includes, but is not limited to, records on the recruitment, application and selection of apprentices, job assignments, promotions, demotions, layoffs, terminations, rate of pay, or other forms of compensation, hours of work and training, evaluations, and other relevant data. The records shall permit identification of minority and female (minority and non-minority) participants. The records shall be made available on request to the Registration Agency.

## **SECTION XVII - CERTIFICATE OF COMPLETION - 29.5(b)(15)**

Upon satisfactory completion of the requirements of the apprenticeship program as established in these Standards, the Sponsor shall so certify in writing to the Registration Agency and request that a Certificate of Completion of Apprenticeship be awarded to the completing apprentice(s). Such requests shall be accompanied by the appropriate documentation for both the on-the-job learning and the Related Instruction as required by the Registration Agency.

**SECTION XVIII - NOTICE TO REGISTRATION AGENCY - 29.5(b)(18)**

The Registration Agency shall be notified promptly of all new apprentices to be registered, credit granted, suspensions for any reason, reinstatements, extensions, completions, and cancellations.

**SECTION XIX - CANCELLATION AND DEREGISTRATION - 29.5(b)(17)**

These Apprenticeship Standards will, upon adoption by the Sponsor, be submitted to the Registration Agency for approval. Such approval will be acquired before implementation of the program.

The Sponsor reserves the right to discontinue at any time the apprenticeship program set forth herein. The Registration Agency shall be notified promptly of any decision to cancel the program.

Deregistration of these Standards of Apprenticeship may be initiated by the Registration Agency for failure of the Sponsor to abide by the provisions herein. Such deregistration will be in accordance with the Registration Agency ' s regulations and procedures.

Within fifteen (15) days of cancellation of the apprenticeship program (whether voluntary or involuntary), the Sponsor will notify each apprentice of the cancellation and the effect of same. This notification will conform to the requirements of Title 29, CFR Part 29.7.

**SECTION XX - AMENDMENTS OR MODIFICATIONS - 29.5(b)(17)**

These Standards of Apprenticeship may be amended or modified at any time by the Sponsor provided that no amendment or modification adopted shall alter any Apprenticeship Agreement in force at the time without the consent of all parties to the Agreement. Such amendment or modification shall be submitted to the Registration Agency for approval and registration prior to being placed in effect. A copy of each amendment or modification adopted will be furnished to each apprentice to whom the amendment or modification applies.

**SECTION XXI - ADJUSTING DIFFERENCES/COMPLAINT PROCEDURE - Title 29 CFR 29.5(b)(21), Title 29 CFR 29.30(11)**

The Sponsor shall have full authority to supervise the enforcement of these Apprenticeship Standards. Its decision will be final and binding on the employer and the apprentice, unless otherwise noted below.

If an applicant or an apprentice believes an issue exists that adversely affects his/her participation in the apprenticeship program or violates the provisions of the Apprenticeship Agreement or Standards, relief may be sought through one or more of the following avenues, based on the nature of the issue:

### **Title 29 CFR 29.5 (b)(21)**

The Sponsor shall hear and resolve all complaints of violations concerning the Apprenticeship Agreement and the registered Apprenticeship Standards, for which written notification is received within fifteen (15) days of violations. The Sponsor shall make such rulings as it deems necessary in each individual case and within thirty (30) days of receiving the written notification. Either party to the Apprenticeship Agreement may consult with the Registration Agency for an interpretation of any provision of the Standards over which differences occur. The name and address of the appropriate authority to receive, process and make disposition of complaints is: (Sponsor should insert applicable information).

### **Title 29 CFR 30.11**

Any apprentice or applicant for apprenticeship who believes that he or she has been discriminated against on the basis of race, color, religion, national origin, or sex, with regard to apprenticeship or that the equal opportunity standards with respect to his or her selection have not been followed in the operation of an apprenticeship program, may personally or through an authorized representative, file a complaint with the U. S. Department of Labor or, at the apprentice or applicant ' s election, with the private review body established by the Sponsor (if applicable).

The complaint shall be in writing and shall be signed by the complainant. It must include the name, address, and telephone number of the person allegedly discriminated against, the sponsor involved, and a brief description of the circumstances of the failure to apply equal opportunity standards.

The complaint must be filed not later than one hundred eighty (180) days from the date of the alleged discrimination or specified failure to follow the equal opportunity standards, and, in the case of complaints filed directly with the review body designated by the program Sponsor to review such complaints, any referral of such complaint by the complainant to the U.S. Department of Labor must occur within the time limitation stated above or thirty (30) days from the final decision of such review body, whichever is later. The time may be extended by the U.S. Department of Labor for good cause shown. Complaints of sexual harassment in the workplace may be filed and processed under Title 29, CFR Part 30, and the procedures as set forth above.

The Sponsor will provide written notice of their complaint procedure to all applicants for apprenticeship and all apprentices.

## **SECTION XXII - TRANSFER OF TRAINING OBLIGATION - 29.5(13)**

The Sponsor may transfer an apprentice from one employer to another to provide continuous employment and to assure the apprentice more complete on-the-job learning experience in all aspects of the occupation.

If a work site, or contract employer is unable to fulfill its training obligation under these Standards due to lack of work or failure to conform to these Standards of Apprenticeship, the Sponsor may, subject to the consent of the apprentice, move the affected apprentice(s) to other participating work sites or contract employers.

## **SECTION XXIII - RESPONSIBILITIES OF THE APPRENTICE - "EXAMPLE"**

Apprentices, having read the Standards formulated by the Sponsor and signed an Apprenticeship Agreement, agree to all the terms and conditions contained herein. Apprentices agree to abide by the Sponsor's rules and policies, including any amendments, serve such time, perform such manual training, and study such subjects as the Sponsor may deem necessary to become a Multi-Skilled System Troubleshooter.

In signing the Apprenticeship Agreement, apprentices assume the following responsibilities and obligations under the apprenticeship program:

- A. Perform diligently and faithfully the work of a Multi-Skilled System Troubleshooter and other pertinent duties assigned by the Sponsor in accordance with the provisions of the Standards.
- B. Attend and satisfactorily complete the required hours of on-the-job learning and in Related Instruction in subjects related to the occupation as provided under these standards.
- C. Maintain and make available such records of work experience and training received on the job and in Related Instruction as may be required by the Sponsor.
- D. Develop and practice safe working habits and work in such a manner as to assure his/her personal safety and that of other workers.

## **SECTION XXIV - SELECTION OF APPRENTICES**

Selection into the apprenticeship program will be in accordance with the selection procedures made a part of these standards. (Attachment C)

## **SECTION XXV - CONSULTANTS**

Advice and assistance in the successful operation of this apprenticeship program will be available at any time, upon request by the Sponsor, from representatives of the Registration Agency.

**SECTION XXVI - EMPLOYER ACCEPTANCE AGREEMENT**

The written agreement whereby the Employer agrees to the terms and conditions set forth in these Standards of Apprenticeship registered by the Sponsor. (Attachment D)

**SECTION XXVII - CONFORMANCE WITH STATE AND FEDERAL LAWS**

No section of these Standards of Apprenticeship shall be construed as permitting violation of applicable State or Federal law.

**SECTION XXVIII - OFFICIAL ADOPTION OF APPRENTICESHIP STANDARDS:**

The *(Name of Sponsor)* hereby adopts these Standards of Apprenticeship on this \_\_\_\_\_ Day of \_\_\_\_\_, 2005.

**REPRESENTING THE *(Name of the Sponsor)*:**

\_\_\_\_\_  
**Signature of Sponsor**

\_\_\_\_\_  
**Printed Name**

## Appendix A

### **OCCUPATION SCHEDULE FOR: MULTI-SKILLED SYSTEM TROUBLESHOOTER**

**RAIS CODE: 0311**

**O\*NET/SOC CODE: 49-9042.00**

This occupation schedule is attached to and a part of the Apprenticeship Standards for the above identified occupation.

**1. TERM OF APPRENTICESHIP**

The term of the occupation shall be 4 years with an OJL attainment of approximately 8000 hours supplemented by the required hours of Related Instruction.

**2. RATIO OF APPRENTICES TO SKILLED MULTI-SKILLED SYSTEM TROUBLESHOOTER**

The ratio of apprentices to Multi-Skilled System Troubleshooter shall be one (1) apprentice to one (1) Multi-Skilled System Troubleshooter Journeyworker.

**3. APPRENTICE WAGE SCHEDULE**

Apprentices shall be paid a progressively increasing schedule of wages based on a percentage of the current Multi-Skilled System Troubleshooter wage rate.

**4 Term by Year Example: (THIS IS ONLY A SAMPLE ADJUST HOURS AS APPROPRIATE)**

1 <sup>st</sup> 6 months + hours = ____	5 <sup>th</sup> 6 months + hours = ____
2 <sup>nd</sup> 6 months + hours = ____	6 <sup>th</sup> 6 months + hours = ____
3 <sup>rd</sup> 6 months + hours = ____	7 <sup>th</sup> 6 months + hours = ____
4 <sup>th</sup> 6 months + hours = ____	8 <sup>th</sup> 6 months + hours = ____

**4. SCHEDULE OF WORK EXPERIENCE (See attached Occupation Schedule)**

The Sponsor may adjust the work processes to conform to local practice prior to submitting these Standards to the appropriate Registration Agency for approval.

**5. SCHEDULE OF RELATED INSTRUCTION**

(See attached Course Outline)

**WORK PROCESS SCHEDULE**  
**Multi-Skilled System Troubleshooter**  
**RAIS Code: 0311 ONET Code: 49-9042.00**

**Description:** A Multi-Skilled System Troubleshooter requires competency in the following technologies in order to maintain, troubleshoot, and/or improve the reliability of manufacturing machines and systems.

**On- The -Job Learning (OJL)**

The apprentice will practice the following work processes, demonstrating competency in them over the course of the four years of the program. This constitutes the on-the-job learning portion of the apprenticeship. Each competency is further broken down into specific tasks for clarification.

<b>CenTec, Inc. “Systems Troubleshooter” Competencies/Tasks</b>	<b>OJL Hours/ Frequency</b>
<b>1. ADMINISTRATION</b>	<b>OJL Hours <u>300</u></b>
Task 1) AUTOCAD	Frequency
1501. Demonstrate ability to function with AutoCAD software to open and navigate drawings.	Occasional
1502. Demonstrate knowledge of AutoCAD software.	Daily/Weekly
Task 2) CUSTOMER SERVICE	Frequency
1338. Demonstrate ability to adapt to the company culture and communicate with customers effectively in a professional manner.	Daily/Weekly
Task 3) MAINTENANCE MANAGEMENT	Frequency
10. Demonstrate ability to create a job task list (Materials, Time requirements, Equipment, Man-power, Tools, and etc.).	Daily/Weekly
11. Demonstrate knowledge of company specific preventive maintenance procedures.	Daily/Weekly
12. Demonstrate ability to follow established preventive maintenance procedures.	Daily/Weekly
13. Demonstrate ability to prioritize calls based on area Demonstrate knowledge, production input, and safety issues.	Daily/Weekly
14. Demonstrate ability to analyze and prioritize planned jobs.	Daily/Weekly
15. Demonstrate knowledge of what availability is and how to access information within current system.	Daily/Weekly
1520. Demonstrate knowledge of US Energy Star and “Best Practices”.	Daily/Weekly
1522. Demonstrate knowledge of CMMS.	Daily/Weekly
1523. Demonstrate ability to function using CMMS software.	Daily/Weekly
Task 4) MAINTENANCE PROJECTS	Frequency
5. Demonstrate ability to follow project team documents.	Daily/Weekly
6. Demonstrate ability to generate project team documents such	Occasional

as a memo or meeting minutes.	
7. Demonstrate ability to lead project teams.	Occasional
8. Demonstrate ability to provide maintenance input.	Daily/Weekly
9. Demonstrate ability to participate in project teams.	Daily/Weekly
<b>Task 5) MATERIAL/SERVICE REQUESTS</b>	<b>Frequency</b>
26. Demonstrate ability to provide all technical information to describe a component such as a bearing, shaft, gear, motor, and etc.	Daily/Weekly
27. Demonstrate knowledge of tracking systems. (CMMS, MP2, Refrigeration, Change Over, and etc.).	Daily/Weekly
28. Demonstrate ability to input ordering information.	Daily/Weekly
33. Demonstrate ability to use search techniques to obtain part name, part number, manufacturer, end user, and etc.	Daily/Weekly
<b>Task 6) METROLOGY</b>	<b>Frequency</b>
16. Demonstrate knowledge of how to identify that basic measuring equipment is functional.	Daily/Weekly
17. Demonstrate knowledge of procedures to follow with damaged measuring equipment.	Daily/Weekly
18. Demonstrate knowledge of the importance of accurate measurements.	Daily/Weekly
<b>Task 7) OFFICE COMPUTERS</b>	<b>Frequency</b>
19. Demonstrate knowledge of basic PC skills.	Daily/Weekly
20. Demonstrate ability to demonstrate basic PC skills.	Daily/Weekly
21. Demonstrate knowledge of Microsoft Office software.	Daily/Weekly
22. Demonstrate ability to function with Microsoft Office software.	Daily/Weekly
23. Demonstrate knowledge of common e-mail software system.	Daily/Weekly
24. Demonstrate ability to function with company e-mail system.	Daily/Weekly
<b>Task 8) OJT TRAINING</b>	<b>Frequency</b>
25. Demonstrate ability to develop and deliver OJT to developing maintenance employees within assigned area (SOP, PM Procedures, Lockout/Tagout, and etc.).	Occasional
<b>Task 9) REBUILD/REPAIR</b>	<b>Frequency</b>
29. Demonstrate knowledge of information required for plant tagging systems.	Daily/Weekly
30. Demonstrate knowledge of who is responsible for carrying out work (Manufacturer, Internal Repair Shop, or External Repair Shop).	Daily/Weekly
31. Demonstrate knowledge of decision making for rebuild vs. replacement based on time.	Daily/Weekly
32. Demonstrate knowledge of decision making for rebuild vs. scrap based on cost.	Daily/Weekly

