



**MARINE CORPS INSTALLATIONS NATIONAL CAPITAL  
REGION – MARINE CORPS BASE QUANTICO**

**CONTINUOUS PROCESS IMPROVEMENT  
GUIDEBOOK**

2017

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**MCINCR-MCBQ Continuous Process  
Improvement Guidebook**

Version 1

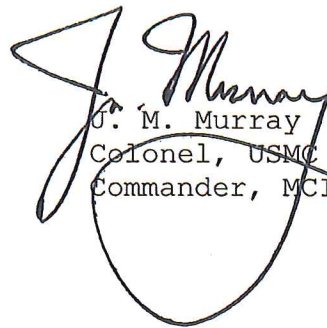
2017



**UNITED STATES MARINE CORPS**  
MARINE CORPS INSTALLATIONS NATIONAL CAPITAL REGION -  
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This Continuous Process Improvement Guidebook is issued as guidance for all persons at Marine Corps Installations National Capital Region - Marine Corps Base Quantico (MCINCR-MCBQ), effective this date.

  
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**Table of Contents**

**Section 1 Purpose of the Guidebook ..... 4**

**Section 2 CPI Mission Vision, Goal ..... 4**

**Section 3 CPI Strategy and Concept of Operations ..... 4**

**Section 4 MCINCR-MCBQ Roles and Responsibilities ..... 7**

**Section 5 Training and Certification ..... 8**

**Section 6 End State..... 11**

**Figures**

**Figure 1 MCINCR-MCBQ Change Management Pyramid..... 5**

**Figure 2 MCINCR-MCBQ Improvement Opportunity Identification..... 6**

**Figure 3 MCINCR-MCBQ Command Level Infrastructure ..... 8**

**Figure 4 MCINCR-MCBQ CPI Training and Certification Matrix ..... 10**

**Appendices**

**Enclosure 1 MCINCR-MCBQ CPI Instructor Evaluation Form ..... 12**



## **SECTION 1. PURPOSE OF THE GUIDEBOOK**

**1.1 Purpose.** The purpose of this guidebook is to foster a culture of performance excellence through Continuous Process Improvement (CPI) and innovation throughout Marine Corps Installations National Capital Region – Marine Corps Base Quantico (MCINCR-MCBQ).

**1.2 Intent.** This guidebook is by design ‘lean’. It follows both the precepts of the CPI program that it establishes, and mission orders. It deviates from previous, and largely unsuccessful, efforts that focused on program management rather than on achieving outcome based results. This guidebook’s priority is on providing improvement services tailored to the customer’s requirements. It establishes the minimum program structure necessary. This guidebook requires decentralized execution, thus allowing the latitude, flexibility, and responsiveness to meet the customer’s changing requirements and demands. Its intent is to instill a constant drive for superior quality, improved cycle time, reduced cost, and elimination of waste, variation, and non-value activity.

## **SECTION 2. CPI MISSION, VISION, GOAL**

*“Each of us must commit all we have to not just keep the Marine Corps strong today, but to make it a better, more effective and efficient organization tomorrow.”*

**CMC FRAGO 01/2016**

**2.1 CPI Mission.** To improve processes throughout MCINCR-MCBQ by making them easier, better, faster or cheaper in order to enhance USMC training, readiness, warfighting capability, and quality of life for Marines, Sailors, and their families.

**2.2 CPI Vision.** CPI is institutionalized throughout the MCINCR-MCBQ, with every level of the organization, down to the Common Output Level of Service (COLS) sub-function level, having trained CPI practitioners, empowered and engaged in a relentless pursuit of perfection.

**2.3 CPI End State.** MCINCR-MCBQ is recognized throughout the Marine Corps Installations Command (MCICOM), as a high performance organization providing superior effective and efficient customer service.

