

Coalition Chronicle

Report to the National Industrial Base Workforce Coalition

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Winter 2004-2005



Photo from The Boeing Company

UAW Local 1069 Executive Board, Negotiating Committee, Shop Stewards and Representatives of the Firefighters and Plant Security Guards posing with **President George W. Bush** in front of a MH-47G Mod helicopter.

President Bush Visits Ridley Facility

On August 17, 2004, **President George W. Bush** visited the Boeing Tiltrotor division in Ridley, Pennsylvania. Ridley is the home of the Chinook CH-47 helicopter and the tiltrotor V-22 Osprey. A long-time workhorse of the Army, the Chinook is now heavily relied upon by American troops in Afghanistan and Iraq. The President was drawn to the Ridley facility not only because of the importance of the Chinook in the current Middle East conflict but also because of the reputation that this Boeing facility has earned through the quality of its products and its excellent relationship between labor and management.

Five years ago, the Tiltrotor division at Ridley suf-

fered from a reputation of poor performance and high cost programs, which were criticized by officials at DoD. Ultimately, the company and the union formed a partnership to create an innovative Employee Involvement (EI) program. At that time, the Employee Involvement team at Ridley dedicated itself to transforming the culture of the antiquated, one hundred-year-old facility into a world class headquarters for the design and manufacture of combat helicopters (see *Culture Change* article).

As we reported in the *Winter 2003-2004 Coalition Chronicle*, Ridley was recognized by DoD leadership because of its culture transformation and ability to

See Bush, page 3

Inside This Issue

Ridley Goes from Worst to First.....	4	Coalition Members Testify on Space Exploration	10
International Team to Build Presidential Copter	7	Op Ed – Save Our Skills	13
Coalition Meets with Pentagon Leaders	8	Member Spotlight on David Goodreau	15

President Visits Ridley



Photo from The Boeing Company

(Top photo - Left to right) **Pat Shanahan**, Vice President/General Manager Boeing Rotorcraft Systems, **Roger Krone**, Vice President/General Manager Army Systems for the Boeing Company, **Harry Stonecipher**, Boeing CEO, greeting **President Bush** upon his arrival at the Ridley facility.

(Middle photo) UAW Local 1069 Sheet Metal Mechanics **Kevin Branyan** (left) and **Doug Miller** (pointing) with **President George W. Bush** in the Ridley facility standing in the cockpit of a MH-47 Chinook discussing production work.



Photo from The Boeing Company

(Bottom Photo) UAW 1069 Vice President **Bob Bromley** (left) discusses the president's visit celebrating the turnaround at Ridley with Boeing CEO **Harry Stonecipher** and Boeing executives **Jim Albaugh**, **Roger Krone** and **Pat Shanahan**.



Photo by Chris Balzano

Coalition Chronicle

National Industrial Base
Workforce Coalition

Representing American scientists, engineers, technical, professional, service and production workers in maritime, aerospace, defense, electronics, energy, telecommunications, transportation, pharmaceutical, and basic industries in both the public and private sectors.

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President Visits Ridley

From Bush, page 1

deliver quality systems at significantly reduced schedules and at lower costs. The recognition for its excellence prompted the President's visit to Ridley.

In keeping with the spirit of the EI partnership, both shop floor union leadership and line managers led the President's tour. Boeing CEO **Harry Stonecipher**, welcomed the President, then left the entire tour to the EI team. UAW Local 1069 President, **John DeFrancisco**, and Vice President **Bob Bromley** greeted the President and told him that workers at Ridley were committed to providing our combat troops with the highest quality and most reliable equipment. **Mark Madden**, EI Team Leader for the union, and **Bill Hunt**, Senior Manager Chinook 47 Operations, spoke with the President concerning the new spirit of cooperation that has helped transform the culture of the Ridley facility.

Chris Gubernot, Chinook Final Assembly Manager and **Brian Concannon**, Final Assembly Mechanic and EI Team Leader walked the President through the final assembly of a Chinook aircraft being manufactured for the 160th Special Operations Unit. Concannon talked with the President about the technical capabilities and the state-of-the-art technologies being installed in this MH-47. They spoke about the surface terrain pod that enables pilots to see through fog or dust or the darkest night. They also talked about the in-flight refueling capabilities of this aircraft.

