

SURGE



AP/Wide World Photos

What if this wasn't an exercise? What if, seven, ten or fifteen years from now, a near peer competitor – Pentagon-speak for China or Russia – sought to test America's resolve? Would we have the SURGE capacity to meet that challenge?



As the United States' manufacturing base shrinks, so does the industrial capacity that once made us the Arsenal of Democracy. Three decades of plant closings, corporate mergers and the incessant off-shoring of production to low-wage countries have destroyed countless communities.

Had those towns and cities been hit with neutron bombs the results would be no less catastrophic. Empty shells of factories remain. The soft manufacturing infrastructure – the unique tooling and workforce skills – were vaporized. And the attacks continue, relentlessly.

The view from 50,000 feet remains placid, almost too peaceful. Politicians recite the number of lost manufacturing jobs as if nothing traumatic ever really happened. No one died. No one played taps. No one placed a tiny flag in front of a headstone. So, the casualties in this war against America's industrial armies remain nameless, rank-less and unsung.

And yet, the damage is real. It has profound conse-

An emerging world power, the Chinese military practices joint land, sea and air maneuvers in the Taiwan Strait.

quences for our national security.

Maybe not tomorrow, maybe not in seven or even ten years, but at some point a President will call on this nation's military and workforce to face a hostile enemy just as Franklin D. Roosevelt did in 1941, eleven months before the Japanese bombed Pearl Harbor.

Back then, in his Four Freedoms speech, FDR said, "we Americans are vitally concerned about the defense of freedom. We are putting forth our energies, our resources and our organizing powers to give us all the strength to regain and maintain a free world. We shall produce in ever-increasing numbers, ships, planes, tanks, guns. That is our purpose and our pledge."

What Roosevelt sought was to ramp up America's industrial might to meet the threats that lay over the horizon. Today, the Department of Defense's Quadrennial Defense Review Report (QDR) uses the term "surge" to describe large-scale, potentially long-duration campaigns against more traditional military threats.

On May 3 and 4 the IAM



IAM International President Tom Buffenbarger, right, looks on as Deputy Secretary of Defense Gordon England, left, discusses the role of America's industrial capacity, the civilian workforce and the U.S. military mission.

the means of our own defense seven to ten years from now," said Buffenbarger.

View from the Top

Deputy Secretary of Defense Gordon England provided his view of America's industrial surge capacity.

"Without the great work of our civilians behind the line, our military cannot do the job of our nation at the front line," said England.

The QDR, released every four years, says "the choices of major or emerging powers, including India, Russia and China, will be key factors in determining the international security environment of the 21st century."

According to the QDR, China has "the greatest potential to compete militarily with the U.S. and field disruptive military technologies."

For Deputy Secretary England, dialogue and cooperation are keys to ensuring our defense industrial base will meet the DOD's surge requirements.

"There's generally not a wrong answer and a right answer, there are better answers because the answers have to satisfy a large constituent group in the nation. So it requires dialogue among a lot of people like we're doing here to come up with an answer that's best for the nation," England said in an on-camera interview.

hosted its SURGE Roundtable to answer two basic questions: First, will the U.S. have the unique tooling to manufacture the means of its own defense in seven to ten years, and second, will the U.S. still have the workforce skills needed to operate those unique tools and manufacture those weapons by then?

"From ships to aircraft to land-based weapons systems, we have traded homegrown expertise and capability for low-cost foreign suppliers and a questionable supply chain that makes us vulnerable in a way we never were before," said IAM International President Tom Buffenbarger, who moderated the roundtable.

Roughly six dozen IAM Representatives, defense firm executives and industry

experts gathered at IAM Headquarters in Upper Marlboro, MD to search for real solutions to the U.S.'s shrinking industrial base. The off-the-record discussion produced a disturbing conclusion.

"Clearly, we've found that America will not have the ability to manufacture



Photo by Bill Burke, Page One Photography

IAM District 4 Directing Business Representative Tony Provost of Bath Iron Works, ME talks about growing skill shortages and tomorrow's workforce.

A View From the Shop Floor

The IAM's SURGE Roundtable gave some of the IAM's most accomplished representatives the opportunity to provide corporate leaders and industry analysts firsthand accounts of the shrinking industrial base.

District 776 Directing Business Representative Pat Lane of Ft. Worth, TX, District 4 Directing Business Representative Tony Provost of Bath, ME and District 9 Business Representative Ellen Arbogast of St. Louis, MO all agreed the skills needed to ramp up military production in their respective industries were quickly deteriorating.

"The first thing I learned when I got on the shop floor was that you had to have a feel for when you put the drill through the metal," said Arbogast, who represents workers at ammunition producer Winchester. "I can learn a blueprint, but I have to know the metal, I have to know the tooling that will cut the metal - and we're losing those very basic skills in this country."