## **SECTION 3. CPI STRATEGY AND CONCEPT OF OPERATIONS**

*“We have to continue to adapt, innovate, and change to meet future threats. We must always challenge the status quo and ask ourselves: Are we doing the right things? Are we doing them in the right way? What do we need to do differently? We need to approach our challenges with humility, an open mind, and a burning desire to win.”*

**CMC Message to the Force 2017: “Seize the Initiative”**

### **3.1 CPI Implementation Strategy**

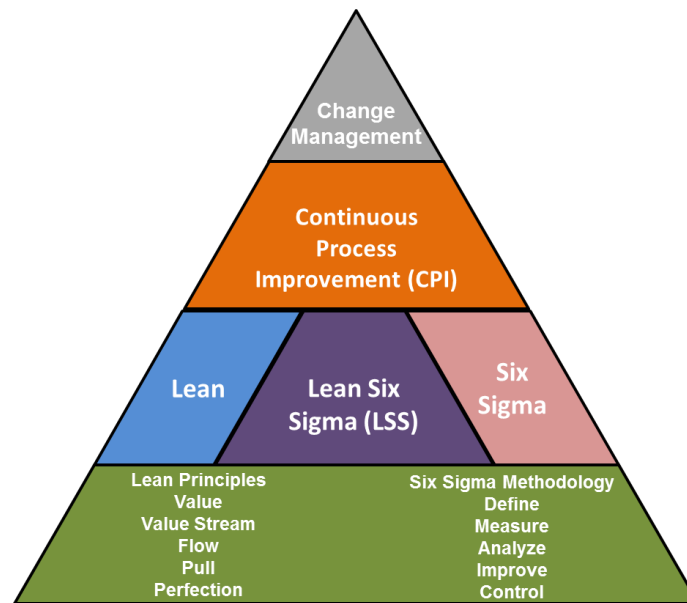
CPI is a Change Management program. Effective Change Management requires a process to effectively manage change. CPI/LSS provides the mechanism to bring about positive change using a logical, straightforward method.

Change Management begins its focus at the Installation/Command or tactical level. The installation process improvement program sets the foundation needed to improve processes at operational, then strategic levels. Tactical level improvements should focus on developing efficient processes at the installation level. Operational (or Regional) level improvements focus on the elimination of barriers to create an environment that fosters innovation in order to meet mission requirements. Strategic (MCICOM) level improvements

focus on providing the resources necessary to continually improve tactical and operational level processes, while providing management with information regarding readiness so that resources can be fully utilized.

MCINCR-MCBQ reaches its full potential by embracing change. Positive Change Management requires a solid foundation. Successful Change Management requires improvement for both the process side, and the human side. A culture that supports and drives continuous improvement is necessary to achieve change throughout MCINCR-MCBQ. Improvement opportunities should not be limited to a select few. However, it should be engrained in Marines and Civilian Marines throughout MCINCR-MCBQ to create a culture striving for constant improvement in everything that the MCINCR-MCBQ does.

Figure 1 Depicts the MCINCR-MCBQ Change Management / CPI relationship.



**Figure 1 – MCINCR-MCBQ Change Management Pyramid**

**3.2 Concept of Operations:** Continuous Process Improvement CPI is a two-pronged approach. CPI improves products and service through both numerous tactical level incremental improvements, and operational/strategic major breakthrough improvements. To effectively execute two-pronged CPI approach, MCINCR-MCBQ uses two proven improvement methodologies; Lean and Six Sigma.

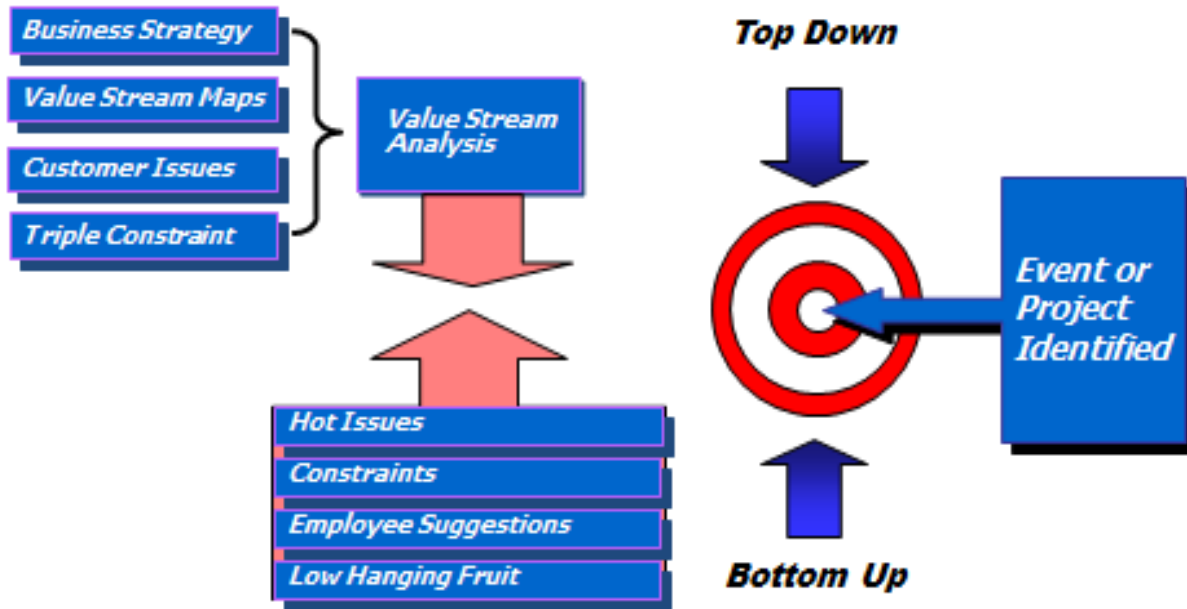
**Lean:** Primarily oriented on numerous tactical level improvements that in their totality achieve significant results. Focuses on work flow, customer value, and eliminating nonproductive or wasteful activities. Lean CPI events are normally Rapid Improvement Events (RIE) or “Just Do Its”.

