

Public Works (PW) Working Group

JOB TITLES

The Public Works (PW) Working Group determined the following job titles to be the most commonly requested PW personnel in an interstate, mutual aid-based response:

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ACRONYM LIST

AHJ	Authority Having Jurisdiction
CBRNE	Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives
CDL	Commercial Driver's License
DHS	U.S. Department of Homeland Security
DS	Temporary Disposal Site
FEMA	Federal Emergency Management Agency
HazMat	Hazardous Materials
HSPD	Homeland Security Presidential Directive
ICS	Incident Command System
IS	Independent Study
NFPA	National Fire Protection Association
NIC	NIMS Integration Center
NIMS	National Incident Management System
NRP	National Response Plan
OSHA	Occupational Safety and Health Administration
PE	Professional Engineer
PPE	Personal Protective Equipment
PW	Public Works
SWANA	Solid Waste Association of North America
TDS	Temporary Disposal Site

RECOMMENDED CRITERIA

Based on existing, nationally-accepted standards, the PW Working Group extracted relevant education, training, experience, physical/medical fitness, certification, and licensing criteria to define the requirements for public works personnel to participate in the National Incident Management System (NIMS) Integration Center's National Emergency Responder Credentialing System.

The categories used in *Designing a National Emergency Responder Credentialing System* are defined as follows:

Education	Formal instruction based on a curriculum that prepares an individual with the core knowledge and skill for entry into a discipline and for performing a job function
Training¹	Instruction and/or activities that enhance and individual's core knowledge, increase skill set and proficiency, and strengthen and augment abilities
Experience	Time required in a job function for an individual to attain proficiency in applying knowledge, skills, and abilities
Physical/Medical Fitness	Physical and medical considerations that when applied, help to ensure safe performance in risky environments
Certification	Designation granted by Authority Having Jurisdiction (AHJ) that an individual has met the requirements and achieved specific knowledge, skills, and abilities
Licensing	Legal designation granted by AHJ, indicating that a person has met the necessary legal requirements to function in a job title

Where requisite and/or recommended criteria do not apply, that category will not be listed.

¹ Per NIMS compliance at the time of publication, Incident Command System (ICS) - and Federal Emergency Management Agency (FEMA) Independent Study (IS) - training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 1: Assistant Public Works Director - Logistics

Description: An *Assistant Public Works Director - Logistics* assists the Public Works Director with logistical requirements for the preservation and restoration of lifelines during an emergency management situation. This position may be in the Incident Command, a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for an *Assistant Public Works Director - Logistics* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ²	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. ICS-300: Intermediate ICS 4. FEMA IS-700: NIMS, An Introduction 5. FEMA IS-800: NRP, An Introduction
Experience	Completion of the following baseline criteria: <ol style="list-style-type: none"> 6. Training in reporting requirements of technological capabilities and operational theory requirements in a recovery environment <ol style="list-style-type: none"> 1. Minimum of ten years of leadership and management experience in the field of Public Works 2. In-depth understanding of the principals of planning and response to emergencies 3. Past involvement in logistical activities with community, regional, or state-level officials 4. Previous participation in a Presidentially-declared disaster (preferred) 5. Annual participation in community-based emergency management exercises (as outlined in Homeland Security Presidential Directive (HSPD-8) including but not limited to knowledge of the Stafford Act and FEMA Resource Typing
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

² Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 2: Assistant Public Works Director - Operations

Description: An *Assistant Public Works Director - Operations* assists the Public Works Director with the operational requirements for the preservation and restoration of lifelines during an emergency management situation. This position may be in the Incident Command, a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for an *Assistant Public Works Director - Operations* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ³	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. ICS-300: Intermediate ICS 4. FEMA IS-700: NIMS, An Introduction 5. FEMA IS-800: NRP, An Introduction
Experience	Completion of the following baseline criteria: <ol style="list-style-type: none"> 6. Training in reporting requirements of technological capabilities and operational theory requirements in a recovery environment 1. Minimum of ten years of leadership and management experiences in the field of Public Works 2. In-depth understanding of the principles of planning and response to emergency 3. Past involvement in operations activities with community, regional, or state-level officials including knowledge of the Stafford Act 4. Previous participation in a Presidentially-declared disaster (preferred) 5. Annual participation in community-based emergency management exercises (as outlined in HSPD-8)
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

³ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 3: Civil/Field Engineer

Description: A *Civil/Field Engineer* provides general engineering support to emergency response and recovery operations. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Civil/Field Engineer* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Engineering
Training⁴	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction Completion of the following baseline criteria: <ol style="list-style-type: none"> 4. Training in reporting requirements of technological capabilities and operational theory requirements in a recovery environment 5. Mission-specific training, as required
Experience	Five years relevant experience
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions
Licensing	Professional Engineer (PE) (state regulated)

