

## REDUCING PREMATURE PARTS FAILURE



<b>PROJECT</b>	3KW TACTICAL QUIET GENERATOR VIRTUAL TASK TRAINER
<b>CLIENT</b>	US ARMY
<b>KEY OBJECTIVES</b>	<ul style="list-style-type: none"> <li>▶ PROVIDE REFRESHER AND SUSTAINMENT TRAINING</li> <li>▶ TURN GENERALISTS INTO SPECIALISTS FOR GENERATOR REPAIR</li> <li>▶ REDUCE WEAR AND TEAR ON EQUIPMENT</li> </ul>

### CHALLENGE

Due to cost and time restrictions, a limited number of soldiers receive formal training on operating and maintaining the generator. When these soldiers are unavailable in the field, others must perform these tasks, often making mistakes due to lack of training. Premature part failures occur when start-up/shutdown procedures, and preventative maintenance checks and services (PMCS) are performed incorrectly. As a result, the reliability of the generator is compromised, and the life of generator parts is shortened.

### BACKGROUND

In combat zones, access to electrical power, provided primarily by mobile generators such as the 3kW Tactical Quiet Generator (TQG), is critical to mission success. The U.S. Army including the Army National Guard, and Army Reserve, and the U.S. Marine Corps, depend on generators to be in full working condition for their field missions. The Project Manager Mobile Electric Power (PM-MEP) office is responsible for developing, acquiring, and supporting these mobile generators. PM-MEP established specific start-up, shutdown, and maintenance procedures to ensure smooth operation of the generators in the field where electric power is essential for operational readiness.

In order to reduce operating and preventive maintenance mistakes, PM-MEP needed a way to make training available to more soldiers, both before and during their deployment in the field. Classroom-based instruction often is not practical, as soldiers are dispatched on the fly without time to receive this formal training. PM-MEP looked to emerging distributed learning technologies, which could enable delivery of operator training anytime, anywhere, without compromising learning effectiveness.

*“This is the type of groundbreaking mechanical training that will meet urgent training requirements for today’s soldier.”*

**Alan Coady**  
Logistics Division Chief, Tactical Power Sources, PM-MEP

## SOLUTION

PM-MEP selected NGRAIN® 3KO® (3D Knowledge Object™) technology — an interactive 3D representation of the equipment and its related procedures — as the means to provide effective refresher and sustainment training on generator procedures. NGRAIN worked in collaboration with government contractor MTC Technologies, Inc., a nationwide company cited as #23 in the Forbe’s list of America’s 200 best small businesses. NGRAIN’s interactive 3D simulations were embedded into a computer-based 3kW TQG Operator Training Course, developed by MTC. The resulting solutions delivers training on generator PMCS, start-up, shutdown, and operating procedures, soldiers have unlimited access to this interactive 3D-enhanced course via CD-ROM.

Ron Mikrut, Program Manager, MTC, says, “NGRAIN’s interactive 3D simulations enable soldiers to review operating procedures, as well as assembling and disassembling of components on the 3kW generator. NGRAIN provides us with a unique and powerful tool for our training toolset, which we can use to deliver superior, more interactive training to the soldiers.”



NGRAIN interactive 3D Knowledge Object embedded into 3kW operator training course

## RESULTS

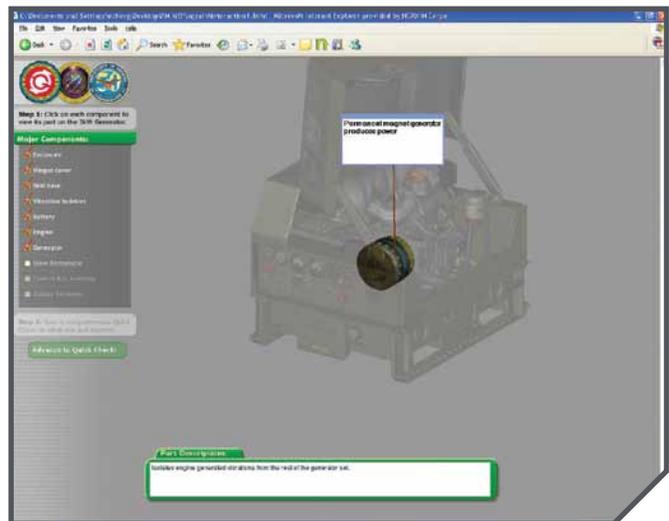
The 3kW TQG Operator Training course with the NGRAIN 3KO is provided to soldiers prior to deployment, as well as to soldiers in the field, as part of sustainment training.

This course helps ensure first-time-right performance of procedures in the field and reduces premature failure of parts.

*“With the addition of NGRAIN to sustainment training, we expect to see reduced failure rates of parts due to incorrect performance of startup and shutdown procedures. This is the type of groundbreaking mechanical training that will meet the urgent training requirements for today’s soldier.”*

**Alan Coady**

Logistics Division Chief, Tactical Power Sources, PM-MEP



View a part in context of a transparent model