**Six Sigma:** Primarily oriented toward major, complex operational/strategic level improvements. A data driven methodology that focuses on requirements, planning, execution, and controls to reduce process variation. Six Sigma CPI events are normally Define Measure, Analyze, Improve, Control (DMAIC) projects.

### 3.3 Identification of Improvement Opportunities

The identification and prioritization of projects comes from either a top down focused primarily for operational/strategic opportunities, or a bottom up focus primarily for tactical opportunities. Top down allows leadership to identify critical mission process improvement opportunities. A bottom up focus allows process owners and subject matter experts (SMEs) to identify areas of opportunity that may otherwise be invisible to those outside the immediate process. Both techniques are important to identify the full range of problems or opportunities for process improvement.

Figure 2 shows the process improvement identification process.



**Figure 2 – MCINCR-MCBQ Improvement Opportunity Identification**

### 3.4 CPI Event Planning and Execution.

Using the preceding project identification process, every MCINCR organization down to the COLS sub-functional area should establish process to identify CPI events to be conducted. From Figure 2 it should be apparent that CPI event identification needs to be flexible and responsive to multiple inputs that can identify CPI opportunities. The CPI event process, and resulting CPI plan, needs to be tailored to the level of the organization, and focused on the process to encourage and drive event identification, prioritization, selection and execution. This CPI Plan is not intended to constrain the event selection responsiveness with an inflexible and extended schedule of projected events. Rather, at the tactical and functional area level the event process needs to be a battle rhythm focused on identification and quick execution of Rapid Improvement Events. At the region / MCICOM level where Operational and Strategic projects are the focus, requiring longer execution timelines and greater coordination of limited CPI assets, a more deliberate plan is justified, while still maintaining flexibility to adjust rapidly emerging targets of opportunity.

### 3.5 Project Reporting.

Ultimately the value of CPI projects are results on the ground, not in a power point presentation. However, to maximize the results of projects that could be replicated at other organization it is important to document and share the improvement actions and results. Therefore, the purpose of project reporting is to share throughout MCINCR-MCBQ and beyond, lessons learned, improvements of significant impact that can be



replicated at other organizations or across MCINCR and the MCICOM enterprise. MCINCR-MCBQ will determine which CPI Projects, Rapid Improvement Events or “Just Do Its” meet the threshold that they will benefit a wider audience, and shall be retained by the MCINCR-MCBQ CPI Program Office.

## **SECTION 4. MCICOM CPI ROLES, RESPONSIBILITIES**

### **4.1 Roles and Responsibilities**

Execution of CPI at every level of MCINCR-MCBQ is supported by the roles and responsibilities outlined below.

#### **4.2 Command Leadership**

Region, and Installation Command Leadership have the responsibility to drive installation performance improvement. Leadership identifies the top down driven CPI initiatives and strategically aligns performance improvement initiatives with command goals and objectives. Identify improvement opportunities within programs, implement actions designed to achieve target performance levels and improvement objectives, and sustain the process improvements by monitoring performance measures. Commander’s/Executive Officers, Directors, Department Heads, and Senior Managers serve as project sponsors and identify improvement initiatives, provide resources (people and funding), and remove barriers for improvement initiatives.

