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## About MCGA and the Partnership with NRWA

Business leaders, government, and industry turn to Mission Critical Global Alliance (MCGA) as a **trusted resource in safeguarding** operational technology (OT) and information technology (IT) elements of mission critical infrastructure due to our expertise in advocacy, skills standards development, education, research, workforce development, and professional certifications.

As a nonprofit organization, we coordinate and unify the work of members engaged in the advancement and protection of mission critical operations. As a result, we advocate the value and importance of having skilled professionals engaged in mission critical operations.

MCGA has partnered with the National Rural Water Association (NRWA) as its preferred provider of IT and OT training. Due to that relationship, MCGA is able to offer the full NRWA membership exclusive mission critical training.

# Curriculum: Protecting Mission Critical Systems

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## Overview

Using the Certified Mission Critical Professional (CMCP) exam blueprint as a template, the course introduces the learner to basic concepts, nomenclature and methods used as best practices to secure and protect critical infrastructure. This course provides basic guidance to those interested in learning more about the importance of the convergence of IT and OT (Operational Technology) systems and provides a preview of all the domains covered by the CMCP certification exam:

- Core mission critical concepts
- Risk management
- Safety, physical & cyber security
- Change management
- Operations
- Business Continuity
- Mission critical system design

## About CMCP

Developed by hundreds of professionals across the U.S. Department of Homeland Security (DHS) defined 16 mission critical sectors and DoL funded, the CMCP vendor neutral exam validates that individuals have the knowledge and skills of industry best practices necessary to protect and secure critical systems and infrastructure. Those holding the CMCP designation signal to the industry that they have the requisite skills necessary to handle mission-critical threats safely and effectively.

## Learning Objectives

This 4-hour introductory course is led by a virtual instructor. Upon completion of this course, attendees will be able to:

1. Describe the key concepts in mission critical operations.
2. Identify the key standards and regulations relating to mission critical operations.
3. Describe the technology and solutions employed in mission critical systems.
4. Operate mission critical systems safely and securely, in accordance with standard operating procedures.
5. Apply the principles of risk management to understand and address risk in mission critical operations.
6. Respond to physical and cyber emergencies in mission critical environments.

## **Who Should Attend**

Candidates for the Introductory Review Course are in one of the following categories:

- Students undertaking 2-year degree programs in automation, instrumentation, or electrical or mechanical engineering in general, who have a desire to work in sectors such as transportation, oil & gas, water & wastewater, healthcare, food & beverage, etc.
- Professionals with a 2-year degree looking to start a career in sectors such as transportation, oil & gas, water & wastewater, healthcare, food & beverage, etc.
- Professionals in early career roles in sectors such as transportation, oil & gas, water & wastewater, healthcare, food & beverage, etc.
- Professionals in mid- to late-career roles in sectors such as transportation, oil & gas, water & wastewater, healthcare, food & beverage, etc., with a desire to demonstrate competence.
- Any individuals interested in learning more about best business practices in mission critical.

## **Course Benefits**

This course is the first step in engaging individuals in the domains covered in the CMCP exam and helps them validate whether or not further CMCP training is right for them. The CMCP certification provides independent assurance that a candidate has the requisite knowledge to be a mission critical professional. As a certified mission critical professional an individual will be better prepared for their role, and employers will benefit from reduced in-house training requirements. This intro course serves to help individuals assess as to whether they will need more in-depth training or whether they will be ready to sit for the CMCP exam.

# Instructor: Steve Mustard MCGA Board Member

## BIOGRAPHY

## PUBLICATIONS & LECTURES

## CONTACT INFO

### Biography

Steve Mustard is an industrial automation consultant with extensive technical and management experience across multiple sectors. He is a licensed Professional Engineer (PE), ISA Certified Automation Professional® (CAP®), UK registered Chartered Engineer (CEng), European registered Engineer (Eur Ing), GIAC Global Industrial Cyber Security Professional (GICSP), and Certified Mission Critical Professional (CMCP).