As the President was being briefed, he asked if he could participate and was given a wrench, which he then used to tighten the B-nut that fastened one of the tubes inside the aircraft.

While they were talking, the President wrote on the interior side wall of the aircraft the following message:



Photo from The Boeing Company

(From left) **Chris Gubernot**, Chinook Final Assembly Manager and **Brian Concannon**, Final Assembly Mechanic and Employee Involvement Team Leader watch as **President Bush** turns a wrench to tighten a B-nut in a MH-47 Chinook.



Photo from The Boeing Company

President Bush signing the interior wall of a MH-47 being manufactured for the 160th Special Operations Unit.

To the 160th in Appreciation and Thanks for a Job Well Done. God Bless. George Bush

As the President walked through the work stations, workers asked him to sign posters, photos, and production flow charts that hung in the work areas. One union worker asked the President to sign the back of his t-shirt, which he did.

After his tour, the President addressed the employees and their families and then met with all of the union officials who oversee UAW Local 1069. This group included members of the Executive Board, the Negotiating Committee, the Shop Stewards, as well as representatives of the Fire Fighters and Plant Security Guards. ❖

Culture Change

Ridley Goes from Worst to First: The Impact of Culture Change

There has been a revolution in labor-management relations at Boeing's Tiltrotor Division in Ridley, Pennsylvania, a revolution that has created a buzz among members of the *National Industrial Base Workforce Coalition* and industry observers. This subject has come up at union conventions and at meetings of union members with Pentagon officials. The story focuses on how one of the poorest performers in the defense sector has risen to become the best performer and is now widely recognized as a major manufacturing success.

Four years ago, the Ridley Tiltrotor facility was plagued by problems in schedule, quality and cost. Morale was dismal among senior managers, line managers, supervisors and hourly workers on the shop floor. More importantly, from the viewpoint of the Department of Defense, the V-22 Osprey and the CH-47 helicopter manufactured at Ridley were in serious trouble. Costs had escalated significantly, causing the Assistant Secretary of the Army for Acquisition, Logistics and Technology, Major General **Claude M. Bolton Jr.**, to put the CH-47 on a watch list. He also put Boeing on notice that the Philadelphia site was so expensive that its status as a weapons supplier to the Army was in serious jeopardy unless their costs improved dramatically.

Facing the loss of millions each month, then-President **Harry Stonecipher** told Boeing's corporate management that he was contemplating closing Ridley. **Roger Krone**, then-CFO for Boeing Military Aircraft and Mis-



Photo from The Boeing Company

Assistant Secretary of the Army for Acquisition, Logistics and Technology, Major General **Claude M. Bolton Jr.** being briefed by UAW 1069 Sheet Metal Assembler and EI Team Leader **Mark Madden** on the metrics that demonstrate the improvements in schedule, quality and cost on the CH-47 achieved through the EI partnership.

sile Systems, was given the responsibility to fix Ridley or shut it down. In his new position as VP/Gen Mgr at the Ridley Facility, Krone focused on the need to restore morale in both management and its touch labor force. He decided that the facility needed a total transformation from a defeatist culture to a "we can win" approach. To help him in this process, Krone retained a company specializing in culture transformation, RLG International, which has a remarkable twenty-year track record in turning around a variety of industries in eighteen countries.

RLG assigns full-time, onsite coaches who help managers and front-line supervisors effectively execute the vision and business strategy of the organization. They begin with transferring job ownership to those on the line and

transferring that ownership vertically up through line managers to the VP/General Manager of the facility. They construct a process in which the metrics required for profitability are understood by everyone responsible for their own job. Further, they help companies create a meaningful Employee Involvement (EI) program in which labor is present at all of the planning sessions. They participate in business reviews that set the goals, objectives and metrics that identify the profit-drivers, i.e. all those points in the design and production process that cause poor quality, delays in delivery, and impact on cost. It is a process that requires honesty about weaknesses and a desire to seek help to overcome them.

Initially Krone met with resistance from both manage-

See Ridley, page 5

Culture Change



Photo from The Boeing Company

Boeing's Senior Vice President Army Systems, **Roger Krone**, looks on as Assistant Secretary of the Army for Acquisition, Logistics and Technology, Major General **Claude M. Bolton Jr.** expresses pleasure at the incredible turnaround at Ridley that moved the Ridley facility from Boeing's worst to its best performer.