#### **4.3 MCINCR-MCBQ CPI Office (Performance & Innovation (P&I))**

MCINCR-MCBQ P&I staff are experienced experts in process improvement methodologies and lead development of LSS/CPI practitioners. Responsibilities include the following:

- Region CPI Champion responsible for implementing the region CPI Program
- Eliminates barriers to CPI implementation
- Conducts Region CPI training and provides coaching/mentoring.
- Provides reinforcing CPI support to Installation CPI programs
- Provides additional Change Management/CPI capabilities in the areas of strategic management, business analysis, assessments, performance management systems, and improvement methodologies. They possess skilled facilitators who are able to lead teams to solutions and actions to achieve performance objectives.
- Certifies USMC Green Belt, Black Belt, and Master Black Belt practitioners.

#### **4.4 Yellow Belts/ Project Team Members**

Yellow Belts are basically trained in CPI and are either leaders/project sponsors or functional subject matter experts (SMEs) in their organizations. Yellow Belts serve on CPI project teams formed to improve processes in their functional areas. SME’s may attend introductory Yellow Belt training prior to participating in CPI projects. However, this isn’t always possible. The project facilitator can provide Yellow Belt level instruction in a just-in-time approach, during the course of the project.

#### **4.5 Green Belts/Rapid Improvement Events**

Green Belts are the backbone of the tactical level CPI program. Green Belts are trained in the basic CPI tools primarily focused on Lean type CPI improvements. Green Belts are also SMEs in their organization. Green Belts primary function is to conduct CPI rapid improvement events, or “just do its”, in their area of functional expertise. Green Belts may serve on project teams led by Black Belts. Experienced certified Green Belts may conduct Yellow /Green Belt training. Green Belts are usually a part time additional duty positions. . The goal is for every MCICOM functional area to have a resident Green Belt capability. Training and certification standards are contained in section 5.3 below.

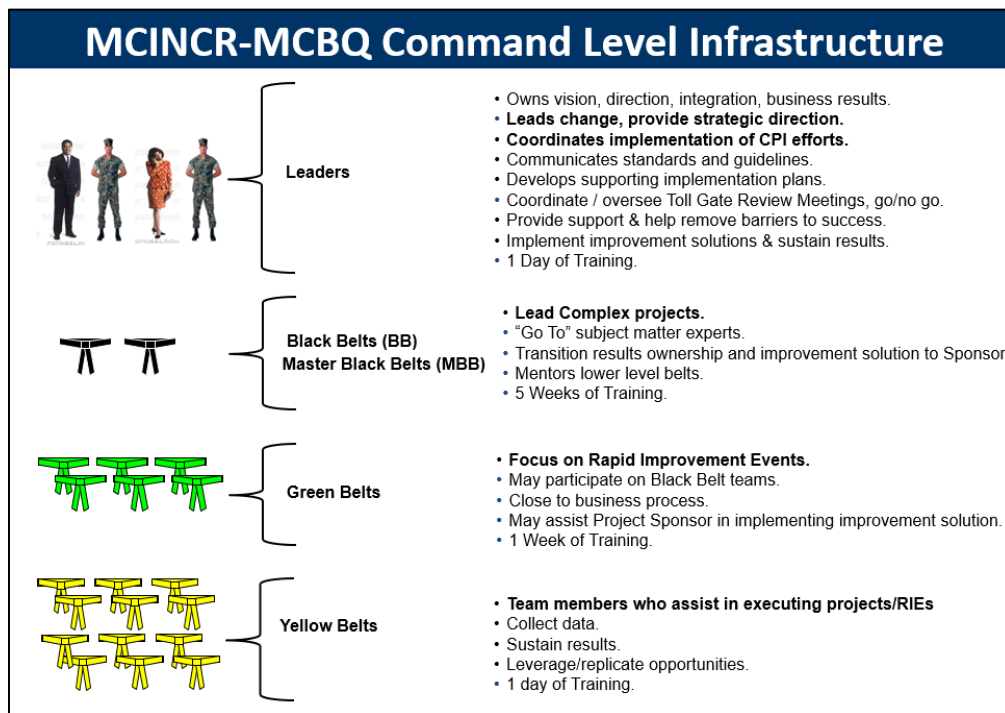
#### **4.6 Black Belts**

Black Belts are key to the spectrum of tactical/operational/strategic CPI events. Black Belts are LSS/CPI experts, knowledgeable and skilled in leading project teams in the use of CPI tools and methodologies.