"To do a good job, the first thing you have to have is good tools and good tooling. Yet, we are fast losing all of our tooling skills in this industry, and that's the opinion of the members who do the work as well," said Lane, who has been in the aerospace industry for over 30 years. He represents members at Lockheed



Bath Iron Works in Bath, ME is home to workers with some of the highest skills in America's manufacturing base, but a shrinking commitment to the nation's shipbuilding industry threatens America's naval preeminence.

Martin who make advanced fighter aircraft.

Machinists and other skilled production workers in the U.S. have an average age approaching 55 years. As these workers retire, will the few skilled workers in the "echo" generation be able to replicate the advanced skills needed to build fighter aircraft or submarines?

Even now, offsets and the shift of American jobs overseas deteriorate the quality of the products our members have to work with.

"With increases in offloading work to more small subcontractors who typically don't have higher skill levels, we're seeing more

and more work coming in that's inferior," said Lane.

New Training Programs

From joint training programs with Boeing and Lockheed Martin to apprentice programs throughout North America, IAM training programs have had stellar results. But they rarely attract enough young workers. The uncertainty of manufacturing jobs throughout the defense industry makes it highly unattractive to young people coming out of high school.

"How do I entice kids to come to our shipyard when in their mind it's a dying industry? It's nearly impossi-



AP/Wide World Photos

Naval shipyard employment has plummeted from a high of 1.2 million workers after World War II to just 200,000 today, making it harder to recruit and train tomorrow's skilled workforce.

ble to get kids into our industry when they feel they're going to get laid off," said Provost, who represents Machinists at Bath Iron Works in Bath, Maine.

Unfortunately the federal government and many companies have yet to see any urgency to rebuilding America's defense industrial base and recruiting young workers.

So, the SURGE Roundtable also examined the shrinking industrial base in specific industries to identify effective measures meant to ensure the survival of skilled workers in these industries.

Naval Shipbuilding

The U.S. shipbuilding industry is perhaps the most

vivid example of a vanishing industrial base. After World War II there were over 1.2 million shipyard workers in the United States. Now only 200,000 are left. And shipyards will shrink their workforce by another 13,000 by 2009 and displace another 58,000 workers in the supplier base.

The job losses translate directly into a loss of maritime dominance.

"In 1987, we had 594 naval defense vessels. Today, we have 281 and based on the current procurement, we will only have 160 vessels by 2023. That should alarm some people," said Southern Territory General Vice President Bob Martinez, who moderated the panel discus-

sion on naval shipbuilding.

Even as the U.S. shipbuilding industry shrinks, other nations are ramping up their naval abilities. By 2010, the Chinese submarine fleet will be double that of the U.S. By 2015, China will have the same number of naval ships as the U.S.

Building ships is one of the most technical and training-intensive occupations in America's industrial base. If the U.S. needed to suddenly ramp up their naval ship production five to 10 years down the road, or even today, we would not have the workforce with the necessary skills.

"You don't just go in and start working on a ship. By teaming less experienced workers with experienced shipbuilders, our guys are doing apprenticeships on the job out there. The problem is we are losing our experienced base now," said Provost.

And workers at the existing shipyards are not being trained to meet a clear maritime trade skills standard.

"If these skills were taught, certified and licensed, you would have the necessary skills in all existing yards to meet or exceed surge capacity," said Martinez. "That's one way to preserve a strong and vibrant shipbuilding industry."

With only six major shipyards, all owned by General Dynamics and Northrop Grumman, the peril is clear. As our shipbuilding capabili-

ties shrink, our national security is compromised.

“America is surrounded by oceans. Without naval power, we’re no longer a world power. Without shipbuilding, we’re no longer a naval power. And without being a naval power, our national security is at grave risk,” said Ron Ault, President of the AFL-CIO Metal Trades Department.

Aerospace Dominance

The aerospace industry has seen a significant decline in both the number of military aircraft being produced and the number of skilled workers available to build those planes in recent years.

In 1969, the U.S. produced a staggering 4,290 military aircraft. In 1988 we had 1,305. By 2003, the U.S. only produced 337 military aircraft – almost 4,000 less than we were producing 35 years ago. While the aircraft being built today are far more advanced, at some point there has to be a realization that, eventually, quantity becomes quality.

As the number of military aircraft plummets, so too does the number of high-paying, decent jobs in the aerospace industry.

“Since 1990 over 600,000 jobs have been lost in the U.S. aerospace industry and over one million jobs have been lost in related industries,” said General Vice President Bob Thayer. “Where did these jobs go? If we follow the money, we inevitably get to China.”



AP/Wide World Photos

Threatened budget cuts for America’s fighter programs such as the F-22 Raptor program in Marietta, GA and the increased offshoring of vital productions skills puts America’s aerospace dominance at risk.