⁴ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 4: Debris Collection Supervisor

Description: A *Debris Collection Supervisor* oversees collection activities prior to arrival at the disposal site and coordinates the routing staffing and filed reporting activities. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Debris Collection Supervisor* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ⁵	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction 4. Three-day FEMA Debris Management Course or equivalent 5. OSHA 1910.134 Respiratory Protection compliance
Experience	Five years experience and understanding of debris collection activities
Physical/ Medical Fitness	<ol style="list-style-type: none"> 1. Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions 2. Annual Physical Exam/1910.134 Respiratory Protection compliance 3. OSHA 1910.134 required annual physical exam
Certification	<ol style="list-style-type: none"> 1. OSHA 1910.120 (Hazardous Waste Operations and Emergency Response) Certification 2. Solid Waste Association of North America (SWANA) – Collection Systems Professional Certification
Licensing	Commercial Driver's License (CDL) (state regulated)

⁵ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 5: Debris Removal Manager

Description: A *Debris Removal Manager* manages and coordinates debris removal activities related to the incident; ensures communication between other members of the disaster management team, communication of project status activity and reporting, and dissemination and implementation of policy directives to debris removal personnel. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Debris Removal Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ⁶	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction 4. Three-day FEMA Debris Management Course or equivalent
Experience	Completion of the following baseline criteria: <ol style="list-style-type: none"> 5. Awareness of debris management role in evidence protection and collection Five years experience and understanding of the concept of debris management
Physical/Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

⁶ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 6: Debris Site Supervisor

Description: A *Debris Site Supervisor* manages temporary disposal site (TDS) responsible for overseeing water separation and environmental protection concerns, and appropriate paperwork and reporting documentation. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Debris Site Supervisor* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ⁷	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction 4. Three-day FEMA Debris Management Course or equivalent 5. OSHA 1910.134 Respiratory Protection compliance Completion of the following baseline criteria: <ol style="list-style-type: none"> 6. Training in management of TDS operations with currency every five years
Experience	Five years experience and understanding of the concept of waste reduction and site management
Physical/Medical Fitness	<ol style="list-style-type: none"> 1. Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions 2. OSHA 1910.134 required annual physical exam
Certification	<ol style="list-style-type: none"> 1. OSHA 1910.120 (Hazardous Waste Operations and Emergency Response) Certification 2. SWANA – Landfill Operations Management Certification

⁷ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 7: Engineering Branch Manager

Description: An *Engineering Branch Manager* directs, coordinates, and manages response and recovery of engineering, facilities, and public works services. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for an *Engineering Branch Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Engineering
Training ⁸	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years experience at the senior management level
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

⁸ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 8: Engineering Division Manager

Description: An *Engineering Division Manager* directs, coordinates, and manages engineering services for response and recovery operations. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for an *Engineering Division Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Engineering or equivalent practitioner experience
Training ⁹	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Ten years experience with at least five in a senior management level position
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions
Licensing	Professional Engineer (PE) (state regulated)

⁹ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 9: Equipment Operator

Description: An *Equipment Operator* physically performs activities, including the operation of vehicles and equipment for recovery and response activities. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The recommended criteria that follow are intended to supplement previously listed requisite criteria for the NIMS Integration Center's consideration and referral to organizations, as appropriate.

The table below lists the PW Working Group's recommended criteria for an *Equipment Operator* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ¹⁰	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction 4. OSHA 1910.134 Respiratory Protection compliance
	Completion of the following baseline criteria: <ol style="list-style-type: none"> 5. 6. Mission-specific training, as required
Experience	Demonstrated experience and understanding of the concept of equipment/vehicle operation over the last year
Physical/ Medical Fitness	<ol style="list-style-type: none"> 1. Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions 2. Annual physical exam/1910.134 Respiratory Protection compliance
Certification	OSHA 1910.120 (Hazardous Waste Operations and Emergency Response) Certification
Licensing	Commercial Drivers License (CDL) (state regulated)

¹⁰ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 10: Public Works Director

Description: A *Public Works Director* serves as an advisor to the Policy Group on matters pertaining to the preservation and restoration of lifelines during an emergency management situation to include all aspects of a response and recovery operation. This position may be in the Incident Command, a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Public Works Director* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ¹¹	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. ICS-300: Intermediate ICS 4. ICS-400: Advanced ICS 5. FEMA IS-700: NIMS, An Introduction 6. FEMA IS-800: NRP, An Introduction
Experience	<ol style="list-style-type: none"> 1. Minimum ten years of leadership and management experience in the field of Public Works 2. In-depth understanding of the principles of planning and response to emergencies 3. Past involvement in policy formulation activities with community, regional, or state-level officials 4. Previous participation in a Presidentially-declared disaster 5. Annual participation in community-based emergency management exercises (as outlined in HSPD-8), including but not limited to knowledge of Stafford Act and FEMA
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