Black Belts function is to conduct CPI projects with larger scope and impact. Black Belts also train, mentor and certify Green and Yellow Belts. More experienced certified Black Belts may also conduct Black Belt training, mentor and certify less experienced Black Belts. Black Belts are primarily located in the MCINCR-MCBQ P&I. Ideally, Black Belts hold full-time CPI positions. Training and certification standards are contained in Section 5.3 below.

**4.7 Master Black Belts**

Master Black Belts are responsible operational/strategic level projects and for CPI program implementation. MBBs are very experienced Black Belts with advanced training and MBB certification. MBB are CPI Champions and the CPI program manager within their organization. MBB's play a key role in the overall design and execution of the LSS/CPI program ensuring that it remains focused on customer requirements, is current, and aligned to the changing mission needs. MBB are also responsible for training, mentoring and coaching leadership on CPI capabilities. MBB conduct complex, cross functional projects commensurate with their experience, MBB can conduct training, mentoring, and certification at all CPI levels. MBB are ideally full time positions and primarily reside at the Region and MCICOM headquarters. Training and certification standards are contained in Section 5.3 below. Figure 3 below graphically depicts the CPI organization.



**Figure 3 – MCINCR-MCBQ Command Level Infrastructure**

**SECTION 5. CPI TRAINING AND CERTIFICATION**

**5.1 CPI Practitioner Training and Skill Certification**

MCINCR-MCBQ P&I, is charged with developing and keeping relevant and current the general CPI training course curriculums for the courses outlined in Paragraph 5.2 below. The training course curriculum is developed based on meeting the MCINCR-MCBQ customer CPI requirements. This benefits MCINCR-MCBQ by developing high level skills sets that recognizes and is responsive to the Marine Corps culture and MCINCR-MCBQ requirements.





MCINCR-MCBQ has established recommended criteria for CPI certification at the Green, Black, and Master Black Belt levels. Formal skill certification enhances the organizational integrity of CPI through a common body of knowledge and enhances the professional credentials of MCINCR-MCBQ CPI practitioners.

## **5.2 CPI Training Courses**

CPI Training includes self-study, and classroom training to address the training and educational needs of various CPI roles throughout the Command. The following courses are sponsored, coordinated, and/or delivered by MCINCR-MCBQ CPI Program Office.

- Yellow Belt Training – This 1-day (8 hours) classroom training is conducted by USMC Yellow Belt Instructors using the MCINCR-MCBQ Yellow Belt curriculum. It is designed to provide CPI concepts and tools awareness training to all personnel within a command. It is also used to provide just-in-time training to project team members.
- Green Belt Training – This 5-day (40 hours) classroom training is conducted by USMC Green Belt Instructors using the MCINCR-MCBQ Green Belt curriculum. The purpose of this course is to provide students with the basic tools and skills to plan, lead and facilitate Rapid Improvement Events (RIEs) or small Define-Measure-Analyze-Improve-Control (DMAIC) projects within their commands. In order to complete the course, students must pass a comprehensive exam at the conclusion, with a passing grade of 75%. Alternative course providers are available and approved on a case-by-case basis.
- Black Belt Training – This 4-week (160 hours) classroom training is conducted by USMC Black Belt Instructors using the MCICOM Black Belt curriculum. The purpose of this course is to provide advanced CPI instruction and to prepare participants to lead DMAIC projects. In order to complete the course, students must pass a comprehensive exam at the conclusion, with a passing grade of 75%. Alternative course providers are available and approved on a case-by-case basis.

## **5.3 CPI Belt Training Certifications Requirements**

The USMC has established training and certification criteria for CPI Green Belts, Black Belts and Master Black Belts. While certification is strongly encouraged, it is not required to conduct CPI process improvement events commensurate with the training level achieved. The CPI certification framework acknowledges the experience and skill levels of CPI practitioners as they become increasingly effective with advanced applications of integrated tools and more sophisticated analyses. See Figure 4 for a list of all training certification requirements.

The MCINCR-MCBQ certification process is based on a proven learn-by-doing approach designed to reinforce training and achieve process improvement results. Individuals are recommended to receive formal classroom training to understand CPI concepts, but true mastery is achieved through the application of the concepts, resulting in process improvements, under the guidance of a qualified CPI mentor. This certification process develops capable and competent certified professionals while achieving high impact improvements for the USMC.



