

## REPAIR AND START-UP TEAM WATER PUMP FACILITIES – WATER PRODUCTION

<b>DESCRIPTION</b>	The Repair and Start-Up Team Water Pump Facilities - Water Production repairs water pump facilities
<b>RESOURCE CATEGORY</b>	Public Works
<b>RESOURCE KIND</b>	Team
<b>OVERALL FUNCTION</b>	The Repair and Start-Up Team Water Pump Facilities - Water Production assesses and repairs water pump facilities of all types and sizes, including intake facilities, raw water conveyance facilities, treatment plants, and pump stations. This team does not repair intake facilities that require boats, nor does it repair structural damage and other large-scale damage.
<b>COMPOSITION AND ORDERING SPECIFICATIONS</b>	<ol style="list-style-type: none"> <li>1. Discuss logistics for deploying this team, such as working conditions, safety, length of deployment, security, lodging, transportation, and meals, prior to deployment</li> <li>2. Requestor orders additional mission-specific National Incident Management System (NIMS) Utility Worker Specialist - Water Sector Infrastructure personnel, such as mechanics, welders, electricians, and repair technicians, as single resources to supplement this team</li> <li>3. Requestor provides details about types of pump facilities needing assessment and repair expertise, as well as any materials responders should provide</li> <li>4. Requestor specifies control systems in use, such as electronic, pneumatic, or hydraulic</li> <li>5. Requestor specifies facility capacity in millions of gallons per day (MGD)</li> <li>6. Requestor specifies types of pumps needing repair</li> <li>7. Requestor provides external support, such as vehicle fuel and power for phones, computers, and other rechargeable devices</li> <li>8. Requestor specifies any necessary safety qualifications and equipment, such as confined-space entry, trenching, and shoring capabilities</li> </ol>

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

COMPONENT	TYPE 1	TYPE 2	TYPE 3	NOTES
<b>MINIMUM PERSONNEL PER TEAM</b>	Same as Type 2	4	2	Not Specified
<b>MANAGEMENT AND OVERSIGHT PERSONNEL PER TEAM</b>	Same as Type 2	Same as Type 3	1 - NIMS Type 1 Water Operations Team Leader	Not Specified
<b>SUPPORT PERSONNEL PER TEAM</b>	Same as Type 2	Same as Type 3, PLUS: 2 - NIMS Utility Worker Specialist - Water Sector Infrastructure	1 - NIMS Utility Worker Specialist - Water Sector Infrastructure	The NIMS Utility Worker Specialist - Water Sector Infrastructure can be a welder, electrician, or mechanic. Requestor specifies worker specialty based on mission needs.
<b>PUMP REPAIR CAPABILITY PER TEAM</b>	Water facility pumps greater than 400 horsepower (HP)	Water facility pumps of 26 to 400 HP	Water facility pumps of 25 HP or smaller	Requestor provides specifics on pumps needing repair.
<b>SPECIALIZED EQUIPMENT PER TEAM</b>	Same as Type 2	Same as Type 3	<ol style="list-style-type: none"> <li>1. Air compressor</li> <li>2. Mud pump</li> </ol>	Equipment includes a full complement of industry-specific tools necessary for repairs, such as power tools, hand tools, and pumps.

# Resource Typing Definition for Infrastructure Systems Public Works

COMPONENT	TYPE 1	TYPE 2	TYPE 3	NOTES
<b>PERSONAL PROTECTIVE EQUIPMENT (PPE) PER TEAM MEMBER</b>	Same as Type 2	Same as Type 3	<ol style="list-style-type: none"> <li>1. Hard hat</li> <li>2. Reflective vest</li> <li>3. Gloves</li> <li>4. Protective clothing</li> <li>5. Protective footwear</li> <li>6. Lock-out/tag-out equipment</li> </ol>	PPE is mission-specific and may vary by work environment; it includes protective footwear, protective clothing for skin exposure, eye and ear protection, respirators, gloves, and masks.
<b>ELECTRONICS EQUIPMENT PER TEAM</b>	Same as Type 2	Same as Type 3	<ol style="list-style-type: none"> <li>1. Laptop computer</li> <li>2. Appropriate software</li> <li>3. Digital multimeter with amp clamp</li> </ol>	Appropriate software includes word processing, spreadsheet, and database management programs.
<b>COMMUNICATIONS EQUIPMENT PER TEAM</b>	Same as Type 2	Same as Type 3	<ol style="list-style-type: none"> <li>1. Cell phone</li> <li>2. Portable radio</li> </ol>	<ol style="list-style-type: none"> <li>1. Consider alternate forms of communication, such as satellite phones, based on the mission assignment and team needs.</li> <li>2. Requestor provides radio specifications.</li> <li>3. Provider supplies necessary chargers and backup batteries for battery-powered portable equipment.</li> </ol>
<b>TRANSPORTATION EQUIPMENT PER TEAM</b>	Same as Type 2, PLUS: 1 - 30-ton crane	Same as Type 3, PLUS: 1 - 10-ton equipment boom	<ol style="list-style-type: none"> <li>1 - Heavy-duty pickup truck with equipment boom</li> <li>1 - Trailer, if pump mounted</li> </ol>	<ol style="list-style-type: none"> <li>1. Vehicles must be capable of traversing rough terrain, flood conditions, and adverse environmental conditions, and must carry equipment necessary for maintaining vehicle operation.</li> <li>2. Vehicle must have a tow hitch with diverse attachment capabilities.</li> <li>3. Crane comes with qualified operator.</li> </ol>

## NOTES

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1. Nationally typed resources represent the minimum criteria for the associated component and capability.
2. This team may conduct post-repair water sampling.

## REFERENCES

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1. FEMA, NIMS 509: Utility Worker Specialist – Water Sector Infrastructure
2. FEMA, NIMS 509: Water Operations Team Leader
3. FEMA, National Incident Management System (NIMS), October 2017
4. FEMA, National Response Framework, June 2016