From Ridley, page 4

ment and the workforce. Line managers were skeptical about bringing in what they viewed as yet another "flavor of the month" consultant group. The facility had already implemented the best techniques available in modern manufacturing: Quality Circles, Six Sigma, Employee Involvement, Lean Manufacturing, etc. In fact, RLG would later identify more than ten different systems that had been implemented at Ridley, yet no one could identify any three that were still operating at the facility.

Managers were also resistant to the RLG requirement that job ownership would be transferred to hourly union employees whom they viewed with distrust. The union was equally suspicious of management and any plan that would cut cycle time, which would impact on wages by eliminating overtime.

Krone convinced the union leadership that if cycle time could

be reduced, the resulting lower costs to the customer would mean increased orders and job security. Krone's leadership at this juncture was critical. He reshuffled his team, naming **Tim Coyle** as Director of Operations and Site Manager at Ridley and brought **Ed Koopman**, General Manager of Boeing's facility in Mesa, Arizona, to help monitor and manage the RLG implementation. Using a wide-range of experienced managers, Krone cemented labor and management into one team obtaining the needed cooperation that began the turnaround.

Soon, Roger Krone was recognized for his leadership and promoted to direct all of Boeing's Army programs, including the Future Combat System. Replacing Krone was **Pat Shanahan** from the Boeing Commercial Airplane Group, who embraced the culture transformation strategy. A sports enthusiast, he appreciated the concept of onsite coaching

and likened RLG coaches to personal trainers.

At Ridley, the new honesty and openness about what was wrong had a dramatic impact. The rework and repair time was reduced by a sizeable percentage in the first year, along with the reduction of tens of thousands of man hours that were eliminated from the process.

The Ridley turnaround has been the topic of discussion throughout the Pentagon. At a March 27, 2003, meeting that marked the beginning of DoD's focus on culture transformation, **Michael W. Wynne**, Deputy Under Secretary of Defense for Acquisition, Technology and Logistics, told the presidents of other aerospace unions that they too should adopt the tactics that were being used at Ridley. **Bob Bromley**, Vice President of UAW Local 1069 at Ridley astonished the group by announcing that the union had reduced the man hours by 55,000 hours that quarter alone.

As the word spread about the renaissance at Ridley, Pentagon officials began touring the facility: Commandant of the Marine Corps, Secretary of the Navy, and Assistant Secretary of the Army for Acquisition, Logistics and Technology. In addition, a host of senior managers from other defense companies toured the facility as well. More importantly, they brought along their labor leaders.

Most significantly, Maj. Gen. **Claude M. Bolton Jr.**, who had put Ridley on the watch list two years earlier, was elated about the turnaround. Bolton said that he is now getting a superior CH-47 with

See Ridley, page 6

Culture Change

From Ridley, page 5

a new airframe, a structurally enhanced cockpit, vastly superior avionics and flight control systems for the same cost that a base model, re-manufactured CH-47 would have cost four years earlier.

He was so impressed that he invited Boeing to present the CH-47 story to a Pentagon press conference to focus on how management and labor had accomplished a miracle.

At the January 12, 2005, media briefing, it was announced that the labor-management team had reduced the cost of a CH-47 from a projected \$46.2 million per helicopter to under \$30 million, a reduction of \$12 million per unit. The revolution in labor-management relations at Ridley resulted in the Army increasing its orders for the CH-47.

The January 19, 2005, issue of *Army News* carries the story, "Army to Purchase New Chinooks, Upgrade Fleet." It states that the Army "will buy 55 new CH-47F models, have 397 helicopters remanufactured into CH-47Fs, and have 61 remanufactured to the CH-47G used by Special Forces units. Total procurement costs through 2018 will be \$11.4 billion."

The culture transformation

has touched everyone at the facility. A spirit of "we are the best" permeates Ridley. Today, veteran managers openly admit that before the transformation they dreaded going to work each day. Now, they are eager to share the feeling that

Today, the union has accepted a business case for manufacturing: by lowering costs, products become more affordable, resulting in more orders and job security. The union at Ridley has achieved a sense of job security, heretofore unknown.

comes with being number one. The transformation that began under Roger Krone and continued under Pat Shanahan has had the approval of Boeing senior corporate officials. When **Jim Albaugh** became President and CEO of the newly expanded Boeing Integrated Defense Systems in 2002, he not only continued the approach at

"This local is now used by the International as the standard for benchmarking union/company efforts at Employee Involvement," said John DeFrancisco, UAW Local 1069 President.