<b>MCICOM CPI TRAINING AND CERTIFICATION MATRIX</b>			
	Green Belt (GB)	Black Belt (BB)	Master Black Belt (MBB)
Prerequisite Certification	None	None	Black Belt
Complete Training	USMC Green Belt Course (40 Hours) <u>Or</u> Appropriate industry or federal service training	USMC Black Belt Course (160 Hours) <u>Or</u> Appropriate industry or federal service training	Appropriate industry or federal service training
Exam Requirements	Pass USMC Comprehensive GB Exam with at least 75%. <u>Or</u> Pass appropriate industry or federal service exam	Pass USMC Comprehensive BB Exam with at least 75%. <u>Or</u> Pass appropriate industry or federal service exam	Pass appropriate industry or federal service exam
Demonstrate Project Work	1 Project, GB Scope	1 Project, BB Scope	1 Project, MBB Scope
Mentor Requirements	None	None	Yes, Mentor 2 Projects
Certification Authority	MCINCR-MCBQ CPI Office w/ BB Recommendation	MCINCR-MCBQ CPI Office w/ BB Recommendation	MCINCR-MCBQ CPI Office w/ MBB Recommendation
Documentation Requirements	MCINCR-MCBQ CPI Office establishes documentation requirements		

**Figure 4 – MCICOM CPI Training and Certification Matrix**

**Note:** All previous Marine Corps CPI certifications will be recognized as current and valid under this guidebook MCINCR-MCBQ will recognize CPI training and certifications from other USMC organizations. Training and certifications from outside of Marine Corps sources, determined by a certified BB to be commensurate with MCINCR-MCBQ standards, will be recognized.

### **5.4 CPI Instructors.**

Instructors in USMC CPI courses (Yellow Belt through Black Belt) should demonstrate capabilities to an experienced instructor in both classroom instruction skills and mastery of course content for the level of material being taught. Demonstration should be shown at the Region/Installation level prior to teaching any level of belt instruction. Enclosure 1 can be used as a method to evaluate potential instructors.



## **Section 6. End State.**

The desired end state of this guidebook is that it drive the continual improvement of performance throughout MCINCR-MCBQ.

The contents of this guidebook are a means to the end state, not an end in itself. Therefore, the MCINCR-MCBQ P&I is charged with updating this guidebook as a living document, responsive to customer requirements and feedback, to reinforce the successful aspects of the guidebook, or to modify or remove any aspects of the guidebook that prove to be barriers to improvement.



**Enclosure 1: SAMPLE MCINCR-MCBQ CPI INSTRUCTOR EVALUATION FORM**

Name of Individual Being Certified \_\_\_\_\_

Signature of Certified Instructor \_\_\_\_\_ Date \_\_\_\_\_

<b>Certifying Instructor checks each column as YES, NO, or NA (Not Applicable)</b>			
	<b>YES</b>	<b>NO</b>	<b>NA</b>
<b>1. Mastery of course content</b>			
a. Ensured that overall course objectives were thoroughly communicated and effectively met.			
b. Ensured that objectives for each lesson were thoroughly communicated and effectively met.			
c. Demonstrated thorough understanding of all course topic areas.			
d. Ensured that all questions were thoroughly answered.			
e. Ensured that information presented was technically correct.			
<b>2. Exercises and Simulations</b>			
a. Ensured that exercise/simulation set-up was complete before exercise/simulation began and without disruption or distraction to students.			
b. Ensured that thorough instructions for exercises/simulations were provided.			
c. Ensured that exercises/simulations debriefs reinforced the exercise learning points.			
<b>3. Classroom Dynamics</b>			
a. Effectively delivered the instruction for each course lesson.			
b. Established and maintained a positive and professional atmosphere.			
c. Effectively managed group dynamics of participants.			
d. Interacted appropriately and effectively with other instructor(s) and students.			
<b>4. Course Management</b>			
a. Ensured that room was conducive to training (size, layout, etc.).			
b. Ensured that all needed training materials were on hand and correct (equipment, supplies, student binders, certificates, exams, etc.).			
c. Ensured that time was used effectively throughout course.			
Certifying Instructor – document all items evaluated as NO on separate page.			
Certified Instructor Overall Recommendation	Satisfactory Instructor		<input type="checkbox"/>
Classroom instruction skills-delivery	Unsatisfactory Instructor		<input type="checkbox"/>