845. Demonstrate knowledge of procedures to follow when “like for like” parts are not availability (Change Control Process).	Daily/Weekly
<b>2. AUTOMATION TECHNOLOGY</b>	<b>OJL Hours <u>500</u></b>
Task 1) DEVICENET CABLING	Frequency
92. Demonstrate knowledge of wire types.	Daily/Weekly
93. Demonstrate knowledge of tap types.	Daily/Weekly
94. Demonstrate knowledge of power taps.	Daily/Weekly
Task 2) DEVICENET HARDWARE	Frequency
95. Demonstrate knowledge of PLC 5 Scanner.	Daily/Weekly
96. Demonstrate knowledge of SLC Scanner.	Daily/Weekly
97. Demonstrate ability to replace devices on existing network.	Occasional
98. Demonstrate ability to commission a device for the network.	Occasional
Task 3) DEVICENET POWER SUPPLIES	Frequency
99. Demonstrate knowledge of expected levels from the supply.	Daily/Weekly
100. Demonstrate ability to analyze operation of power supply.	Monthly
101. Demonstrate ability to troubleshoot problems in power supplies.	Monthly
Task 4) DEVICENET SOFTWARE	Frequency
102. Demonstrate knowledge of Electronic Data sheets.	Daily/Weekly
103 Demonstrate abilities to install Electronic Data sheets.	Monthly
104. Demonstrate ability to archive Electronic Data sheets.	Monthly
105. Demonstrate ability to go online.	Daily/Weekly
106. Demonstrate ability to save programs.	Daily/Weekly
107. Demonstrate ability to download programs.	Daily/Weekly
108. Demonstrate knowledge of scan list.	Daily/Weekly
Task 5) PLC (Programmable Logic Controller)	Frequency
965. Demonstrate knowledge of PLC concepts.	Daily/Weekly
Task 6) PLC HARDWARE	Frequency
220. Demonstrate knowledge of discrete I/O modules (AC and DC input and output modules).	Daily/Weekly
221. Demonstrate knowledge of dip switch settings on modules.	Daily/Weekly
223. Demonstrate knowledge of DH+ Communications.	Daily/Weekly
224. Demonstrate knowledge of Processors.	Daily/Weekly
225. Demonstrate knowledge of intelligent modules.	Daily/Weekly
226. Demonstrate knowledge of analog input/output modules.	Daily/Weekly
228. Demonstrate knowledge of thermocouple modules.	Daily/Weekly
Task 7) PLC PROGRAMMING	Frequency
229. Demonstrate ability to modify existing programs.	Occasional
230. Demonstrate knowledge of instruction set.	Daily/Weekly
231. Demonstrate knowledge of program and data files.	Daily/Weekly
Task 8) PLC PROGRAMMING	Frequency
232. Demonstrate ability to Save, Upload, Download Programs.	Occasional
233. Demonstrate knowledge of Symbols and Descriptions.	Daily/Weekly

234. Demonstrate knowledge of Number Systems (binary, octal, decimal, hexadecimal, and binary coded decimal).	Daily/Weekly
235. Demonstrate knowledge of a structured programming technique.	Daily/Weekly
237. Demonstrate ability to replace and configure analog input/output modules.	Occasional
239. Demonstrate ability to replace thermocouple modules.	Occasional
240. Demonstrate knowledge of Data Highway messaging.	Daily/Weekly
<b>Task 9) PLC TROUBLESHOOTING</b>	<b>Frequency</b>
242. Demonstrate knowledge of internal software and fault diagnostics.	Daily/Weekly
245. Demonstrate ability to use PLC ladder diagrams and flowcharts to troubleshoot.	Occasional
246. Demonstrate ability to logically troubleshoot or replace PLC control systems and components.	Occasional
247. Demonstrate knowledge of hardware indicators.	Daily/Weekly
250. Demonstrate knowledge of bidirectional data flow from device to processor.	Daily/Weekly
251. Demonstrate ability to troubleshoot intelligent modules using I/O configuration.	Occasional
<b>Task 10) PROCESS CONTROL COMPUTERS</b>	<b>Frequency</b>
1034. Demonstrate knowledge of software products running on a Microsoft Windows platform related to process computer programming and diagnostics.	Daily/Weekly
1035. Demonstrate ability to use software products running on a Microsoft Windows platform related to process computer programming and diagnostics (Wonderware, Panel view, and etc.).	Daily
<b>3. ELECTRICAL CONTROL TECHNOLOGY</b>	<b>OJL Hours <u>1500</u></b>
<b>Task 1) AC MOTORS</b>	<b>Frequency</b>
905. Demonstrate knowledge of motor types and their application (squirrel cage, wound rotor, single & three phase).	Daily/ Weekly
907. Demonstrate ability to change direction of rotation after replacing.	Daily/Weekly
908. Demonstrate ability to determine correct frame size from nameplate data.	Daily/Weekly
909. Demonstrate ability to troubleshoot motors.	Daily/Weekly
910. Demonstrate knowledge of nameplate data.	Daily/Weekly
911. Demonstrate knowledge of theory of operation.	Daily/Weekly
912. Demonstrate knowledge of the construction of motors.	Daily/Weekly
913. Demonstrate knowledge of wiring configurations (Wye/Delta; High/Low Voltage).	Daily/Weekly
<b>Task 2) ACTUATORS &amp; SENSORS</b>	<b>Frequency</b>
852. Demonstrate knowledge of applications and ratings.	Daily/Weekly

853. Demonstrate knowledge of operation of photo detector and timing modules.	Daily/Weekly
854. Demonstrate knowledge of operation of sonic and proximity sensors.	Daily/Weekly
855. Demonstrate knowledge of common switches (limit, flow, level, pressure, foot, and etc.).	Daily/Weekly
<b>Task 3) BREAKERS &amp; FUSES</b>	<b>Frequency</b>
861. Demonstrate knowledge of interrupting capacity.	Daily/Weekly
862. Demonstrate ability to determine size and type of protection device for an application.	Daily/Weekly
863. Demonstrate knowledge of the main faults protected by a breaker/fuse.	Daily/Weekly
865. Demonstrate knowledge of breaker operation and application.	Daily/Weekly
954. Demonstrate knowledge of the types and sizes of fuses and their applications.	Daily/Weekly
956. Demonstrate knowledge of voltage/current ratings	Daily/Weekly
<b>Task 4) BUILDING &amp; GROUNDS LIGHTING</b>	<b>Frequency</b>
867. Demonstrate knowledge of lighting circuits and voltage levels.	Daily/Weekly
868. Demonstrate ability to maintain lighting circuits.	Occasional
<b>Task 5) CONTACTORS</b>	<b>Frequency</b>
882. Demonstrate knowledge of different types and styles of motor starters and their application.	Daily/Weekly
884. Demonstrate knowledge of electrical and mechanical interlocks.	Daily/Weekly
<b>Task 6) DC CIRCUITS</b>	<b>Frequency</b>
870. Demonstrate ability to apply Kirchoff's laws to solve problems (Circuits with more than 1 voltage source).	Daily/Weekly
871. Demonstrate ability to apply Ohm's law to solve problems in series and parallel resistor circuits.	Daily/Weekly
872. Demonstrate ability to identify type of circuit (series, parallel, etc).	Daily/Weekly
873. Demonstrate knowledge of Wheatstone bridge theory and applications.	Daily/Weekly
<b>Task 7) DC MOTORS</b>	<b>Frequency</b>
914. Demonstrate knowledge of DC motor components and principles.	Daily/Weekly
915. Demonstrate knowledge of DC motor types and applications (series, shunt, and compound).	Daily/Weekly
<b>Task 8) DC MOTORS</b>	<b>Frequency</b>
916. Demonstrate knowledge of symptoms of excessive commutator wear.	Daily/Weekly
<b>Task 9) OVERLOAD RELAYS</b>	<b>Frequency</b>
885. Demonstrate knowledge of overload operation and sizing.	Daily/Weekly
<b>Task 10) PILOT INDKATORS</b>	<b>Frequency</b>
877. Demonstrate knowledge of color standards for pilot lights.	Daily/Weekly

<b>Task 11) PUSHBUTTONS</b>	<b>Frequency</b>
898. Demonstrate knowledge of different type operator heads and their applications.	Daily/Weekly
899. Demonstrate knowledge of E-Stop operators.	Daily/Weekly
<b>Task 12) RELAYS</b>	<b>Frequency</b>
880. Demonstrate ability to identify different types of coils (voltage level, AC, DC, and etc.).	Daily/Weekly
881. Demonstrate ability to test contacts (visual and meter).	Daily/Weekly
883. Demonstrate knowledge of inrush and seal-in ratings.	Daily/Weekly
886. Demonstrate knowledge of relay operation and internal parts.	Daily/Weekly
887. Demonstrate knowledge of surge suppressors.	Daily/Weekly
889. Demonstrate knowledge of the operation of latch and unlatch "seal in" circuits.	Daily/Weekly
890. Demonstrate knowledge of the difference between NEMA and IEG.	Daily/Weekly
<b>Task 13) SAFETY SWITCHES</b>	<b>Frequency</b>
900. Demonstrate ability to adjust safety ropes or chains.	Daily/Weekly
901. Demonstrate knowledge of the different types of safety switches.	Daily/Weekly
<b>Task 14) SINGLE PHASE</b>	<b>Frequency</b>
892. Demonstrate ability to apply theory relating to a control circuit.	Daily/Weekly
893. Demonstrate ability to calculate apparent power, true power, reactive power, and power factor.	Occasional
894. Demonstrate ability to calculate impedance and reactance.	Occasional
896. Demonstrate ability to calculate voltage levels (RMS, average, and peak).	Occasional
897. Demonstrate knowledge of phase relationship between voltage and current.	Daily/Weekly
<b>Task 15) SOLENOIDS</b>	<b>Frequency</b>
856. Demonstrate ability to troubleshoot solenoids.	Daily/Weekly
858. Demonstrate knowledge of operating principles and applications.	Daily/Weekly
<b>Task 16) THREE PHASE</b>	<b>Frequency</b>
919. Demonstrate ability to calculate line and phase voltages and line and phase currents in Delta & Wye circuits.	Daily/Weekly
920. Demonstrate knowledge of configurations of transformers.	Daily/Weekly
921. Demonstrate ability to identify symbols and components.	Daily/Weekly
922. Demonstrate knowledge of expected voltage readings (Line and Phase Voltages, Currents).	Daily/Weekly
923. Demonstrate knowledge of faults (shorts, single phasing, opens).	Daily/Weekly

Task 17) TIMERS	Frequency
902. Demonstrate knowledge of operation and application of timers	Daily/Weekly
1082. Demonstrate ability to troubleshoot different types of timers in control circuits.	Daily/Weekly
Task18) TRANSFORMERS	Frequency
925. Demonstrate knowledge of nameplate data.	Daily/Weekly
926. Demonstrate knowledge of operating principles of transformers.	Daily/Weekly
927. Demonstrate knowledge of VA ratings.	Daily/Weekly
928. Demonstrate ability to safely prepare transformer for maintenance.	Daily/Weekly
929. Demonstrate knowledge of the dangers of feedback through a transformer.	Daily/Weekly
930. Demonstrate knowledge of the types of transformers such as oil filled, dry, isolation regulation, and etc.	Daily/Weekly
Task 19) TROUBLESHOOTING	Frequency
932. Demonstrate ability to troubleshoot, replace & repair relay control systems.	Daily/Weekly
933. Demonstrate ability to recognize electrical symbols and components.	Daily/Weekly
934. Demonstrate ability to use electrical schematics and diagrams to troubleshoot.	Daily/Weekly
935. Demonstrate ability to use necessary test equipment (VOM, megger, amprobe, and etc.).	Daily/Weekly
936. Demonstrate knowledge of machine sequence from schematics.	Daily/Weekly
Task 20) WIRING	Frequency
903. Demonstrate knowledge of company standards.	Daily/Weekly
<b>4. ELECTRICAL INSTALLATION</b>	<b>OJL Hours <u>500</u></b>
Task 1) INDUSTRIAL WIRING	Frequency
276. Demonstrate knowledge of conduit fittings and terminology.	Daily/Weekly
277. Demonstrate ability to select proper size bending tools.	Occasional
278. Demonstrate ability to bend for proper alignment and angle for the application.	Occasional
279. Demonstrate ability to calculate length loss when bending.	Occasional
280. Demonstrate knowledge of knock-out tools.	Daily/Weekly
281. Demonstrate ability to use knock-out tools.	Occasional
282. Demonstrate knowledge of soldering irons and types of solder for specific applications.	Daily/Weekly
283. Demonstrate ability to use soldering irons and proper types of solder for specific applications.	Occasional
284. Demonstrate knowledge of materials and fittings.	Daily/Weekly
285. Demonstrate knowledge of safe soldering techniques.	Daily/Weekly

