



Credentialing Achievement Record

Industrial Technology Maintenance Process Control Systems Level I

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ITM CREDENTIALING PROGRAM

Level I Credentialing Achievement Record (CAR)

Name:	Job Title / Student ID:
Duty Cluster Name: Process Control Systems Level I	
Date Completed: _____	

Directions

This Credentialing Achievement Record (**CAR**) is the official training and performance document for the above named NIMS credentialing candidate. The CAR is used by the trainer/supervisor and candidate as a record of individual performance. The CAR is the vehicle that will allow eligible candidates to take the NIMS online theory credentialing examination(s). Supervisors, trainers, and candidates should take care of this record and be sure that it is accurate, kept up to date, filled out correctly, and properly stored. All information recorded in the CAR should be considered **CONFIDENTIAL**. The CAR is the property of the candidate and must be returned to the candidate when employment ends or at the completion of the training / school program.

Candidates may select as many credentialing areas as applicable to the facility or appropriate to the job. There are separate CAR booklets for each credentialing area. This CAR opens with a list of Critical Work Activities & Experiences (or experience statements) that must be acknowledged and documented. However, actual performance is assessed in two ways: 1) by fulfilling these general experience and historical statements and 2) by an examiner administering the *Skill Checks (or performance assessments)*. Three successful Skill Check attempts are required. Skill Checks are clearly marked with the title **“Skill Check.”**

Candidate performance is documented by a checkmark on the *Examiner’s Checklist*. All Skill Checks must be co-initialed and dated by the trainer/supervisor and candidate. Work activity sign-offs must be co-initiated by the trainer/supervisor and candidate then dated.

When the candidate has successfully demonstrated abilities in each of the critical work activities and experiences and skills checks to the satisfaction of the supervisor or trainer, he/she is eligible to take the online theory credentialing exam. The Affidavit of Successful Completion is completed and signed by the sponsor. It is co-signed by the trainer/ supervisor and the candidate, and then e-mailed to **support@nims-skills.org** to request access to the online theory exam. The candidate’s sponsor will be notified when the online theory exam is made available on the NIMS testing system.

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Examiner's Checklist: Process Control Systems Level I

Critical Work Activities & Experiences	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
All of the following statements must be completed prior to submission of the CAR			
1.1 Adhere to safety, health and environmental rules and regulations			
Describe use and selection of fire extinguishers			
Demonstrate use of fall protection safety in use of ladders and platforms			
Demonstrate use of common PPE for maintenance work to be performed			
Perform a job safety analysis of work to be performed			
Perform spill or release reporting procedure			
Perform spill or release clean-up procedure			
Perform injury reporting procedure			
1.2 Describe, locate, and interpret safety data sheets			
Describe, locate, and interpret the following for safety data sheets: <ul style="list-style-type: none"> • Locate current safety material data sheets for given machines or processes • Interpret information on SDS and apply • Determine appropriate PPE required • Describe uses of SDS 			
1.3 Technical documentations			
Locate and interpret function and operation using technical documents			
Identify symbols for duty area			
Demonstrate knowledge of how to locate and maintain maintenance documents			

Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Interpret process control system documentation			
Identify component types by the ISA schematic symbol shown on P&ID symbols (or Feedback loops)			
Identify components on a P&ID given their instrument tags			
Interpret instrument data given an instrument index			
Basic drawing/line diagram of an actual process control system			
Describe the operation of a process control system given a P&ID schematic			
1.2 Calibrate and test analog sensors			
Wire and calibrate (set zero and range) of an analog temperature or pressure sensor with current or voltage output in a process control system given operating specifications: <ul style="list-style-type: none"> • Test output with appropriate process test equipment (e.g., fluke process meter, multimeter, communication {Hart}) 			
1.3 Calibrate and test final control systems			
Connect and test the operation of pneumatic proportional valve and I/P converter			
Calibrate the output of an I/P converter			
Calibrate the output of either a 2-way or a 3-way pneumatic proportional control valve			

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Skill Check #1	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Connect and operate a single loop process control system			
Locate the process control components needed including: single loop PID controller, analog sensor, pneumatic proportional control valve, I/P converter			
Connect the components in a circuit given a P&ID schematic and instrument index			
Perform pre-start procedures for process control system, including: <ul style="list-style-type: none"> • Verify guards are in place • Do a machine walk around, looking for any loose items, leaks, or other potential problems • Check drain valve (if applicable) and close if open • Check compressed air supply to make sure it is on and pressure is correct • Check main electrical power to make sure it is present 			
Turn on process control system			
Operate the system in manual mode using the single loop controller to test component operation			
Verify that all components have instrument tags that match instrument index			
Calibrate the components as per specifications from inspector			
Tune the closed loop system and operate to meet specifications from inspector			
While system is in operation, do the following: <ul style="list-style-type: none"> • Monitor the output variable to make sure it matches set point • Check system for leaks • Adjust set point to several different settings as directed (define as person noted) • Monitor system to verify that overshoot is minimal and response is good 			
Shut down system using established process			

Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Interpret process control system documentation			
Identify component types by the ISA schematic symbol shown on P&ID symbols (or Feedback loops)			
Identify components on a P&ID given their instrument tags			
Interpret instrument data given an instrument index			
Basic drawing/line diagram of an actual process control system			
Describe the operation of a process control system given a P&ID schematic			
1.2 Calibrate and test analog sensors			
Wire and calibrate (set zero and range) of an analog temperature or pressure sensor with current or voltage output in a process control system given operating specifications: <ul style="list-style-type: none"> • Test output with appropriate process test equipment (e.g., fluke process meter, multimeter, communication {Hart}) 			
1.3 Calibrate and test final control systems			
Connect and test the operation of pneumatic proportional valve and I/P converter			
Calibrate the output of an I/P converter			
Calibrate the output of either a 2-way or a 3-way pneumatic proportional control valve			

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Skill Check #2	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Connect and operate a single loop process control system			
Locate the process control components needed including: single loop PID controller, analog sensor, pneumatic proportional control valve, I/P converter			
Connect the components in a circuit given a P&ID schematic and instrument index			
Perform pre-start procedures for process control system, including: <ul style="list-style-type: none"> • Verify guards are in place • Do a machine walk around, looking for any loose items, leaks, or other potential problems • Check drain valve (if applicable) and close if open • Check compressed air supply to make sure it is on and pressure is correct • Check main electrical power to make sure it is present 			
Turn on process control system			
Operate the system in manual mode using the single loop controller to test component operation			
Verify that all components have instrument tags that match instrument index			
Calibrate the components as per specifications from inspector			
Tune the closed loop system and operate to meet specifications from inspector			
While system is in operation, do the following: <ul style="list-style-type: none"> • Monitor the output variable to make sure it matches set point • Check system for leaks • Adjust set point to several different settings as directed (define as person noted) • Monitor system to verify that overshoot is minimal and response is good 			
Shut down system using established process			

Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.1 Interpret process control system documentation			
Identify component types by the ISA schematic symbol shown on P&ID symbols (or Feedback loops)			
Identify components on a P&ID given their instrument tags			
Interpret instrument data given an instrument index			
Basic drawing/line diagram of an actual process control system			
Describe the operation of a process control system given a P&ID schematic			
1.2 Calibrate and test analog sensors			
Wire and calibrate (set zero and range) of an analog temperature or pressure sensor with current or voltage output in a process control system given operating specifications: <ul style="list-style-type: none"> • Test output with appropriate process test equipment (e.g., fluke process meter, multimeter, communication {Hart}) 			
1.3 Calibrate and test final control systems			
Connect and test the operation of pneumatic proportional valve and I/P converter			
Calibrate the output of an I/P converter			
Calibrate the output of either a 2-way or a 3-way pneumatic proportional control valve			

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Skill Check #3	Date Completed	Supervisor's or Trainer's Initials	Candidate's Initials
1.4 Connect and operate a single loop process control system			
Locate the process control components needed including: single loop PID controller, analog sensor, pneumatic proportional control valve, I/P converter			
Connect the components in a circuit given a P&ID schematic and instrument index			
Perform pre-start procedures for process control system, including: <ul style="list-style-type: none"> • Verify guards are in place • Do a machine walk around, looking for any loose items, leaks, or other potential problems • Check drain valve (if applicable) and close if open • Check compressed air supply to make sure it is on and pressure is correct • Check main electrical power to make sure it is present 			
Turn on process control system			
Operate the system in manual mode using the single loop controller to test component operation			
Verify that all components have instrument tags that match instrument index			
Calibrate the components as per specifications from inspector			
Tune the closed loop system and operate to meet specifications from inspector			
While system is in operation, do the following: <ul style="list-style-type: none"> • Monitor the output variable to make sure it matches set point • Check system for leaks • Adjust set point to several different settings as directed (define as person noted) • Monitor system to verify that overshoot is minimal and response is good 			
Shut down system using established process			

Affidavit of Successful Completion

NIMS ITM Process Control Systems Level I Credentialing Program Credentialing Achievement Record (CAR)

The affidavit must be filled-out in its entirety in order to ensure timely processing.

Candidate Name:	Date Completed:
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The credentialing candidate named above has completed all necessary CAR requirements for NIMS ITM Process Control Systems Level I Recognition.

Site Name and Address:

Indicate successful completion of Critical Work Activities & Experiences and Skills Checks, by checking either Yes or No.

Process Control Systems Level I		
	Yes	No
Successful completion of Critical Work Activities & Experiences statements have been completed, dated, and co-initialed.	<input type="checkbox"/>	<input type="checkbox"/>
Successful completion of Skill Check #1, all components have been completed, dated, and co-initialed.	<input type="checkbox"/>	<input type="checkbox"/>
Successful completion of Skill Check #2, all components have been completed, dated, and co-initialed.	<input type="checkbox"/>	<input type="checkbox"/>
Successful completion of Skill Check #3, all components have been completed, dated, and co-initialed.	<input type="checkbox"/>	<input type="checkbox"/>

Sponsor Signature

Date

Trainer/Supervisor Signature

Date

Candidate Signature

Date

Make a copy of the completed *Affidavit of Successful Completion* for your records and email the CAR to:

NIMS
10565 Fairfax Boulevard, Suite 10
Fairfax, VA 22030
<http://nims-skills.org>
support@nims-skills.org