¹¹ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 11: Quality Assurance Personnel

Description: *Quality Assurance Personnel* ensure the cost-effective and efficient monitoring of response and recovery operations. This position may be in the Incident Command, a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for *Quality Assurance Personnel* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ¹²	Completion of the following courses/curricula: <ol style="list-style-type: none"> 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction 4. OSHA 1910.134 Respiratory Protection compliance
Experience	Completion of the following baseline criteria: <ol style="list-style-type: none"> 5. Mission-specific training, as required Demonstrated experience and understanding of the concept of incident-specific training (e.g., debris removal) over the past three years
Physical/ Medical Fitness	<ol style="list-style-type: none"> 1. Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions 2. Annual Physical/1910.134 Respiratory Protection compliance
Certification	OSHA 1910.120 (Hazardous Waste Operations and Emergency Response) Certification

¹² Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 12: Structural Engineer

Description: A *Structural Engineer* oversees, inspects, and assesses impacted structures and makes appropriate recommendations. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Structural Engineer* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Civil Engineering or Architecture with a specialized structural emphasis
Training ¹³	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years experience
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions
Licensing	Professional Engineer (PE) or Architectural license (state regulated)

¹³ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 13: Utility Systems Reconstruction Manager

Description: A *Utility Systems Reconstruction Manager* directs, coordinates, and manages the restoration and operation of water, wastewater, power, telecommunications, and gas systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Utility Systems Reconstruction Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ¹⁴	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years senior management experience in water, wastewater, power, telecommunications, and gas systems
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

¹⁴ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 14: Wastewater Collection Manager

Description: A *Wastewater Collection Manager* directs, coordinates, and manages the restoration and operation of wastewater collection systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Wastewater Collection Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Engineering
Training ¹⁵	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Ten years experience in wastewater collection
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

¹⁵ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 15: Wastewater System Manager

Description: A *Wastewater System Manager* directs, coordinates, and manages the restoration and operation of wastewater systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Wastewater System Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Civil Engineering (or equivalent degree) and/or equivalent practitioner experience
Training¹⁶	Completion of the following courses/curricula: 1. ICS-100 PW: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years experience management and operations experience in wastewater systems
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

¹⁶ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.

PW Job Title 16: Wastewater Treatment Manager

Description: A *Wastewater Treatment Manager* directs, coordinates, and manages the restoration and operation of wastewater treatment systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Wastewater Treatment Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	None
Training	Completion of the following courses/curricula: 1. ICS-100: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years experience as a licensed wastewater plant operator
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions
Licensing	Wastewater Plant Operator (state regulated)

PW Job Title 17: Water Distribution Manager

Description: A *Water Distribution Manager* directs, coordinates, and manages the restoration and operation of water distribution systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Water Distribution Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Engineering
Training	Completion of the following courses/curricula: 1. ICS-100: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Ten years experience
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

PW Job Title 18: Water System Manager

Description: A *Water System Manager* directs, coordinates, and manages the restoration and operation of water systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a Water System Manager to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Education	BS in Civil Engineering (or equivalent degree) and/or equivalent practitioner experience
Training	Completion of the following courses/curricula: 1. ICS-100: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years management and operations experience in water systems
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions

PW Job Title 19: Water Treatment Manager

Description: A *Water Treatment Manager* directs, coordinates, and manages the restoration and operation of water treatment systems. This position may be in a Branch, Division/Group, or Strike Team/Task Force based upon mission-specific activities and needs.

RECOMMENDED CRITERIA

The table below lists the PW Working Group's recommended criteria for a *Water Treatment Manager* to participate in the NIMS Integration Center's National Emergency Responder Credentialing System. These criteria incorporate and/or modify existing protocols and standards and/or propose their development where they do not exist.

Category	Criteria
Training ¹⁷	Completion of the following courses/curricula: 1. ICS-100: Introduction to ICS 2. ICS-200: Basic ICS 3. FEMA IS-700: NIMS, An Introduction
Experience	Five years experience as a licensed water plant operator
Physical/ Medical Fitness	Physical capability to work long hours in adverse environmental and potentially extreme temperature and weather conditions
Licensing	Water Plant Operator (state regulated)

¹⁷ Per NIMS compliance at the time of publication, ICS- and IS- training courses are listed. Equivalent courses must meet the NIMS National Standard Curriculum.