286. Demonstrate knowledge of raceway types and applications.	Daily/Weekly
287. Demonstrate knowledge of conductor types and applications.	Daily/Weekly
288. Demonstrate knowledge of grounding requirements	Daily/Weekly
289. Demonstrate knowledge of National Electrical Code.	Daily/Weekly
290. Demonstrate knowledge of wire numbering systems.	Daily/Weekly
291. Demonstrate knowledge of proper wire sizing and application.	Daily/Weekly
292. Demonstrate knowledge of wire connectors and terminations.	Daily/Weekly
293. Demonstrate knowledge of conduit fill.	Daily/Weekly
294. Demonstrate knowledge of sizing conduit, flex, and etc.	Daily/Weekly
295. Demonstrate knowledge of standard color coding (wire, operators, indicators, and etc).	Daily/Weekly
<b>5. ELECTRONICS TECHNOLOGY</b>	<b>OJL Hours 600</b>
Task 1) AC DRIVE CONTROLLERS	Frequency
296. Demonstrate knowledge of the AC Drive Interface circuits.	Daily/Weekly
297. Demonstrate ability to troubleshoot the interfaces of the AC Drive Controller.	Occasional
298. Demonstrate knowledge of the power conversion unit of the AC Drive controller.	Daily/Weekly
299. Demonstrate knowledge of Pulse Width Modulation circuits.	Daily/Weekly
300. Demonstrate knowledge of the Volts/Hz curve.	Daily/Weekly
301. Demonstrate knowledge of the Voltage boost function and its purpose.	Daily/Weekly
302. Demonstrate ability to configure and setup an AC Drive Controller system.	Occasional
303. Demonstrate knowledge of Vector control with AC Drive Controllers.	Daily/Weekly
Task 2) ANTISTATIC	Frequency
305. Demonstrate knowledge of the damage to components by static discharge.	Daily/Weekly
306. Demonstrate knowledge of the proper use of wrist straps, mats, and grounding equipment.	Daily/Weekly
307. Demonstrate knowledge of the use of anti-static bags.	Daily/Weekly
Task 3) COMPONENTS	Frequency
308. Demonstrate ability to identify standard symbols for semiconductor devices.	Occasional
309. Demonstrate ability to locate components on a printed circuit board.	Occasional
311. Demonstrate knowledge of component ratings.	Daily/Weekly
312. Demonstrate knowledge of logic gate functions.	Daily/Weekly
313. Demonstrate knowledge of resistor color codes.	Daily/Weekly
314. Demonstrate knowledge of standard units of measure for devices (micro farads, watts, ohms, henrys, and etc).	Daily/Weekly
315. Demonstrate knowledge of the general operation/application of components.	Daily/Weekly

316. Demonstrate knowledge of test procedures for SCR's, diodes, resistors, capacitors, transistors, and etc.	Daily/Weekly
<b>Task 4) DC DRIVE CONTROLLERS</b>	<b>Frequency</b>
317. Demonstrate knowledge of the DC Drive Interface circuits.	Daily/Weekly
318. Demonstrate ability to troubleshoot the interfaces of the DC Drive Controller.	Occasional
319. Demonstrate knowledge of single quadrant and four quadrant operation.	Daily/Weekly
320. Demonstrate ability to configure and setup a DC Drive Controller system.	Occasional
321. Demonstrate ability to troubleshoot a DC Drive Controller system.	Occasional
<b>Task 5) LOGIC CIRCUITS</b>	<b>Frequency</b>
325. Demonstrate knowledge of interfaces to logic circuits.	Daily/Weekly
326. Demonstrate knowledge of digital to analog conversion methods.	Daily/Weekly
327. Demonstrate knowledge of analog to digital conversion methods.	Daily/Weekly
328. Demonstrate ability to troubleshoot serial data communications.	Occasional
329. Demonstrate ability to troubleshoot logic circuits.	Occasional
<b>Task 6) MOTION CONTROL SOFTWARE</b>	<b>Frequency</b>
39. Demonstrate knowledge of how to configure a motion control system module and servo drive axes.	Daily/Weekly
40. Demonstrate knowledge of how to autotune the motion control system.	Daily/Weekly
41. Demonstrate knowledge of how to configure a motion controller for Flex I/O Communications.	Daily/Weekly
42. Demonstrate knowledge of how to configure a motion controller for Remote I/O Communications.	Daily/Weekly
43. Demonstrate knowledge of how to configure a motion controller for Axis Link Communications.	Daily/Weekly
44. Demonstrate knowledge of Motion control instruction sets.	Daily/Weekly
45. Demonstrate knowledge of how to build basic and advanced motion control sequence diagrams.	Daily/Weekly
46. Demonstrate knowledge of how to execute and debug a motion control diagram using the online toolbar functions.	Daily/Weekly
47. Demonstrate knowledge of the tags window and the variables within such as Axis System Variables, General System Variables and User Variables.	Daily/Weekly
48. Demonstrate knowledge of how to create Watch Items to monitor the operation of a motion controller and its diagram execution.	Daily/Weekly
50. Demonstrate ability to effectively diagnose a motion control system.	Occasional

51. Demonstrate knowledge of how to use GML software for downloading, creating and backing up of commander diagrams.	Daily/Weekly
<b>Task 7) MOTION CONTROL SYSTEMS</b>	<b>Frequency</b>
34. Demonstrate knowledge of Brushless servo motors.	Daily/Weekly
35. Demonstrate knowledge of Tachometer, Incremental Encoder, Absolute Encoder and Resolver feedback devices.	Daily/Weekly
36. Demonstrate knowledge of motion control systems and move profiles.	Daily/Weekly
37. Demonstrate knowledge of the power and control wiring of motion controllers.	Daily/Weekly
38. Demonstrate knowledge of the associated hardware for motion controllers. Such as: Remote I/O, RS232, Flex I/O, Axis link.	Daily/Weekly
49. Demonstrate ability to configure and auto-tune a motion control System.	Occasional
<b>Task 8) POWER SUPPLIES</b>	<b>Frequency</b>
330. Demonstrate knowledge of expected levels/waveforms within the supply.	Daily/Weekly
331. Demonstrate knowledge of half wave and full wave bridge rectifiers.	Daily/Weekly
332. Demonstrate knowledge of operation of different type supplies (filtered, regulated, and etc.).	Daily/Weekly
333. Demonstrate knowledge of the different types and advantages.	Daily/Weekly
334. Demonstrate knowledge of the effects of substitute components.	Daily/Weekly
336. Demonstrate ability to troubleshoot problems in power supplies.	Occasional
337. Demonstrate ability to analyze operation of power supply from schematic.	Occasional
<b>Task 9) TEST EQUIPMENT</b>	<b>Frequency</b>
339. Demonstrate ability to use a millivolt/amp source, function generator, and/or oscilloscope.	Occasional
<b>6. FABRICATION</b>	<b>OJL Hours <u>500</u></b>
<b>Task 1) BACKFLOW PREVENTION</b>	<b>Frequency</b>
1495. Demonstrate knowledge of backflow preventers.	Daily/Weekly
<b>Task 2) BLACK IRON</b>	<b>Frequency</b>
340. Demonstrate ability to meet plant requirements when fitting black iron pipe.	Occasional
341. Demonstrate knowledge of common black iron pipe fitting activities (Threading, Sealing, Joining, Flanging, etc.).	Daily/Weekly
<b>Task 3) COMPONENTS</b>	<b>Frequency</b>
960. Demonstrate knowledge of steam traps, regulators, and control valves.	Daily/Weekly
961. Demonstrate ability to maintain steam traps, regulators, and control valves.	Occasional
<b>Task 4) COPPER PIPE/TUBING</b>	<b>Frequency</b>

342. Demonstrate ability to meet plant requirements when fitting copper pipe.	Occasional
343. Demonstrate knowledge of common copper pipe fitting activities (Soldering, Brazing, Bending, Coupling, etc.).	Daily/Weekly
<b>Task 5) DESIGN/INSTALL/MAINTAIN</b>	<b>Frequency</b>
957. Demonstrate knowledge of components and systems (Vacuum and Pressure systems).	Daily/Weekly
958. Demonstrate ability to assemble components as per drawing.	Occasional
959. Demonstrate ability to maintain systems with or without drawings.	Monthly
<b>Task 6) LATHE AND MILL</b>	<b>Frequency</b>
344. Demonstrate ability to select proper tooling for job.	Daily/Weekly
345. Demonstrate knowledge of common tooling.	Daily/Weekly
346. Demonstrate ability to read and interpret cutting feed and speed charts.	Daily/Weekly
347. Demonstrate knowledge of standard material cutting speeds and feeds.	Daily/Weekly
348. Demonstrate ability to perform basic machining operations.	Daily/Weekly
349. Demonstrate knowledge of basic machining capabilities.	Daily/Weekly
350. Demonstrate ability to operate safely.	Daily/Weekly
351. Demonstrate knowledge of general safe operating procedures.	Daily/Weekly
<b>Task 7) STAINLESS</b>	<b>Frequency</b>
352. Demonstrate ability to meet plant requirements when fitting stainless pipe.	Occasional
353. Demonstrate knowledge of common stainless pipe fitting activities.	Daily/Weekly
<b>7. HIGH VOLTAGE</b>	<b>OJL Hours <u>200</u></b>
<b>Task 1) EQUIPMENT TECHNOLOGY</b>	<b>Frequency</b>
436. Demonstrate knowledge of equipment layout in this facility.	Daily/Weekly
437. Demonstrate knowledge of symbols of one-line diagrams.	Daily/Weekly
438. Demonstrate ability to read one-line diagrams.	Occasional
439. Demonstrate knowledge of print locations within the facility.	Daily/Weekly
444. Demonstrate knowledge of equipment ratings of this facility.	Daily/Weekly
446. Demonstrate knowledge of grounding methods.	Daily/Weekly
449. Demonstrate knowledge of induced voltage.	Daily/weekly
452. Demonstrate ability to locate High Voltage equipment in this facility.	Occasional
458. Demonstrate knowledge of phase detectors and analog voltmeter.	Daily/Weekly
<b>Task 2) SAFETY</b>	<b>Frequency</b>
441. Demonstrate knowledge of plant testing requirements.	Daily/Weekly
442. Demonstrate ability to use personal protective equipment.	Daily/Weekly
443. Demonstrate ability to determine if equipment has been tested.	Occasional

1479. Demonstrate ability to safely do-energize and lockout a feeder or system.	Occasional
<b>8. HVAC TECHNOLOGY</b>	<b>OJL Hours <u>100</u></b>
Task1) AIR HANDLERS	Frequency
1072. Demonstrate knowledge of operating principles of air handling equipment.	Daily/weekly
Task 2) REFRIGERATION FUNDAMENTALS	Frequency
1070. Demonstrate knowledge of de-humidification' equipment.	Daily/weekly
<b>9. HYDRAULIC SYSTEMS</b>	<b>OJL Hours <u>500</u></b>
Task 1) CONDITIONING	Frequency
354. Demonstrate knowledge of component function.	Daily/Weekly
355. Demonstrate ability to identify conditioning components.	Occasional
356. Demonstrate knowledge of different filter types.	Daily/Weekly
357. Demonstrate knowledge of proper configuration and placement of components.	Daily/Weekly
358. Demonstrate knowledge of temperature exchange principles.	Daily/Weekly
Task 2) CONTROL	Frequency
359. Demonstrate ability to identify control components.	Daily/Weekly
360. Demonstrate ability to rebuild, and repair control components.	Daily/Weekly
361. Demonstrate knowledge of the function and type of control components.	Daily/Weekly
Task 3) DCV's	Frequency
362. Demonstrate knowledge of the operating methods (manual, electric, and etc.).	Daily/Weekly
363. Demonstrate knowledge of piloting methods.	Daily/Weekly
364. Demonstrate ability to configure and check function.	Daily/Weekly
365. Demonstrate ability to follow manufacturer's specifications.	Daily/Weekly
366. Demonstrate knowledge of the different types, function, and application of DCV'S.	Daily/Weekly
Task 4) FLUID THEORY	Frequency
367. Demonstrate knowledge of the effects and causes of pressure drops (differential pressure).	Daily/Weekly
368. Demonstrate knowledge of the relationship between pressure, force, and area.	Daily/Weekly
369. Demonstrate ability to calculate area and volume.	Occasional
370. Demonstrate knowledge of the characteristics of fluids (compressibility).	Daily/Weekly
371. Demonstrate knowledge of the states of fluids (static and dynamic).	Daily/Weekly
372. Demonstrate knowledge of the relationship between pressure, volume, and temperature.	Daily/Weekly
373. Demonstrate ability to perform related calculations for flow and speed.	Daily/Weekly