Backed by 30 years of software development experience, Mustard specializes in: the development and management of real-time embedded equipment and automation systems; and the integration of real-time processing, decision-support and other disparate systems to improve business processes. He serves as president of National Automation, Inc.

Mustard writes and presents on a wide array of technical topics and is the author of 'Mission Critical Operations Primer', published by ISA. He has also contributed to other technical books, including the Water Environment Federation's "Design of Water Resource Recovery Facilities, Manual of Practice No.8, Sixth Edition."

Mustard's previous and current client list includes: the UK Ministry of Defence; NATO; major utilities, such as Anglian Water Services and Sydney Water Corporation; major oil and gas companies, such as BP, BG Group and Shell; Fortune 500 companies, such as Quintiles Laboratories; and other leading organizations.

### Publications & Lectures

- 2018 – Mission Critical Operations Primer, ISA, (ISBN 978-1-945541-71-1)
- 2017 – Design of Water Resource Recovery Facilities, MOP 8, Water Environment Federation (ISBN 978-1-26003-118-8) – contributing author
- 2017 – Will blockchain technology disrupt the ICS world?, ISA Intech, November/December 2017
- 2016 – From Manual to Automated, Water Environment & Technology, May 2016
  - 2015 – When failure is not an option, ISA Flash, No 58, September 2015
- 2015 – Mission Critical Operations: When failure is not an option, InTech Magazine, May-June 2015

- 2014 – NIST Cybersecurity Framework Aims To Improve Critical Infrastructure, Power Magazine, February 2014
- 2009 – The Growth of Wireless Technologies in Process Industries, Water Efficiency magazine, November/December 2009
- 2009 – Using Technology to Improve Asset Management Processes, Water Efficiency magazine, September/October 2009
- 2009 – SCADA and Live Pattern Matching, Water Efficiency magazine, July/August 2009
- 2007 – The business benefits of integrating SCADA and GIS, Distributech conference, San Diego, USA
- 2007 – Communications conundrum, IET Computing & Control Engineering magazine
- 2006 – The application of SCADA techniques to deliver vehicle performance information in a reliable and cost effective manner, IEE Automotive Electronics Conference, London, UK
- 2006 – Security of Distributed Control Systems, IET Computing & Control Engineering magazine
- 2005 – Pattern matching of live data To implement proactive network management, Computing and Control in the Water Industry (CCWI) conference, Exeter, UK
- 2005 – The use of SCADA techniques to improve Overall Equipment Effectiveness, IMechE Reliability, Maintenance and Condition Monitoring, London, UK
- 2004 – Technological solutions and innovation, Water UK Traffic Management Conference, London, UK
- 2004 – How technology developments can help the water industry, Institute of Water Officers forum, Birmingham, UK
- 2004 – The application of SCADA techniques to deliver vehicle performance information in a reliable and cost-effective manner, ERA Vehicle Electronic Systems conference, Birmingham, UK
- 2003 – Considerations for future RTU platforms, IEE Computing and Control in the Water Industry, Cambridge, UK
- 2003 – Using real-time data in managing business – experiences from other industries, SCADA systems in Energy conference
- 2003 – Integrating supervisory control and IT, European SCADA conference, London, UK
- 2002 – The demise of a serial story, TCP/IP based multi medium telemetry communications, JRC Utilities Communications Conference, Coventry, UK. Joint paper with Gordon Fyfe of Transco and Dirk Schladebach of Gilat.
- 2001 – Networking helps cut losses, Water & Waste Treatment magazine
- 2001 – Anglian Water Leakage Reduction, UK Water Projects 2001
- 2001 – Anglian Water and LogicaCMG reduce leakage, Computing and Control in the Water Industry 2001, Leicester, UK. Joint paper with Simon Harrison of Anglian Water.

- 2000 – Matching Communications With Business Strategy in the Utilities Sector, Mobile Communications for Telemetry and Work Management conference, London, UK.
- 1989 – LINKS89 Conference – Presentation on final year project to delegates involved in higher education and research in European institutions, University of Lisbon, Portugal.

**Contact Info**

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