U.S. foreign direct investment in China since 2004 alone was \$15.4 billion, a \$4 billion increase from 2003. And as long as Chinese workers continue to be paid dismal wages, companies will continue to send work there. But the national security threat grows as both American jobs and American know-how are sent to China.

Take Boeing, for example. Now over 3,500 Boeing airplanes, nearly one third of Boeing’s world fleet, include major parts and assemblies built in China.

“Procurement in aerospace, especially in the military, is much smaller than what it was, but these employers are offloading much of their work to China, Russia and other parts of the world. That makes it extremely difficult for our members to compete given an unlevel playing field,” said Western Territory General Vice President Lee Pearson, who moderated the panel on Aerospace Dominance.

IAM Aerospace Coordinator Dick Schneider talked about corporate



Photo by Ray Crowell, Page One Photography

District 776 Directing Business Representative (DBR) Pat Lane, left, has seen a steady erosion of skills training and tooling ability in more than 30 years in the aerospace industry. Lane is joined on the aerospace panel by, from left, Local Lodge 2515 DBR Marion "Bud" Duryea, Aerospace Coordinators John Crowdis and Dick Schneider and panel moderator Western Territory General Vice President Lee Pearson.

America's disregard for the workers who make the products.

"Today all we hear about is the stockholder, the shareholder and forget about the stakeholder," said Schneider. "We represent the smartest people at any corporation today - the people who build the product, the people who know how to take the short-cuts and the people who know how to operate the tools and make the tools. When those people are gone, who's going to make the tools?"

Like other industries in the U.S. defense manufacturing base, the aerospace industry has an aging workforce that will leave a huge skills gap upon retirement. Where will the aerospace industry find the talent to replace retiring, highly-

skilled Machinists? It won't be their sons or daughters.

In a recent survey, 500 dislocated aerospace workers were polled and asked if they would recommend their children and grandchildren go into the aerospace business. Eighty percent said, "absolutely not."

The need to attract young workers to the aerospace industry is absolutely critical



Photo by Bill Burke, Page One Photography

Senior Vice President Michael Dupree of General Dynamics discusses outsourcing from industry's perspective during the SURGE Roundtable.

to the next wave of fighter aircraft.

"Engineers design and workers build. You can engineer and design all you want, but unless we train our workforce we won't have the people to build that product - then it's just a piece of paper," said IAM Aerospace Coordinator John Crowdis.

"It worries me when I have employers ask me if we can provide skilled Machinists. In areas where we formerly had a great number of skilled trade folks, we no longer have them," said Pearson. "They have gone into other industries and other occupations."

Arsenal of Democracy?

Conflicts in Iraq and Afghanistan provide a disturbing reminder of our inadequate industrial base. Could the U.S. ever be faced with critically low supplies of the most basic form of defense in this country? Yes. That's exactly what happened in 2003 when the U.S. needed to immediately ramp up small-caliber ammunition production from 1.2 billion to 1.8 billion rounds a year.

Where did the U.S. look for the extra ammunition? The government went straight to foreign suppliers in countries such as Israel, Taiwan and Britain.

Domestic producers Lake City Army Ammunition Plant and Winchester Ammunition simply didn't have the tools or workforce for the substantial ramp up that was immediately needed.

Within the ammunition industry, the U.S.'s reliance on foreign suppliers is risky, if not foolhardy.

U.S. troops use 85 different types of small-caliber ammunition in 11 different sizes.

Military officials remain worried they will not be able to keep up with the growing needs for ammo, especially for the 5.56 millimeter, 7.62 millimeter and 50 caliber rounds. And that remains a legitimate worry considering there are at least 71 out of 302 critical items for which there is only one U.S. supplier.

U.S. dependence on foreign suppliers for raw materials such as tungsten deepens these concerns. Currently, only one U.S. firm can process the tungsten needed for the 5.56 millimeter bullets used in the M-16. The tungsten needed to produce this ammunition for our Army can only be found in China.

"I'm afraid we aren't going to manufacture anything at the current rate of decline that we are on. When everyone else in the world makes the product and the U.S. buys them – there is something inherently wrong with that," said Midwest Territory General Vice President Jim Brown. "Could we get to a point where we don't make our own ammunition? The way I see it, it's right around the corner."

What dangers accompany this reliance on foreign suppliers? What happens when a country disagrees? Could



AP/Wide World Photos

A worker prepares a 500-pound bomb at the McAlester Army Ammunition Plant in McAlester, OK. Neglect of the domestic ammunition industry forced the U.S. to turn to foreign suppliers to meet the spike in demand from conflicts in Afghanistan and Iraq.

they retaliate by refusing to export certain items that are needed in the production of ammunition? Well, yes! It's happened before.