<b>Task 5) POWER COMPONENTS</b>	<b>Frequency</b>
374. Demonstrate ability to follow manufacture's specifications for repair/rebuild	Daily/Weekly
375. Demonstrate ability to interpret nameplate data.	Occasional
376. Demonstrate knowledge of accumulator operation, safety, and certification.	Daily/Weekly
377. Demonstrate knowledge of component compatibility with fluid type, pressure, operating temperature, etc.	Daily/Weekly
378. Demonstrate knowledge of principles of systems operation (cavitations, hammer, temperature, and etc).	Daily/Weekly
379. Demonstrate knowledge of pump/motor types (piston, vane, and etc.).	Daily/Weekly
380. Demonstrate ability to find root causes of component failures.	Daily/Weekly
381. Demonstrate ability to follow adjustment and priming procedures.	Occasional
<b>Task 6) SIZING &amp; RATING</b>	<b>Frequency</b>
382. Demonstrate ability to select the proper substitution.	Daily/Weekly
<b>Task 7) SIZING &amp; RATING</b>	<b>Frequency</b>
383. Demonstrate ability to troubleshoot components.	Daily/Weekly
384. Demonstrate ability to match threaded fittings.	Occasional
385. Demonstrate knowledge of fluid viscosity.	Daily/Weekly
386. Demonstrate knowledge of commonly used fittings.	Daily/Weekly
<b>Task 8) SYSTEMS</b>	<b>Frequency</b>
387. Demonstrate ability to recognize components from schematic symbols.	Occasional
388. Demonstrate knowledge of how an adjustment affects the system.	Daily/Weekly
389. Demonstrate knowledge of pressure and flow.	Daily/Weekly
390. Demonstrate ability to adjust pressure and flow.	Occasional
391. Demonstrate ability to modify function of system if necessary.	Daily/Weekly
392. Demonstrate ability to troubleshoot fluid systems using schematics.	Occasional
393. Demonstrate ability to read prints and interpret print package to determine component selection.	Daily/Weekly
394. Demonstrate ability to determine the function of a system from a schematic.	Occasional
<b>10. MECHANICAL TECHNOLOGY</b>	<b>OJL Hours <u>1500</u></b>
<b>Task 1) APPLIED MATH</b>	<b>Frequency</b>
459. Demonstrate knowledge of the various methods for solving for two unknowns in simultaneous equations.	Daily/Weekly
460. Demonstrate ability to solve for two unknowns in simultaneous equations.	Occasional
461. Demonstrate knowledge of right angle trigonometry functions.	Daily/Weekly
462. Demonstrate ability to solve for unknown sides and angles of	Occasional

right triangles by use of right angle trigonometry.	
463. Demonstrate knowledge of the three categories of levers and the terminology related to them (force, distance, and fulcrum).	Daily/Weekly
464. Demonstrate ability to calculate an unknown force or distance in a given lever problem.	Occasional
465. Demonstrate knowledge of how different sling angles affect the amount of force applied to the sling.	Daily/Weekly
467. Demonstrate knowledge and understanding of torque.	Daily/Weekly
Task 2) ASSEMBLY and DETAIL	Frequency
469. Demonstrate ability to interpret and differentiate between all types of sectional views.	Daily/Weekly
470. Demonstrate ability to read and interpret information in the title block of a drawing.	Daily/Weekly
471. Demonstrate knowledge of dimensional alignments and tolerances.	Daily/Weekly
472. Demonstrate ability to assemble/disassemble common equipment using an assembly drawing.	Monthly
473. Demonstrate ability to determine proper type fits and tolerances.	Daily/Weekly
474. Demonstrate knowledge of cumulative tolerances.	Daily/Weekly
475. Demonstrate ability to calculate maximum and minimum unknown dimensions by use of tolerance loops.	Occasional
476. Demonstrate ability to determine the function of an assembly from a drawing.	Daily/Weekly
477. Demonstrate ability to identify common components and their symbols.	Daily/Weekly
Task 3) BEARINGS and BUSHINGS	Frequency
478. Demonstrate knowledge of bearing and bushing installation techniques.	Daily/Weekly
479. Demonstrate ability to properly install and remove various types of bearings.	Daily/Weekly
480. Demonstrate ability to correctly adjust endplay clearance on tapered roller bearings.	Daily/Weekly
481. Demonstrate knowledge of cleaning and lubrication methods.	Daily/Weekly
482. Demonstrate knowledge of common bearing and bushing types.	Daily/Weekly
483. Demonstrate ability to recognize bearing and bushing types.	Daily/Weekly
484. Demonstrate ability to use proper methods of cleaning and lubrication.	Daily/Weekly
485. Demonstrate knowledge of proper storage & handling methods.	Daily/Weekly
487. Demonstrate ability to apply standard bearing and bushing technology for rotating shaft/rotating housing.	Daily/Weekly
488. Demonstrate knowledge of proper surface preparation.	Daily/Weekly

489. Demonstrate ability to use proper techniques for installation and removal.	Daily/Weekly
490. Demonstrate knowledge of common bearing failures.	Daily/Weekly
491. Demonstrate ability to determine faulty bearings.	Daily/Weekly
492. Demonstrate knowledge of methods of pre-loading bearings.	Daily/Weekly
493. Demonstrate ability to apply methods of pre-loading bearings when required.	Daily/Weekly
966. Demonstrate knowledge of standard bearing and bushing technology for rotating shaft/rotating housing.	Daily/Weekly
<b>Task 4) BELTS and CHAINS</b>	<b>Frequency</b>
494. Demonstrate knowledge of chain breakers.	Daily/Weekly
496. Demonstrate ability to perform parallel/angular alignments.	Daily/Weekly
497. Demonstrate knowledge of parallel/angular alignment methods.	Daily/Weekly
498. Demonstrate ability to select and use proper tools for installation, removal, and alignment.	Daily/Weekly
499. Demonstrate knowledge of installation, removal, and alignment tools.	Daily/Weekly
500. Demonstrate ability to use chain breakers.	Daily/Weekly
502. Demonstrate knowledge of tension devices.	Daily/Weekly
504. Demonstrate knowledge of types of drive belts and chains.	Daily/Weekly
505. Demonstrate knowledge of specifications and designations for different belt and chain types.	Daily/Weekly
506. Demonstrate ability to recognize applications for different belt and chain types.	Daily/Weekly
507. Demonstrate ability to install and tension different belt and chain types plus align their pulleys and sprockets.	Daily/Weekly
<b>Task 5) BENCH GRINDERS</b>	<b>Frequency</b>
508. Demonstrate ability to identify and correct unsafe conditions (set gap, stone inspection, combustibles, cooling, and etc.).	Daily/Weekly
509. Demonstrate knowledge of compatibility of stone and material.	Daily/Weekly
511. Demonstrate ability to select proper stone (material, size and type).	Occasional
512. Demonstrate ability to recognize and dispose of an unsafe stone.	Daily/Weekly
513. Demonstrate ability to dress a stone.	Occasional
514. Demonstrate ability to deburr materials.	Daily/Weekly
515. Demonstrate ability to properly secure part being ground.	Daily/Weekly
<b>Task 6) BRAKES and CLUTCHES</b>	<b>Frequency</b>
516. Demonstrate knowledge of different types of clutches and brakes.	Daily/Weekly
517. Demonstrate ability to locate manufacturers' specifications.	Monthly
518. Demonstrate knowledge of function of brakes, clutches, and torque limiters.	Daily/Weekly

519. Demonstrate ability to install and set-up brakes, clutches, and torque limiters.	Monthly
<b>Task 7) CAMS</b>	<b>Frequency</b>
520. Demonstrate ability to determine method and perform precision alignments.	Occasional
521. Demonstrate ability to follow alignment procedures.	Daily/Weekly
522. Demonstrate knowledge of cam operation and application.	Daily/Weekly
<b>Task 8) CONVEYOR BELTS</b>	<b>Frequency</b>
523. Demonstrate ability to install, track, and set tension.	Daily/Weekly
524. Demonstrate knowledge of belt installation, tracking and tension methods.	Daily/Weekly
525. Demonstrate ability to identify belt types (canvas, rubber, interlox, Teflon coated, metal, and plastic).	Daily/Weekly
526. Demonstrate knowledge of belt types.	Daily/Weekly
527. Demonstrate ability to calculate belt lengths.	Occasional
528. Demonstrate knowledge of common belt calculations.	Daily/Weekly
529. Demonstrate ability to repair or replace splices.	Monthly
530. Demonstrate knowledge of belt splices.	Daily/Weekly
<b>Task 9) CONVEYORS</b>	<b>Frequency</b>
531. Demonstrate knowledge of basic conveyor systems and their components.	Daily/Weekly
532. Demonstrate knowledge of tracking and tensioning of conveyors.	Daily/Weekly
<b>Task 10) COUPLINGS</b>	<b>Frequency</b>
533. Demonstrate ability to perform alignments using a straight edge.	Monthly
534. Demonstrate ability to identify faulty couplings.	Daily/Weekly
535. Demonstrate ability to perform laser alignments.	Occasional
536. Demonstrate ability to perform alignments using dial indicators.	Occasional
537. Demonstrate knowledge of lubrication techniques.	Daily/Weekly
538. Demonstrate ability to select proper tools for installation and alignment.	Monthly
539. Demonstrate knowledge of tolerances for fits and alignments.	Daily/Weekly
541. Demonstrate knowledge of laser alignment technology.	Daily/Weekly
542. Demonstrate knowledge of coupling types.	Daily/Weekly
543. Demonstrate ability to recognize applications for different coupling types.	Occasional
653. Demonstrate ability to recognize different types of taper locks.	Monthly
654. Demonstrate knowledge of installation and removal procedures.	Daily/Weekly
655. Demonstrate ability to install and remove taper locks.	Daily/Weekly
<b>Task 11) DRAFTING</b>	<b>Frequency</b>
544. Demonstrate ability to provide appropriate tolerances.	Occasional

545. Demonstrate ability to sketch a basic drawing including necessary dimensions.	Occasional
<b>Task 12) DRAWING and BLUEPRINT READING</b>	<b>Frequency</b>
548. Demonstrate knowledge of sectional views.	Daily/Weekly
552. Demonstrate knowledge of proper dimensioning.	Daily/Weekly
553. Demonstrate ability to apply proper dimensioning to drawings.	Monthly
<b>Task 13) DRILL, TAP and REAM</b>	<b>Frequency</b>
554. Demonstrate ability to select type of tap or die required.	Daily/Weekly
555. Demonstrate ability to use hand reamers.	Daily/Weekly
556. Demonstrate knowledge of hand reamer usage.	Daily/Weekly
557. Demonstrate ability to use and interpret drill and tap charts.	Daily/Weekly
558. Demonstrate knowledge of the type of taps.	Daily/Weekly
559. Demonstrate knowledge of threading techniques.	Daily/Weekly
<b>Task 14) DRILL, TAP and REAM</b>	<b>Frequency</b>
560. Demonstrate knowledge of cutting lubricants.	Daily/Weekly
561. Demonstrate ability to use cutting lubricants.	Daily/Weekly
562. Demonstrate knowledge of safe clamping procedures.	Daily/Weekly
563. Demonstrate ability to clamp safely.	Daily/Weekly
564. Demonstrate ability to use file, drill, tap, and saw.	Daily/Weekly
565. Demonstrate knowledge of drill and tap charts.	Daily/Weekly
566. Demonstrate knowledge of the different types of threads.	Daily/Weekly
<b>Task 15) ENGINEERING UNITS</b>	<b>Frequency</b>
567. Demonstrate ability to convert metric to standard and vice versa.	Occasional
<b>Task 16) FASTENERS</b>	<b>Frequency</b>
568. Demonstrate knowledge of basic fastener types.	Daily/Weekly
569. Demonstrate knowledge of threads for fasteners including standard and metric.	Daily/Weekly
<b>Task 17) FITS and TOLERANCES</b>	<b>Frequency</b>
570. Demonstrate knowledge of the effects of temperature on tolerances.	Daily/Weekly
572. Demonstrate knowledge of types of fits (bearings, seals, and gaskets, and etc.)	Daily/Weekly
573. Demonstrate ability to read and understand standard (ANSI) specification chart.	Monthly
<b>Task 18) GEAR DRIVES</b>	<b>Frequency</b>
574. Demonstrate knowledge of proper set-up of a gear drive involving alignment and backlash setting techniques.	Daily/Weekly
575. Demonstrate ability to correctly align and set backlash on a basic spur gear drive train.	Occasional
<b>Task 19) GEARS</b>	<b>Frequency</b>
577. Demonstrate knowledge of gear types and applications.	Daily/Weekly