Ridley, but also approved the use of coaching business skills at Boeing's Satellite Division in Los Angeles and at the C-130 Modification Program in San Antonio.

Coaching business skills to frontline workers has also survived changes in the union leadership at Ridley. Three successive UAW presidents at Ridley have embraced this partnership. Gone

is the union attitude that if the workers work longer hours on a smaller number of aircraft they will preserve their membership.

Today, the union has accepted a business case for manufacturing: by lowering costs, products become more affordable, resulting in more orders and job security. The union at Ridley has achieved a sense of job

security, heretofore unknown. For 16 straight quarters, union members have received gain-sharing checks as a result of cost savings.

The current UAW Local 1069 President, **John DeFrancisco**, gives the union perspective on all of this. "This local is now used by the International as the standard for benchmarking union/company efforts at Employee Involvement." In fact, UAW locals in other states have

tried to induce their companies to adopt the same program as that of Ridley. This is also true of *Coalition* unions who have members in steel mills and shipyards.

The facility that was about to be shut down for poor performance now produces the highest profit margin in The Boeing Company. ❖

Presidential Helicopter

International Team to Build Presidential Helicopter

In an unprecedented move, the Navy selected an international team to build future presidential helicopters. On January 28, 2005, the Department of Defense announced the winner of the competition to build a new fleet of Marine One helicopters. **Lockheed Martin** and **Sikorsky Aircraft** led each of the teams vying for the Navy contract, with Lockheed's team selected as the winner.

This competition generated considerable interest from American aerospace workers, in part because the President's helicopter has always been designed and built by an American contractor. In addition, the award comes at a time when American workers are increasingly concerned about the impact of outsourcing and the global economy on U.S. jobs.

Sikorsky, who currently builds Marine One, is owned by United Technologies located in Connecticut. Its all-American VH-92 Team included Vought Aircraft Industries in Dallas and L-3 Communications Integrated Systems in Greenville, Texas. Sikorsky had hoped to win the new contract with their VH-92 Super Hawk helicopter, hyping their team as the "all-American" choice.

Headquartered in Bethesda, Lockheed Martin's Marine One entry is named "US101." Its team includes Agusta/Westland of Great Britain with main operations in Italy and England, and Bell Helicopter and Textron of Fort Worth, Texas. Lockheed Martin's US101 is based on a British-Italian AgustaWestland aircraft, now owned by Finmeccanica. Some parts, including the main transmission and rotor blades, would be made in Europe. The US101 is longer and wider and has three

engines, while the Sikorsky Super Hawk has two engines and can be transported without major reassembly.

The initial contract for the next generation Marine One aircraft could be worth approximately \$2.7 billion for the production of 23 aircraft for the Navy through the year 2009. But the biggest payoff for the workers to produce this aircraft will be the possibility

partners. The deal also attracted international attention from Prime Minister **Tony Blair** of Britain who personally pressed President Bush on behalf of Lockheed's British-Italian Team.

At home, Members of Congress who stand to lose or gain jobs in their districts based on the outcome, called for a Government Accountability Office review. Many lobbied both the

President and Defense Secretary **Donald H. Rumsfeld**. Some members of Congress have argued that the President should fly in all-American aircraft, to demonstrate the Bush administration's commitment to keeping jobs in this country. Now that the contract has been awarded to a team that includes foreign manufacturers, the award decision may be protested and possibly challenged by Members of Congress.

As we go to press, Connecticut's Governor **M. Jodi Rell** is asking the President to reconsider the decision awarding the contract to Lockheed Martin, saying that she is "surprised, disappointed and, frankly, angry" at the decision. Lawmakers and others have also reacted angrily, saying that the nation's defense equipment should be made by all-American companies. Rell asked that the Navy reconsider the contract or at least provide a better explanation as to why they awarded the contract to the Lockheed team. "The 7,000 men and women of Sikorsky and thousands upon thousands of others at more than 200 suppliers around the country were prepared to give their all for a chance to build this highly visible and instantly recognizable symbol of American pride," she said. ❖



Rendering of US101 Demonstrator with GE Engines. Photo from Lockheed Martin team us101.com website.

of gaining even more contracts with the U.S. military and with the militaries of foreign allies. Other orders could come from a U.S. Air Force contract for up to 194 helicopters that is expected to be negotiated next year. According to media reports, the U.S. Coast Guard and Department of Homeland Security are also reported to be searching for a supplier for about 200 helicopters.