The Swiss government recently refused to sell component parts to Honeywell because they did not agree with the U.S. military stance in Iraq.

The Honeywell situation ultimately did not affect U.S.

combat operations, but it serves as a cautionary tale.

What Are Industry Experts Saying About Our Surge Capacity?

Also on hand to discuss America's eroding defense industrial base were industry experts, who felt much more must be done to shore up the health of our industrial base – especially by the federal government.

"The United States has devised, over the past 25 years, an anti-manufacturing set of policies. As a consequence of that, the United States is losing a good deal of its manufacturing base. In the past five years, we have lost three million manufacturing jobs," said Pat Choate, director of the Manufacturing Policy Project. "What we have created, I think by mistake, is a set of policies that encourage companies to



Photo by Bill Burke, Page One Photography

District 9 Business Representative Ellen Abrogast discusses the loss of skilled workers in the ammunition industry.



AP/Wide World Photos

Production of advanced aircraft like the F-35 Joint Strike Fighter by Lockheed Martin in Fort Worth, Texas depends on highly-skilled IAM members and a network of suppliers that is jeopardized by the increasing use of offshore production and a shrinking base of skilled workers.

shift their jobs and factories offshore.”

In China and some other countries, many companies don't pay taxes. Given their exploitation of cheap labor, it becomes nearly impossible for America to compete. Hit especially hard by China's entry into the world market are the small and medium manufacturers.

The defense industry giants are not struggling. But the second and third tier manufacturers are. The \$50 million machine shop that really wants to get that new piece of machinery to make it more efficient is hurting.

And more investment in those smaller defense contractors is needed.

Industry and labor



Photo by Bill Burke, Page One Photography

Industry expert Pierre Chao of the Center for Strategic and International Studies has hope for the future of America's industrial base.

experts saw a glimmer of hope in going straight to the workers on the shop floor. Getting answers from workers on how this country can ensure the survival of its defense industrial base was a necessary first step.

“I actually have a fundamental belief in the American system, the American people and the American worker. The last 200 years has told me we will figure it out,” said Pierre Chao, director of the Center for Strategic and International Studies.

IAM President Tom Buffenbarger pointed to the IAM's High Performance Work Organization program as clear evidence direct input from those on the shop floor makes for a successful partnership.

“It's called sharing a workplace. You want to make a product better, you want to make it for a more competitive price. We hear you and we want that too – so get out of our way,” said Buffenbarger. “Sometimes you hit a target and you get that kind of cooperation, but it takes a lot of work.”

Only The First Step

The IAM's SURGE Roundtable was only the first serious examination of how we ramp up our industrial manufacturing base. It focused on the tooling and skills gap we face. It asked the tough question: Do we have the means to defend ourselves should a world power

Creating High Tech Institutes

International President Tom Buffenbarger used the SURGE Roundtable to push the idea of creating High Tech Institutes in each state that would house working examples of the unique tooling required for advanced manufacturing and provide the next generation of Americans with the skills needed to utilize those tools.

"As our industrial base shrinks, machine tooling capacity diminishes, and workforce skills vanish, we lose something uniquely American: the ingenuity and productivity of our people," said Buffenbarger. "Worse yet, we leave ourselves unprepared to deal with future contingencies. We will lack the capacity to meet threats head on."

Buffenbarger's proposal for High Tech Institutes as an alternative to college was a sentiment echoed by many of those who participated in the roundtable.

"We're fast losing the expertise we've had on these airplanes throughout the years and we need to train our young people into these programs," said IAM Local



AP/Wide World Photos

A machinist apprentice works on a 120mm gun tube for an Abrams tank. Without adequate training programs, will tomorrow's workers have the skills necessary to keep America's industrial base strong?

2515 Directing Business Representative Marion "Bud" Duryea. "If we had a technical education program to put our young kids in we'd be able to keep the superior aircraft systems we've got in the United States."

Of the 42 million American kids who should graduate from high school every decade, only 12 million of them will graduate from college. That leaves 30 million Americans entering the workforce who would benefit

tremendously from an alternative career path.

Buffenbarger noted that "by focusing virtually all of our public resources on those 12 million college graduates, we are ignoring the 30 million Americans who are paying taxes from their first day on the job. There needs to be some money invested in young Americans who jump right into the workforce so they can gain the skills they need to compete in a global marketplace."

become aggressive? The answer was "no, not really." So, labor leaders, corporate leaders and industry experts agreed the time has come to ensure our defense industrial base doesn't disappear.

"We all know that today's best is not good enough for tomorrow and the greatest difficulty comes at the beginning," said Buffenbarger. "There is nothing stopping us now. In the days and weeks

and months ahead, I am certain that what was started here will continue and I look forward to working with each of you to make damn certain America remains the Arsenal of Democracy."