578. Demonstrate ability to recognize various gear types (Helical, Spiral, Spur, and etc.),	Daily/Weekly
581. Demonstrate ability to find manufactures specifications.	Occasional
583. Demonstrate knowledge of parallel/angular alignment methods.	Daily/Weekly
584. Demonstrate ability to perform parallel/angular alignments.	Occasional
585. Demonstrate ability to calculate speeds and determine direction of rotation.	Occasional
<b>Task 20) HYDRAULIC PRESS</b>	<b>Frequency</b>
586. Demonstrate ability to bend and straighten material.	Occasional
587. Demonstrate ability to demonstrate proper safety procedures.	Daily/Weekly
588. Demonstrate ability to broach keyways.	Occasional
589. Demonstrate knowledge of hydraulic press safety procedures.	Daily/Weekly
590. Demonstrate ability to use hydraulic press for given application (press fits, keys, broaches).	Monthly
<b>Task 21) KEYS</b>	<b>Frequency</b>
591. Demonstrate ability to use basic hand tools to bench fit keys.	Daily/Weekly
592. Demonstrate ability to properly install and remove keys.	Daily/Weekly
593. Demonstrate knowledge of fits and tolerances.	Daily/Weekly
595. Demonstrate knowledge of key types.	Daily/Weekly
<b>Task 22) LEVELING</b>	<b>Frequency</b>
596. Demonstrate ability to use and interpret basic types of leveling devices.	Occasional
597. Demonstrate ability to recognize types of levels (precision vs. common).	Occasional
598. Demonstrate ability to determine and use the proper type of level for a basic application.	Occasional
<b>Task 23) LINEAR MOTION</b>	<b>Frequency</b>
599. Demonstrate ability to develop lubrication procedures.	Occasional
600. Demonstrate ability to recognize excessive wear or improper operation.	Daily/Weekly
601. Demonstrate ability to follow lubrication procedures.	Occasional
602. Demonstrate knowledge of lubrication procedures.	Daily/Weekly
603. Demonstrate ability to develop alignment procedures.	Occasional
604. Demonstrate ability to determine method and perform precision alignments.	Occasional
606. Demonstrate knowledge of alignment procedures.	Daily/Weekly
607. Demonstrate ability to recognize different type and styles.	Daily/Weekly
<b>Task 24) LUBRICANTS</b>	<b>Frequency</b>
608. Demonstrate knowledge of lubricant filters, strainers, and lubrication cooling systems.	Daily/Weekly
609. Demonstrate knowledge of cross reference of manufacturers.	Daily/Weekly
610. Demonstrate ability to demonstrate proper filling techniques (volume, level, pressure).	Monthly

611. Demonstrate knowledge of proper filling techniques.	Daily/Weekly
612. Demonstrate ability to convert standards (SAE, ASME and API).	Occasional
613. Demonstrate knowledge of the properties of lubricants.	Daily/Weekly
614. Demonstrate knowledge of lubricant analysis (contaminants, particle size, and etc).	Daily/Weekly
615. Demonstrate knowledge of proper selection for a specific application.	Daily/Weekly
<b>Task 25) MATERIALS</b>	<b>Frequency</b>
616. Demonstrate knowledge of AISI and SAE steel classification system.	Daily/Weekly
<b>Task 26) MEASUREMENT</b>	<b>Frequency</b>
621. Demonstrate ability to lay out parts for fabrication.	Occasional
622. Demonstrate ability to select the proper measuring tool for an application.	Daily/Weekly
623. Demonstrate ability to measure accurately to 0.001 inch or 0.02 millimeters.	Daily/Weekly
624. Demonstrate ability to use a square (Framing square, precision machinist's square, combination square).	Occasional
625. Demonstrate ability to use calipers.	Monthly
626. Demonstrate ability to use dial indicator.	Occasional
<b>Task 27) MEASUREMENT</b>	<b>Frequency</b>
627. Demonstrate ability to use feeler gauges.	Occasional
628. Demonstrate ability to use height gauge.	Occasional
629. Demonstrate ability to use micrometers (inside, outside, depth).	Daily/Weekly
<b>Task 28) POWER TOOLS</b>	<b>Frequency</b>
630. Demonstrate ability to select the proper tool for the job.	Daily/Weekly
631. Demonstrate ability to use hand drills, hand grinders, manual hydraulic jacks, and etc.	Daily/Weekly
<b>Task 29) PRINTS and SCHEMATICS</b>	<b>Frequency</b>
633. Demonstrate ability to understand numbering systems.	Daily/Weekly
634. Demonstrate ability to file and obtain drawings.	Daily/Weekly
635. Demonstrate ability to update (Red Line) drawings.	Daily/Weekly
<b>Task 30) PUMPS</b>	<b>Frequency</b>
967. Demonstrate ability to maintain various types of pumps.	Daily/Weekly
968. Demonstrate knowledge of various types of pumps.	Daily/Weekly
<b>Task 31) SEALS and GASKETS</b>	<b>Frequency</b>
638. Demonstrate knowledge of gasket making techniques, materials, and methods.	Daily/Weekly
640. Demonstrate knowledge of storage methods & handling procedures.	Daily/Weekly
642. Demonstrate ability to use proper techniques for installation and removal.	Daily/Weekly
643. Demonstrate ability to follow proper techniques to make gaskets.	Occasional

644. Demonstrate knowledge of common seal types.	Daily/Weekly
645. Demonstrate ability to follow proper cleaning and lubrication of surfaces and seals or gaskets.	Occasional
Task 32) SHOP MATH	Frequency
646. Demonstrate knowledge of basic four-function math, averages, word problems, percentages, signed numbers, algebra, and etc.	Daily/Weekly
648 Demonstrate knowledge of metric conversions, area-volume-mass, linear-circumferential speed, triangles, geometry, and ratios.	Daily/Weekly
649. Demonstrate ability to apply basic math to shop related problems (example: layout marks for drilling, etc.).	Daily/Weekly
Task 33) SIZE/SCALE	Frequency
650. Demonstrate ability to determine depth, width, and height given 3 views of an object	Occasional
Task 34) T/S DRIVE SYSTEMS	Frequency
651. Demonstrate ability to recognize abnormal operation of drives by noise, vibration, external causes, heat, smell	Daily/Weekly
652. Demonstrate ability to recognize abnormal wear.	Daily/Weekly
Task 35) TORQUE and FORCE	Frequency
656. Demonstrate knowledge of relationship between torque and speed	Daily/Weekly
657. Demonstrate knowledge of common units of torque	Daily/Weekly
Task 36) TORQUE WRENCH	Frequency
658. Demonstrate knowledge of proper torquing procedures.	Daily/Weekly
659. Demonstrate ability to select and set range of standard torque wrench to meet requirements.	Daily/Weekly
<b>11. PREDICTIVE MAINTENANCE (PM) METHODS</b>	<b>OJL Hours <u>400</u></b>
Task 1) BASIC PROCEDURES	Frequency
661. Demonstrate knowledge of common predictive maintenance procedures.	Daily/Weekly
662. Demonstrate ability to perform common PM procedures (cleaning, tightening and inspection).	Daily/Weekly
663. Demonstrate knowledge of common PM activities (cleaning, tightening and inspection).	Daily/Weekly
Task 2) INFRARED ANALYSIS	Frequency
664. Demonstrate ability to utilize infra red analyzer.	Occasional
665. Demonstrate knowledge of infra red analyzer.	Daily/Weekly
Task 3) MOTOR ANALYZER	Frequency
666. Demonstrate ability to utilize TIG motor analyzer.	Occasional
667. Demonstrate knowledge of TIG analyzer.	Daily/Weekly
Task 4) ULTRASONIC EQUIPMENT	Frequency
668. Demonstrate ability to perform ultrasonic tests.	Occasional
669. Demonstrate knowledge of ultrasonic test procedures.	Daily/Weekly

Task 5) VIBRATION ANALYSIS	Frequency
670. Demonstrate knowledge of common vibration testing methods.	Daily/Weekly
671. Demonstrate ability to perform vibration data collection procedures.	Monthly
672. Demonstrate knowledge of vibration data collection procedures.	Daily/Weekly
<b>12. PNEUMATIC SYSTEMS</b>	<b>OJL Hours <u>250</u></b>
Task 1) COMPRESSORS	Frequency
1002. Demonstrate knowledge of air compressors (rotary and piston).	Daily/Weekly
Task 2) CONDITIONING	Frequency
395. Demonstrate knowledge of conditioning component function.	Daily/Weekly
396. Demonstrate ability to identify conditioning components.	Daily/Weekly
398. Demonstrate knowledge of proper configuration and placement of components.	Daily/Weekly
399. Demonstrate knowledge of temperature exchange principles.	Daily/Weekly
Task 3) CONTROL	Frequency
400. Demonstrate knowledge of the function and type of control components.	Daily/Weekly
401. Demonstrate ability to identify control components.	Daily/Weekly
402. Demonstrate ability to rebuild and repair control components.	Daily/Weekly
Task 4) DCV's	Frequency
404. Demonstrate knowledge of the operating methods (manual, electric, and etc).	Daily/Weekly
405. Demonstrate knowledge of piloting methods (internal or external piloting).	Daily/Weekly
406. Demonstrate ability to configure and check function.	Daily/Weekly
Task 5) FLUID THEORY	Frequency
408. Demonstrate ability to calculate area and volume.	Daily/Weekly
409. Demonstrate ability to perform related calculations for flow and speed.	Daily/Weekly
410. Demonstrate knowledge of the characteristics of fluids (compressibility).	Daily/Weekly
411. Demonstrate knowledge of the effects and causes of pressure drops (differential pressure).	Daily/Weekly
412. Demonstrate knowledge of the relationship between pressure, force, and area.	Daily/Weekly
413. Demonstrate knowledge of the relationship between pressure, volume, and temperature.	Daily/Weekly
414. Demonstrate knowledge of the states of fluids (static and dynamic).	Daily/Weekly
Task 6) POWER COMPONENTS	Frequency
420. Demonstrate ability to find root causes of component failures.	Daily/Weekly

422. Demonstrate ability to follow manufacture's specifications for repair/rebuild.	Daily/Weekly
<b>Task 7) SIZING RATING</b>	<b>Frequency</b>
424. Demonstrate knowledge of commonly used fittings.	Daily/Weekly
425. Demonstrate ability to match threaded fittings.	Daily/Weekly
426. Demonstrate ability to troubleshoot components.	Daily/Weekly
427. Demonstrate ability to select the proper substitution.	Daily/Weekly
<b>Task 8) SYSTEMS</b>	<b>Frequency</b>
428. Demonstrate knowledge of the symbols for the components.	Daily/Weekly
429. Demonstrate ability to determine the function of a system from a schematic.	Daily/Weekly
430. Demonstrate ability to read prints and interpret print package to determine component selection.	Daily/Weekly
431. Demonstrate ability to troubleshoot compressed air systems w/without schematics.	Daily/Weekly
432. Demonstrate ability to modify function of system if necessary.	Occasional
433. Demonstrate knowledge of pressure and flow.	Daily/Weekly
434. Demonstrate ability to adjust pressure and flow.	Daily/Weekly
<b>13. PROCESS CONTROL TECHNOLOGY</b>	<b>OJL Hours <u>200</u></b>
<b>Task 1) ELECTRONIC CONTROLS</b>	<b>Frequency</b>
689. Demonstrate knowledge of temperature, flow, level, pressure, humidity, and speed systems.	Daily/Weekly
690. Demonstrate knowledge of terminology and application of each system (P, I, D).	Daily/Weekly
691. Demonstrate ability to troubleshoot control loops.	Monthly
699. Demonstrate ability to use, calibrate, and troubleshoot controllers.	Daily/Weekly
700. Demonstrate ability to tune control loops.	Monthly
702. Demonstrate knowledge of I to P and P to I converters.	Daily/Weekly
1045. Demonstrate ability to calibrate and troubleshoot controllers.	Monthly
<b>Task 2) ELECTRONIC FEEDBACK DEVICES</b>	<b>Frequency</b>
707. Demonstrate ability to troubleshoot and calibrate.	Monthly
708. Demonstrate knowledge of different configurations.	Daily/Weekly
709. Demonstrate knowledge of different types of thermocouples (J, K, etc).	Daily/Weekly
710. Demonstrate knowledge of operating principles (RTD, Level Sensors, Flow Sensors, and etc.).	Daily/Weekly
711. Demonstrate knowledge of terminology.	Daily/Weekly
<b>Task 3) ELECTRONIC TEST INSTRUMENTS</b>	<b>Frequency</b>
713. Demonstrate ability to use test equipment.	Monthly
<b>Task 4) PNEUMATIC CONTROLS</b>	<b>Frequency</b>
721. Demonstrate ability to troubleshoot control loop.	Monthly
722. Demonstrate ability to calibrate and troubleshoot controllers.	Monthly
723. Demonstrate knowledge of terminology and application of each system.	Daily/Weekly