The competition generated intense lobbying of **President Bush** from many sources both foreign and domestic. When the President appeared at a press conference with Italian Prime Minister **Silvio Berlusconi**, an Italian reporter turned the discussion toward the competition. Berlusconi took the opportunity to put in a plug for the Lockheed team and its Anglo-Italian

Pentagon Meeting

Workforce Coalition Members Meet with Pentagon Leaders

In July of 2004, members of the *National Industrial Base Workforce Coalition* were invited to the Pentagon by Defense Secretary **Donald H. Rumsfeld** for a briefing by top DoD officials. In addition to Secretary Rumsfeld, General **Richard D. Myers**, Chairman of the Joint Chiefs of Staff, General **Richard Cody**, the Army Vice-Chief of Staff, **Robert Earl**, Special Assistant to the Secretary of the Navy, and **Mary Lacy**, Program Executive Officer for the National Security Personnel System, briefed *Coalition* members.



Secretary Rumsfeld greets members of the *National Industrial Base Workforce Coalition* in the Secretary's suite of offices.

As past issues of the *Chronicle* indicated, the office of Defense Secretary Donald Rumsfeld has always been open to members of the *National Industrial Base Workforce Coalition*. Throughout his tenure, Secretary Rumsfeld has repeatedly met with union officials whether they were AFL-CIO general presidents or the presidents and officers of union locals throughout the industrial base and defense sector.

In past meetings with labor leaders, Secretary Rumsfeld dealt with a variety of topics that generally related to events at the top of the defense agenda. These included changes in defense systems such as missile defense or the transformation of weapons systems to meet current battlefield strategy. In the July briefing, the Secretary touched upon the need to redeploy our troop commitments around the world to reflect the new reality of the war on terrorism.

Photo from the Pentagon



The 101st Airborne Division was the topic of Army Vice-Chief of Staff General Richard Cody's remarks. The situation in the world has never been more dangerous since he has worn the uniform, he said. But he noted that morale among the troops is high: "Our war fighters are doing a magnificent job." He urged the group to think about the war in Iraq as part of the war on terrorism. "No one wants a war," he said, "but if war is necessary, it should not be fought on American soil. Every game has to be an away game. And every game must be won." He concluded his remarks on the subject of the Army's Future Combat System, noting that it would bring a revolution in technology to the battlefield that would save the troop lives. A single soldier will be able to call for artillery fire and air strikes as well.

Photo from the Pentagon

Pentagon Meeting



Photo from the Pentagon

Secretary Rumsfeld briefed the group on troop levels in Iraq and stated that there will not be a draft. Total troop levels in the military, he said, are more than adequate. He also addressed the issues of troop readiness, treatment of prisoners, and the need to be prepared for possible future attacks.

Chairman of the Joint Chiefs General Richard D. Myers gave an update on global operations that include the war on terrorism. He stated that systems now being requested in the DOD budget submission, i.e. ships, planes, missile defense, as well as future combat systems, are all vitally needed to help protect America. However, he said, "We must have the ability to produce weapon systems in a cycle time that is less expensive than we are currently."



Photo from the Pentagon

During the meeting, Mary Lacy, who oversees the implementation of the National Security Personnel System at DoD, discussed proposed revisions in the personnel system and pledged DoD's openness to outside comment, in particular from groups like the *National Industrial Base Workforce Coalition*. The statutes governing the new personnel system have been approved by Congress, and the regulations governing DoD's implementation of the new law have been released for comment. They will then be reviewed by other federal agencies. The new regulations would be made public early in 2005.



Photo by Chris Balzano

After the meeting, Secretary Rumsfeld posed with *Workforce Coalition* participants in front of his office.