724. Demonstrate knowledge of metrology.	Daily/Weekly
725. Demonstrate knowledge of level of source voltage, current, or pressure.	Daily/Weekly
726. Demonstrate ability to tune control loops.	Monthly
727. Demonstrate knowledge of I to P and P to I converters.	Daily/Weekly
1056. Demonstrate knowledge of temperature, flow, level, pressure, humidity, and speed systems.	Daily/Weekly
<b>Task 5) PNEUMATIC TEST INSTRUMENTS</b>	<b>Frequency</b>
730. Demonstrate ability to use test equipment.	Monthly
<b>14. PROCESS TROUBLESHOOTING</b>	<b>OJL Hours <u>100</u></b>
<b>Task 1) MACHINE TECHNOLOGY</b>	<b>Frequency</b>
1524. Demonstrate knowledge of setup procedures for product line to maximize productivity of the machine.	Daily/Weekly
1525. Demonstrate ability to setup the machine for a given product line to maximize productivity.	Daily/Weekly
<b>Task 2) PROCESS TROUBLESHOOTING</b>	<b>Frequency</b>
1526. Demonstrate knowledge of process consignees (Temperature setup, flow setup, operation of cycle, product reactions, and etc.).	Daily/Weekly
1527. Demonstrate ability to troubleshoot process problems involving temperature, flow, cycle, or operator errors.	Daily/Weekly
<b>15. PROCESS WATER TREATMENT</b>	<b>OJL Hours <u>100</u></b>
<b>Task 1) FILTERING</b>	<b>Frequency</b>
995. Demonstrate knowledge of heat exchangers.	Daily/Weekly
<b>Task 2) TESTING</b>	<b>Frequency</b>
992. Demonstrate knowledge of chart recorders and various controllers.	Daily/Weekly
998. Demonstrate knowledge of conductivity, resistivity, temperatures, and pressure.	Daily/Weekly
999. Demonstrate knowledge of meters and probes.	Daily/Weekly
<b>Task 3) TROUBLESHOOTING</b>	<b>Frequency</b>
991. Demonstrate ability to troubleshoot process water systems.	Occasional
1001. Demonstrate ability to repair leaking valves.	Daily/Weekly
<b>16. SAFETY</b>	<b>OJL Hours <u>500</u></b>
<b>Task 1) BOILERS &amp; STEAM</b>	<b>Frequency</b>
739. Demonstrate knowledge of steam safety procedures.	Daily/Weekly
<b>Task 2) FIRE CONTROL SYSTEMS</b>	<b>Frequency</b>
743. Demonstrate knowledge of hammer mill explosion suppressant system.	Daily/Weekly
<b>Task 3) FIRE EXTINGUISHERS</b>	<b>Frequency</b>
765. Demonstrate knowledge of the different classes of fires and applications of fire extinguishers.	Daily/Weekly

766. Demonstrate ability to identify different classes of fires and select proper extinguishers.	Daily/Weekly
<b>Task 4) FLUIDS</b>	<b>Frequency</b>
769. Demonstrate knowledge of spent fluid disposal procedures.	Daily/Weekly
770. Demonstrate ability to properly dispose of spent fluids.	Daily/Weekly
<b>Task 5) FORK TRUCKS &amp; LIFTS</b>	<b>Frequency</b>
773. Demonstrate knowledge of fork truck operating procedures.	Daily/Weekly
782. Demonstrate ability to operate battery charger.	Daily/Weekly
<b>Task 6) GENERAL</b>	<b>Frequency</b>
783. Demonstrate ability to identify common unsafe tools for electrical work.	Daily/Weekly
784. Demonstrate ability to use common hand tools and power tools safely for electrical work.	Daily/Weekly
785. Demonstrate knowledge of the dangers of induced voltages and static electricity.	Daily/Weekly
786. Demonstrate knowledge of the use of ground fault interruption devices.	Daily/Weekly
787. Demonstrate ability to demonstrate proper housekeeping.	Daily/Weekly
788. Demonstrate ability to identify unsafe tools for mechanical work.	Daily/Weekly
789. Demonstrate ability to conduct safety inspections related to this facility.	Daily/Weekly
790. Demonstrate ability to demonstrate proper kinetic lifting techniques.	Daily/Weekly
791. Demonstrate ability to demonstrate proper use of ladders.	Daily/Weekly
792. Demonstrate knowledge of proper use of personal protective equipment.	Daily/Weekly
793. Demonstrate ability to demonstrate proper use of personal protection equipment.	Daily/Weekly
794. Demonstrate knowledge of confined space regulations.	Daily/Weekly
795. Demonstrate knowledge of plant evacuation procedures.	Daily/Weekly
796. Demonstrate knowledge of First Responder contact procedures.	Daily/Weekly
797. Demonstrate knowledge of basic first aid procedures.	Daily/Weekly
<b>Task 7) HAZARDOUS MATERIAL</b>	<b>Frequency</b>
798. Demonstrate knowledge of MSDS sheets.	Daily/Weekly
799. Demonstrate ability to locate and use MSDS sheets.	Daily/Weekly
800. Demonstrate knowledge of procedures to follow in abnormal conditions (spills, and etc.).	Daily/Weekly
801. Demonstrate knowledge of gaseous reactions within process areas.	Daily/Weekly
<b>Task 8) LOCKOUT/TAGOUT</b>	<b>Frequency</b>
804. Demonstrate ability to verify electrical power lockout by the use of a meter.	Daily/Weekly
805. Demonstrate ability to control or dissipate stored energy sources.	Daily/Weekly

807. Demonstrate ability to follow plant lockout procedures.	Daily/Weekly
808. Demonstrate knowledge of equipment procedures for high voltage > 600 Volts.	Daily/Weekly
809. Demonstrate knowledge of plant procedures for high voltage > 600 Volts.	Daily/Weekly
<b>Task 9) PERSONNEL LIFTS</b>	<b>Frequency</b>
771. Demonstrate knowledge of plant safety procedures for personnel lift devices.	Daily/Weekly
772. Demonstrate ability to operate plant personnel lift devices.	Daily/Weekly
774. Demonstrate ability to operate fork truck.	Daily/Weekly
777. Demonstrate ability to charge and maintain batteries.	Daily/Weekly
<b>Task 10) PRESSURIZED SYSTEMS</b>	<b>Frequency</b>
767. Demonstrate knowledge of safe fluid system maintenance procedures.	Daily/Weekly
768. Demonstrate ability to bring the system to a zero energy state.	Daily/Weekly
<b>Task 11) PRODUCT AWARENESS</b>	<b>Frequency</b>
810. Demonstrate knowledge of common product contaminates.	Daily/Weekly
811. Demonstrate knowledge of product contaminate procedures.	Daily/Weekly
812. Demonstrate ability to follow product contaminate procedures.	Daily/Weekly
<b>Task 12) RIGGING</b>	<b>Frequency</b>
813. Demonstrate knowledge of basic lifting devices and hoists.	Daily/Weekly
814. Demonstrate ability to properly use basic lifting devices and hoists.	Daily/Weekly
815. Demonstrate knowledge of lifting device inspection requirements (OSHA requirements, etc.).	Daily/Weekly
816. Demonstrate ability to identify unsuitable lifting devices.	Daily/Weekly
817. Demonstrate knowledge of different forces created by different sling angles.	Daily/Weekly
818. Demonstrate knowledge of common hand signals for rigging operations.	Daily/Weekly
819. Demonstrate ability to demonstrate proper hand signals for rigging operations.	Daily/Weekly
1092. Demonstrate knowledge of various methods of accessing load weight.	Daily/Weekly
1093. Demonstrate knowledge of determining a load's center of gravity.	Daily/Weekly
1096. Demonstrate knowledge of rigging accessories and their characteristics.	Daily/Weekly
1097. Demonstrate knowledge of various sling hitch configurations and their characteristics.	Daily/Weekly
<b>Task 13) SAFE SWITCHING</b>	<b>Frequency</b>
820. Demonstrate knowledge of procedures for disconnecting systems that require specific procedures to shutdown.	Daily/Weekly

821. Demonstrate ability to connect/disconnect systems that require specific procedures to shutdown.	Daily/Weekly
822. Demonstrate knowledge of actions required to remove a person from an electrical circuit.	Daily/Weekly
Task 14) WELDING	Frequency
823. Demonstrate knowledge of general welding safety.	Daily/Weekly
<b>17. WELDING</b>	<b>OJL Hours <u>250</u></b>
Task 1) TECHNOLOGY	Frequency
824. Demonstrate ability to TIG.	Occasional
825. Demonstrate knowledge of TIG.	Daily/Weekly
826. Demonstrate ability to MIG.	Occasional
827. Demonstrate knowledge of MIG.	Daily/Weekly
828. Demonstrate ability to oxy-acetylene.	Occasional
829. Demonstrate knowledge of oxy-acetylene.	Daily/Weekly
831. Demonstrate knowledge of ARC.	Daily/Weekly
1003. Demonstrate knowledge of Hot work permits.	Daily/Weekly
1004. Demonstrate ability to obtain Hot work permit.	Occasional
1006. Demonstrate ability to ARC.	Occasional
<b>TOTAL OJL HOURS</b>	<b><u>8,000</u></b>

**SCHEDULE OF RELATED INSTRUCTION (RI):  
Multi-Skilled System Troubleshooter  
RAIS Code: 0311 ONET Code: 49-9042.00**

The related instruction outlines the courses that provide the technical ability that supplements the on-the-job learning. It is through the combination of both the on-the-job learning and the related technical instruction that the apprentice can reach the skilled level of the occupation. Under a registered apprenticeship, 144 hours of related instruction each year of the apprenticeship is recommended. The following is the suggested course curriculum during the term of apprenticeship.

Source: CenTec, Inc.

Method: Classroom

<b>Course Names</b>	<b>Length/Hours</b>
1) Electrical Hand Skills (EHS)	80
2) Electrical Skills 1 (ES1)	240
3) Electrical Skills 2 (ES2)	160
4) Programmable Controller 5 (PLC5) Allen-Bradley Family)	80
5) Electronic Drives (ED1)	80
6) High Voltage Intro. (HVI)	40
7) Mechanical 1 (MECH1)	200
8) Mechanical 2 (MECH2)	160
9) Pneumatics (PNEU)	40
10) Hydraulics (HYD)	80
11) Welding (WELD)	40
12) Process Control 2 (PC2)	80
<b>Total RI Hours</b>	<b>1280</b>

# Appendix B

## APPRENTICESHIP AGREEMENT - ETA 671

Program Registration and  
Apprenticeship Agreement  
Office of Apprenticeship Training,  
Employer and Labor Services (OATELS)

**U.S. Department of Labor**  
Employment and Training Administration



**APPRENTICE REGISTRATION-SECTION II**

OMB No. 1205-0223 Expires: 05/31/05

**Warning:** This agreement does not constitute a certification under Title 29, CFR, Part 5 for the employment of the apprentice on Federally financed or assisted construction projects. Current certifications must be obtained from the Bureau of Apprenticeship and Training or the recognized State Apprenticeship Agency shown below. (Item 22)

The program sponsor and apprentice agree to the terms of the Apprenticeship Standards incorporated as part of this Agreement. The sponsor will not discriminate in the selection and training of the apprentice in accordance with the Equal Opportunity Standards in Title 29 CFR Part 30.3, and Executive Order 11246. This agreement may be terminated by either of the parties, citing cause(s), with notification to the registration agency, in compliance with Title 29, CFR, Part 29.6

**PART A: TO BE COMPLETED BY APPRENTICE. NOTE TO SPONSOR: PART A SHOULD ONLY BE FILLED OUT BY APPRENTICE**

1. Name (Last, First, Middle) and Address (No., Street, City, State, Zip Code) *Social Security Number (Voluntary-See reverse)	Answer Both A and B (Voluntary) (Definitions on reverse)	5. Veteran Status (Mark one) <input type="checkbox"/> Non-Veteran <input type="checkbox"/> Veteran  6. Highest education level (Mark one) <input type="checkbox"/> 8th grade or less <input type="checkbox"/> 9th to 12th grade <input type="checkbox"/> GED <input type="checkbox"/> High School Graduate
2. Date of Birth (Mo., Day, Yr.)	3. Sex (Mark one) <input type="checkbox"/> Male <input type="checkbox"/> Female	4.a. Ethnic Group (mark one) <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Not Hispanic or Latino  4.b. Race (mark one or more) <input type="checkbox"/> Am. Indian or Alaska native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or other Pacific Islander <input type="checkbox"/> White
7. Career Linkage or Direct Entry (Mark one) (Instructions on reverse) <input type="checkbox"/> None <input type="checkbox"/> Adult <input type="checkbox"/> Youth <input type="checkbox"/> HUD/STEP-UP <input type="checkbox"/> School-to-Registered-Apprenticeship <input type="checkbox"/> Incumbent Worker <input type="checkbox"/> Job Corps <input type="checkbox"/> Dislocated Worker <input type="checkbox"/> Direct Entry:		
8. Signature of Apprentice _____ Date _____ /s/	9. Signature of Parent/Guardian (if minor) _____ Date _____ /s/	

**PART B: TO BE COMPLETED BY SPONSOR**

10. Sponsor Program No. Sponsor Name and Address (No. Street, City, County, State, Zip Code)	11a. Trade/Occupation (The work processes listed in the standards are part of this agreement).		
	11b. Occupation Code	12. Term (Hrs., Mos., Yrs.)	13. Probationary Period (Hrs., Mos., Yrs.)
	14. Credit for previous Experience (Hrs., Mos., Yrs.)	15. Term remaining (Hrs., Mos., Yrs.)	16. Date apprenticeship begins
17a. Related Instruction (Number of Hours Per Year)	17b. Apprentice wages for Related Instruction <input type="checkbox"/> Will Be Paid <input type="checkbox"/> Will Not Be Paid	17c. Related Training Instruction Source	
18. Wages: (Instructions on reverse)			
	18a. Pre-Apprenticeship Hourly Wages \$ _____		
18b. Term (Hrs., Mos., Yrs.)	Period 1	2	3
18c. (Choose % or \$)	4	5	6
	7	8	9
	10		
18d. Journeyworker's or completion hourly wage \$ _____	18e. Apprentice entry hourly wage \$ _____		
19. Signature of Sponsor's Representative(s) _____ Date Signed _____ /s/	21. Name and address of sponsor designee to receive complaints (If applicable)		
20. Signature of Sponsor's Representative(s) _____ Date Signed _____ /s/			

**PART C.: TO BE COMPLETED BY REGISTRATION AGENCY**

22. Registration Agency and Address	23. Signature (Registration Agency) _____ /s/	25. Apprentice Identification Number (Definition on reverse):
	24. Date Registered	

**Item 4.a. Definitions:**

**Hispanic or Latino.** A person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term, "Spanish origin," can be used in addition to "Hispanic or Latino."

**Item 4.b. Definitions:**

**American Indian or Alaska Native.** A person having origins in any of the original peoples of North and South America (including Central America), and who maintains tribal affiliation or community attachment.

**Asian.** A person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam.

**Black or African American.** A person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black or African American."

**Native Hawaiian or Other Pacific Islander.** A person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands.

**White.** A person having origins in any of the original peoples of Europe, the Middle East, or North Africa.

**Item 7. Instructions:**

Indicate any career linkage (definitions follow) or direct entry. Enter "None" if no career linkage or direct entry apply. Enter "Incumbent Worker" if the individual before becoming an apprentice was currently employed full-time by the sponsor or entities participating in the apprenticeship program. Career linkage includes participation in programs that provided employment, training and other services to adults, youth and dislocated workers. Funds for these activities are provided by the U.S. Department of Labor/Employment and Training Administration to states and local communities.

**Adult.** Also includes individuals participating in Native American Programs, and/or Migrant and Seasonal Farmworker Programs.

**Youth.** Includes Youth ages 16-21 years, and other concentrated Youth programs in designated areas.

**Dislocated Worker.** Includes an individual that has been terminated or laid off and is unlikely to return to the industry or occupation. It also includes a displaced homemaker who has been providing unpaid services to family members in the home, is no longer supported, and is unemployed or underemployed.

**Job Corps.** Youth ages 16-24 years usually receiving services in a residential setting.

**School-to-Registered Apprenticeship.** Program designed to allow high school youth ages 16 - 17 to enter a Registered Apprenticeship program and continue after graduation with full credit given for the high school portion.

**HUD/STEP-UP.** Developed in conjunction with the U.S. Department of Housing and Urban Development (HUD). The program provides the actual apprenticeship experience and the framework for moving into high-skill Registered Apprenticeship.

**Direct Entry.** A graduate from an accredited technical training school, Job Corps training program or a participant in a military apprenticeship program, any of which training is specifically related to the occupation and incorporated in the Registered Apprenticeship standards. Also, fill in the name of the program.

**Item 18. Wage Instructions:**

18a. Pre-Apprentice Hourly Wage, sponsor enters the hourly wage in the quarter prior to becoming an apprentice.

18b. Term, sponsor enters in each box the apprentice schedule of pay for each advancement period.

18c. Percent, sponsor enters, preferably, the percent of journeyworker's wage.

18d. Journeyworker's wage, sponsor enters date and wage per hour.

18e. Apprentice entry hourly wage, (hourly dollar amount paid), sponsor enters apprentice hourly wage.

**Note:**

18b. The employer agrees to pay the hourly wage rate identified in this section to the apprentice each period of the apprenticeship based on the successful completion of the on-the-job learning and the related instruction outlined in the Apprenticeship Standards. The period may be expressed in hours, months, or years.

18c. The wage rates preferably are expressed in percent of journeyworker's wage, but may also be expressed in dollars and cents, depending on the industry.

18d. If the employer is signatory to a collective bargaining agreement, the journeyworker's wage rate in the applicable collective bargaining agreement is identified. Apprenticeship program sponsors not covered by a collective bargaining agreement must identify a minimum journeyworker's hourly rate that will be the basis for the progressive wage schedule identified in item 18c. of this agreement.

**Example - 3 YEAR APPRENTICESHIP PROGRAM**

Term	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6
hrs., mos., yrs.	1000 hrs.					
%	55	60	65	70	80	90

**Example - 4 YEAR APPRENTICESHIP PROGRAM**

Term	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8
hrs., mos., yrs.	6 mos.							
%	50	55	60	65	70	75	80	90

**Item 25. Definition:**

The apprentice identification number is a unique number generated by the Registered Apprenticeship Information System (the OATELS' data-base), which is used to identify the apprentice. It replaces the social security number to protect the apprentice's privacy.

\*The submission of your social security number is voluntary. For purposes of the Davis Bacon Act of 1931, as amended, U.S. Code Title 40, Sections 276a to 276a-7, and Title 29 CFR 5., your social security number will be used to verify and certify to the U.S. Department of Labor, Employment Standards Administration, that you are a registered apprentice to ensure that the employer is complying with the geographic prevailing wage of your occupational classification. It will be used to verify your periods of employment and wages for purposes of complying with Memorandum M-02-06 of the Office of Management and Budget related to the President's Management Agenda for performance and budget integration of Federal Programs. Your response is voluntary. Failure to disclose your social security number on this form will not affect your right to be registered as an apprentice. Civil and criminal provisions of the Privacy Act apply to any unlawful disclosure of your social security number, which is prohibited.

The collection and maintenance of the data on ETA-671, Apprentice Registration - Section II Form, is authorized under the National Apprenticeship Act, 29 U.S.C. 50, and Code of Federal Regulations 29 Part 29.1. The data is used for apprenticeship program statistical purposes and is maintained, pursuant to the Privacy Act of 1974 (5 U.S.C. 552a.), in a system of records entitled, DOL/ETA-4, Apprenticeship Management System (AMS), at the Office of Apprenticeship Training, Employer and Labor Services, Employment and Training Administration, U.S. Department of Labor. Data may be disclosed to a State Apprenticeship Council to determine an assessment of skill needs and program information, and in connection with federal litigation or when required by law.

Persons are not required to respond to this collection of information unless it displays a currently valid OMB control number. Public reporting burden for this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions; searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the U.S. Department of Labor, Office of Apprenticeship Training, Employer and Labor Services, 200 Constitution Avenue, N.W., Room N-4671, Washington, D.C. 20210 (Paperwork Reduction Project 1205-0223).

# Appendix C

**SAMPLE**  
**AFFIRMATIVE ACTION PLAN**

**ADOPTED BY**

***(INSERT NAME OF SPONSOR)***

**AS REQUIRED UNDER TITLE 29, CODE OF FEDERAL REGULATIONS, PART 30  
AMENDED MAY 12, 1978**

**DEVELOPED IN COOPERATION WITH THE  
BUREAU OF APPRENTICESHIP AND TRAINING  
U. S. DEPARTMENT OF LABOR**

**APPROVED BY \_\_\_\_\_  
REGISTRATION AGENCY**

**DATE APPROVED: \_\_\_\_\_**

Each Registered Apprenticeship Program Sponsor who employs five or more apprentices must prepare and submit to the Registration Agency for approval, an Affirmative Action Plan (AAP) and Selection Procedure (SP) which substantially addresses the content of the following samples (Attachments C and D).

Each sponsor may submit an existing, AAP and SP for approval or use the attached samples as guides in developing their Plans.

Assistance is available through their local Registration Agency office.

## **SECTION I - INTRODUCTION**

The Sponsor enters this Plan with good faith for the purpose of promoting equality of opportunity into its registered apprenticeship program. The Sponsor seeks to increase the recruitment of qualified women and minorities for possible selection into the apprenticeship program in the event females and/or minorities are underutilized in the apprenticeship program. The Sponsor hereby adopts the following nondiscriminatory pledge and Affirmative Action Plan.

This Plan is a supplement to the Apprenticeship Standards. Any changes made by the sponsor shall become part of this written Plan, once approved by the Bureau of Apprenticeship and Training, U. S. Department of Labor.

## **SECTION II - EQUAL OPPORTUNITY PLEDGE**

The Sponsor commits to the following Equal Opportunity Pledge:

The recruitment, selection, employment, and training of apprentices during their apprenticeship, shall be without discrimination because of race, color, religion, national origin, or sex. The Sponsor will take affirmative action to provide equal opportunity in apprenticeship and will operate the apprenticeship program as required under Title 29 of the Code of Federal Regulations, Part 30.

## **SECTION III - UTILIZATION AND ANALYSIS, GOALS AND TIMETABLES**

In order to allow positive recruitment and full utilization of minorities and women in the apprenticeship program the Sponsor pledges to identify outreach efforts under Section IV which will be undertaken. The purpose of the analysis is to determine the minority and women's labor force in the Sponsors labor market area. Once the labor force is determined, the sponsor can determine if deficiencies exist in terms of underutilization of minorities and/or women in the occupations registered with the Registration Agency. (Affirmative Action Plan Workforce Analysis form is attached).

## **SECTION IV - OUTREACH AND POSITIVE RECRUITMENT**

The Sponsor's affirmative action plan includes the following checked outreach and positive recruitment efforts that would reasonably be expected to increase minority and women's participation in apprenticeship by expanding the opportunity of minorities and women to become eligible for apprenticeship selection. **Once those efforts have been checked, the sponsor shall set forth the specific steps they intend to take under each identified effort.** The Sponsor will identify **a significant number of activities** in order to enable it to meet its obligation under Title 29, CFR Part 30.4(c).

A. An announcement of apprenticeship openings must be disseminated thirty (30) days in advance of the earliest date for application at each interval to the following agencies/organizations:

- Registration Agency
- Women's Organizations/Centers
- Local Schools
- Employment Service Centers
- One Stop Centers
- Vocational Education Schools
- Other Organizations/Centers (which can effectively reach minorities and women)
- Newspapers (which are circulated in the minority community and among women)

The announcement shall include the nature of the apprenticeship, requirements for admission to apprenticeship, availability of apprenticeship opportunities, sources of apprenticeship applications, and the Sponsor's equal opportunity policy. Applications will be taken for no less than a two (2) week period.

B. Participation in annual workshops conducted by employment service agencies for the purpose of familiarizing school, employment service and other appropriate personnel with the apprenticeship program and current opportunities.

C. Cooperation with school boards and vocational educational systems to develop programs for preparing students to meet the standards and criteria required to qualify for entry into the apprenticeship program.

D. Internal communication of the Sponsor's equal opportunity policy should be conducted in such a manner to foster understanding, acceptance, and support among the Sponsor's various officers, supervisors, employees, and members, and to encourage such persons to take the necessary action to aid in meeting its obligation under Title 29, CFR Part 30.

E. Engaging in programs such as outreach for the positive recruitment and preparation of potential applicants for apprenticeships; where appropriate and feasible, such programs shall provide for pre-testing experience and training. In initiating and conducting these programs, the Sponsor may be required to work with other Sponsors and appropriate community organizations. The Sponsor shall also initiate programs to prepare women and encourage women to enter traditionally male programs.

- F. Encouraging the establishment and utilization of programs of pre-apprenticeship, preparatory occupational training, or others designed to afford related work experience or prepare candidates for apprenticeship. The Sponsor shall make appropriate provisions in its affirmative action plan to assure that those who complete such programs are afforded full and equal opportunity for admission into the apprenticeship program.
- G. Utilizing Multi-Skilled System Troubleshooters to assist in the implementation of affirmative action in the apprenticeship program.
- H. Granting advance standing or credit on the basis of previously acquired experience, training, skills, or aptitude for all applicants equally.
- I. Other appropriate action to ensure that the recruitment, selection, employment, and training of apprentices during their apprenticeship shall be without discrimination because of race, color, religion, national origin, or sex (e.g., general publication of apprenticeship opportunities and advantages in advertisements, industry reports, articles, etc., use of present minority and female apprentices and a Multi-Skilled System Troubleshooters as recruiters; career counseling; development of reasonable procedures to ensure employment opportunity, including reporting systems, on-site reviews, briefing sessions)

**(Identify Action:)**

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## **SECTION V - ANNUAL REVIEW OF AFFIRMATIVE ACTION PLAN**

The Sponsor will make an annual review of its current Affirmative Action Plan and its overall effectiveness and institute any revisions or modifications warranted. The review shall analyze (independently and collectively) the affirmative action steps taken by the Sponsor for evaluating the positive impact, as well as the adverse impact in the areas of outreach and recruitment, selection, employment, and training. The Sponsor will work diligently to identify the cause and affect that result from their affirmative action measures. The Sponsor will continually monitor these processes in order to identify the need for a new affirmative action effort and/or deletion of ineffective existing activity(ies). All changes to the Affirmative Action Plan must be submitted to the Registration Agency for registration. The Sponsor will continually monitor the participation rates of minorities and women in the apprenticeship program in an effort to identify any type of underutilization. If underutilization exists, corrective action will be immediately implemented. The goals and timetables also will be reviewed annually and updated where necessary.

**SECTION VI - OFFICIAL ADOPTION**

The *(Insert Name of Sponsor)* hereby officially adopts this Affirmative Action Plan on this \_\_\_\_\_ day of \_\_\_\_\_, (INSERT YEAR).

\_\_\_\_\_  
SIGNATURE OF (SPONSOR PROVIDES TITLE)

\_\_\_\_\_  
PRINTED NAME

**MULTI-SKILLED SYSTEM TROUBLESHOOTER**  
(SPONSOR MUST COMPLETE A WORKSHEET FOR EACH REGISTERED  
OCCUPATION)

**AFFIRMATIVE ACTION PLAN**  
**ANALYSIS WORKSHEET**

Occupational Title: \_\_\_\_\_ RAIS Code: \_\_\_\_\_

Sponsor: \_\_\_\_\_ DOT Code: \_\_\_\_\_

Address: \_\_\_\_\_ O\*NET Code: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: \_\_\_\_\_ Type of selection method used: \_\_\_\_\_

Labor Market Area: \_\_\_\_\_

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**LABOR MARKET AREA DATA**

Total Labor Force in Labor Market Area: \_\_\_\_\_

Number Women: \_\_\_\_\_ (     %) of Labor Force

Number Minority: \_\_\_\_\_ (     %) of Labor Force

Working Age Population in Labor Market Area: \_\_\_\_\_

Number Women: \_\_\_\_\_ (     %) of working age population

Number Minority: \_\_\_\_\_ (     %) of working age population

The General Availability of Minorities and Women with the Present or Potential  
Capacity for Apprenticeship

Number Women: \_\_\_\_\_

Number Minority: \_\_\_\_\_

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**SPONSOR'S WORKFORCE DATA**

Journeyworkers: \_\_\_\_\_

Number Women: \_\_\_\_\_ (     %) of Journeyworkers

Number Minority: \_\_\_\_\_ (     %) of Journeyworkers

Apprentices: \_\_\_\_\_

Number Women: \_\_\_\_\_ (     %) of Apprentices

Number Minority: \_\_\_\_\_ (     %) of Apprentices

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**DETERMINATION OF UTILIZATION**

Minority Underutilization:   \_\_\_\_\_ Yes   \_\_\_\_\_ No

Female Underutilization:   \_\_\_\_\_ Yes   \_\_\_\_\_ No

(Note: all factors need not be weighted equally.)

**SPONSOR'S GOALS:**

The sponsor agrees to make good faith efforts to attain the goal of selecting \_\_\_\_\_ % minorities and \_\_\_\_\_% women during the next year or hiring period. These goals shall not be used to discriminate against any qualified applicant on the basis of race, color, religion, national origin or sex.

Estimated Number of new apprentices to be hired during the next year:

\_\_\_\_\_  
Sponsor's Signature

\_\_\_\_\_  
Approved by Agency

\_\_\_\_\_  
Title

\_\_\_\_\_  
Title

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

**SAMPLE**  
**QUALIFICATIONS AND SELECTION**  
**PROCEDURES**

**ADOPTED BY**

***(INSERT NAME OF SPONSOR)***

**DEVELOPED IN COOPERATION WITH THE**  
**BUREAU OF APPRENTICESHIP AND TRAINING**  
**U. S. DEPARTMENT OF LABOR**

**APPROVED BY** \_\_\_\_\_  
**REGISTRATION AGENCY**

**DATE APPROVED:** \_\_\_\_\_

**The certification of this selection procedure is not a determination that, when implemented, the selection procedure meets the requirements of the Uniform Guidelines on Employee Selection Procedures (41 CFR part 60-3) or Title 29 CFR Part 30.**

## **SECTION I - MINIMUM QUALIFICATIONS**

Applicants shall meet the following minimum qualifications:

A. Age

An applicant, who is sixteen (16) years of age and is participating in a school-to-work program or equivalent and who otherwise meets all qualifications may be rated, ranked and placed on the list of eligible applicants. Such an applicant must be eighteen (18) years of age prior to being accepted into the apprenticeship program.

**“EXAMPLES”**

B. Education

A high school diploma or GED equivalency is required. Applicant must provide an official transcript(s) for high school and post high school education and training. All GED records must be submitted if applicable.

Applicants must submit a DD-214 to verify military training and/or experience if they are a veteran and wish to receive consideration for such training/experience.

C. Physical

Applicants shall be physically capable of performing the essential functions of the apprenticeship program without posing a direct threat to the health and safety of the individual or others.

Qualified applicants may be subject to a physical examination or drug screening or both on acceptance into the program and prior to being employed. The cost of the examination and/or drug screening shall be the responsibility of the Sponsor.

## **SECTION II - APPLICATION PROCEDURES “EXAMPLES”**

A. Applicants shall be accepted throughout the year. All persons requesting an application shall have one made available upon signing the applicant log.

B. All applications shall be identical in form and requirements. The application form shall be numbered in sequence corresponding with the number appearing on the applicant log so that all applications can be accounted for. Columns will be provided on the applicant log to show race/ethnic and sex identification and the progress by dates and final disposition of each application.

C. Before completing the application, each applicant will be required to review the Apprenticeship Standards and will be provided information about the program. If the applicant has any additional questions on the qualifications or needs additional information to complete the application, it will be provided by the Sponsor.

- D. Receipt of the properly completed application form, along with required supporting documents (proof of age – driver 's license, birth certificate or other acceptable documentation; copy of high school diploma, GED Certificate or other acceptable documentation) will constitute the completed application.
- E. Completed applications will be checked for minimum qualifications. Applicants deficient in one or more qualifications or requirements or making false statements on their application will be notified in writing of their disqualification. The applicant will also be notified of the appeals right available to them. No further processing of the application will be taken.
- F. Applicants meeting the minimum qualifications and submitting the required documents will be notified where and when to appear for the interview.

### **SECTION III - SELECTION PROCEDURES "EXAMPLES"**

- A. The Sponsor shall schedule the interview and evaluation session. All applicants who have met the minimum qualifications and have submitted the required documents must be notified of the date, time, and place to appear.
- B. The interviewer(s) will rate each applicant during the interview on each of the factors on the Applicant Rating Form taking into account the information on the application, required documents, if applicable, and the judgment derived from the interview.
- C. After completing the interview and evaluation of the applicants, the individual rating scores of the interviewer(s) will be added together and averaged to determine the applicant 's final rating.
- D. Applicants will be placed on a Ranking List according to their scores at the evaluation session, with the applicant having the highest score being at the top of the list, and all applicants then listed in descending order based on score.
- E. As openings for the registration of new apprentices occur, the highest ranked applicant will be notified of selection by telephone. It shall be the responsibility of the applicant to keep the Sponsor informed of their current mailing address and telephone number.
- F. Selected applicants must respond to the notice of selection within forty-eight (48) hours of notice. If applicants cannot be reached by telephone, their names will be passed and notice sent to their address by a Certified Mail-Return Receipt Requested letter to determine if the applicants are still interested. If no response is received in fifteen (15) working days from the written notice, the applicants ' name will be removed from the list. Only one certified notice will be mailed.

- G. Qualified applicants remaining on a preceding ranking list will automatically be carried forward on the new ranking list and slotted in wherever their rating score placed them for a period of two (2) years, unless the applicant has been removed from the list by their own written request or following failure to respond to an apprentice opening. Applicants who were not placed during the two (2) year period they were on the ranking list, will be required to reapply.
- H. During the two-year period, applicants who feel that their qualifications have improved since their original rating may submit documented evidence of such additional experience or training and request reevaluation and rating at the next regular processing cycle.
- I. Youth who complete a Job Corps training program in the occupation of Multi-Skilled System Troubleshooter, who meet the minimum qualifications of the apprenticeship program, may be admitted directly into the program, or if no apprentice opening is available, the Job Corps graduate may be placed at the top of the current applicant ranking list and given first opportunity for placement. The Sponsor shall evaluate the Job Corps training received for granting appropriate credit on the term of apprenticeship. Entry of Job Corps graduates shall be done without regard to race, color, religion, national origin, or gender. ***(Note: This is a method of direct entry into the apprenticeship program,)***
- J. Veterans who completed military technical training school and participated in a registered apprenticeship program while in the military in the Multi-Skilled System Troubleshooter occupation may be given direct entry into the apprenticeship program. The Sponsor shall evaluate the military training received for granting appropriate credit on the term of apprenticeship and the appropriate wage rate. The Sponsor will determine what training requirements they need to meet to ensure that they receive all necessary training for completion of the apprenticeship program. Entry of military veterans shall be done without regard to race, color, religion, national origin, or sex.

## **SECTION IV - COMPLAINT PROCEDURE**

- A. Any apprentice or applicant for apprenticeship who believes that he or she has been discriminated against on the basis of race, color, religion, national origin, or sex, with regard to apprenticeship or that the equal opportunity standards with respect to his or her selection have not been followed in the operation of an apprenticeship program, may personally or through an authorized representative, file a complaint with the U.S. Department of Labor or, at the apprentice or applicant's election, with the private review body established by the sponsor (if applicable).
- B. The complaint shall be in writing and shall be signed by the complainant. It must include the name, address, and telephone number of the person allegedly discriminated against, the Sponsor involved, and a brief description of the circumstances of the failure to apply equal opportunity standards.
- C. The complaint must be filed not later than 180 days from the date of the alleged discrimination or specified failure to follow the equal opportunity standards, and, in the case of complaints filed directly with the review bodies designated by the Sponsor to review such complaints, any referral of such complaint by the complainant to the Department must occur within the time limitation stated above or 30 days from the final decision of such review body, whichever is later. The time may be extended by the Department for good cause shown.
- D. Complaints of sexual harassment in the workplace may be filed and processed under Title 29, CFR Part 30, and the procedures as set forth above.
- E. The Sponsor will provide written notice of their complaint procedure to all applicants for apprenticeship and all apprentices.

## **SECTION V - MAINTENANCE OF RECORDS**

The Sponsor will keep adequate records including a summary of the qualifications of each applicant, the basis for evaluation and for selection or rejection of each applicant, the records pertaining to interviews of applicants and the original application for each applicant. The records pertaining to individual applicants, selected or rejected, shall be maintained in such manner as to permit the identification of minority and female (minority and non-minority) participants.

In addition to the above requirements, adequate records shall include a brief summary of each interview (if applicable) and the conclusions on each of the specific factors, e.g., motivation, ambition, and willingness to accept direction which are part of the total judgment. Records of applicant selections shall be maintained for not less than 5 years and made available upon request to the Department of Labor or other authorized representative.

**SECTION VI - OFFICIAL ADOPTION OF SELECTION PROCEDURES**

The *(Insert Name of Sponsor)* hereby officially adopts these Selection Procedures on this \_\_\_\_\_ day of \_\_\_\_\_, (INSERT YEAR).

\_\_\_\_\_  
SIGNATURE OF (SPONSOR TO PROVIDE TITLE)

\_\_\_\_\_  
PRINTED NAME

\_\_\_\_\_  
SIGNATURE OF (SPONSOR TO PROVIDE TITLE)

\_\_\_\_\_  
PRINTED NAME

## ATTACHMENT D

### SAMPLE EMPLOYER ACCEPTANCE AGREEMENT

The following hereby agrees to comply with the provisions of the Apprenticeship Standards (Program Number: \_\_\_\_\_ formulated by the **(Insert Name of Organization)**).

I hereby agree to carry out the intent and purpose of the said Standards and to abide by the rules and decisions of the Apprenticeship Committee established under these Standards. I have been furnished a true copy of these Apprenticeship Standards, and have read and understand them and hereby request certification to train Apprentices in the occupation classification identified under the provisions of these Standards, with all attendant rights and benefits thereof, until canceled voluntarily or revoked for good cause by the Registration Agency.

\_\_\_\_\_  
(Name of Employer)

\_\_\_\_\_  
(Address of Employer)

\_\_\_\_\_  
(City, State and Zip Code)

\_\_\_\_\_  
(Area Code and Telephone Number)

\_\_\_\_\_  
(Name and Title of Representative)

\_\_\_\_\_  
(Signature of Representative)

**Note: EACH PARTICIPATING EMPLOYER SHALL COMPLETE THIS FORM AND FILE WITH THE PROGRAM SPONSOR. AN ADDITIONAL COPY WILL BE FORWARDED TO THE REGISTRATION AGENCY FOR THEIR RECORDS, IN ACCORDANCE WITH REGISTRATION AGENCY POLICY.**