Space Exploration

Coalition Members Testify Before the President's Commission on Space Exploration

On January 27, 2004, **President George W. Bush** issued an Executive Order announcing the formation of a presidential commission to study and implement a United States space exploration policy. Identified as the *President's Commission on Implementation of United States Space Exploration Policy*, the 9-member panel was chaired by former Air Force Secretary **Edward C. (Pete) Aldridge, Jr.**

When the President unveiled his plan to return humans to the Moon and on to Mars, he said, "We will build new ships to carry man forward into the universe, to gain a new foothold on the moon and prepare for new journeys to the worlds beyond our own." He tasked the Commission to study the U.S. space program, hold public

hearings, interview witnesses, and present a report on their findings no later than 120 days from the date of the announcement. In addition to fact-finding trips to the Jet Propulsion Laboratory and to the Lyndon Johnson, John F. Kennedy, George C. Marshall and Robert Goddard Space Centers, the Commission held public hearings in Dayton, Atlanta, San Francisco, and New York City.

Serving on the Commission were:

- **Carleton Fiorina**, Chairman and CEO of Hewlett Packard;
- **Michael Jackson**, Sr. Vice President for AECOM Technology and formerly the COO of Lockheed Martin's Intelligent-Transportations Systems Unit;
- **Laurie Leshin**, Director

of Arizona State University's Center for Meteorite Studies currently leading a team designing a mission to Mars for the collection of soil samples;

- **Lester Lyles**, 35 year Air Force Veteran who as a 4-Star General served as Commander of Air



Dr. Michael P. Balzano, Executive Director, *National Industrial Base Workforce Coalition*, testifying before the President's Commission on Moon, Mars and Beyond held in Atlanta, Georgia, as **Jeff Rainey** (left) and **Charles Bofferding** look on. — Photo from NASA/Bill Ingalls

Force Material Command;

- **Paul Spudis**, a planetary scientist at the Johns Hopkins University Applied Physics Laboratory and former deputy leader of the Clementine lunar mission science team;

- **Neil Tyson**, an astrophysicist and Director of the Hayden Planetarium in New York City who also served on the 2001 U. S. Aerospace Industry Commission;

- **Ron Walker**, Chairman and CEO of the Wexler & Walker Public Policy Associates and former Chair of the U. S. Commission on the Future of the Aerospace Industry;

- **Maria Zuber**, Professor of Geophysics and Planetary Sciences at MIT and veteran of half a dozen NASA planetary mapping missions.

National Industrial Base Workforce Coalition Testifies

As long-time supporters of NASA programs, several members of the *National Industrial Base Workforce Coalition* were invited to testify before the President's Commission. *Coalition* Executive Director **Dr. Michael P. Balzano** testified in Atlanta. He outlined the history of *Coalition* support for NASA programs, beginning in January 1986 after the explosion of the *Challenger* and spanning a period of almost nineteen years, during which *Coalition* members have fought to keep funding for the manned space program, in particular, the space station, despite sometimes intense opposition.

For instance, *Coalition* members representing the entire spectrum of aerospace workers — scientists, engineers and skilled production workers — testified before the Augustine Commission on the *Challenger* accident. In addition, *Coalition* members were credited by former NASA Administrator **Daniel Goldin** with being essential to the survival of the manned space program.

Also testifying in Atlanta was **Charles H. Bofferding**, Executive Director of both the Society of Professional Engineering Employees in Aerospace and the Council of Engineers and Scientists Organizations, who gave the engineering perspective on the need for Congress to support the President's space initiative. He discussed the impact of a robust NASA program that during the 1960s attracted tens of thousands of young people to seek careers

See *Space*, page 11

Space Exploration

From Space, page 10
in science and engineering.

Jeff Rainey, Business Representative for District 166 of the International Association of Machinists & Aerospace Workers, AFL-CIO, talked about the impact on local communities surrounding the Kennedy Space Center. When the Apollo program ended, thousands of skilled, high-paying jobs were lost, creating a depression in local real estate. When asked how he would justify the cost of a Moon Mars Initiative, Rainey told the Commissioners that not a dime of NASA's budget was spent in space. It was all spent right here on Earth, a comment which demonstrated the economic importance of NASA programs. Commissioner **Carly Fiorina** said that his comment would be a major statement coming from the Commission.

Coalition members also testified before the Commission in San Francisco. **Reecie Giesecke**, President of UAW Aerospace Workers Local 848 in Grand Prairie, Texas and Vice President of the



Photo from NASA/Bill Ingalls

Jeff Rainey, IAM Business Representative for District 166 tells Commissioners in Atlanta about the impact that the end of the Apollo program had on the communities around the Kennedy Space Center.



Photo from NASA/Bill Ingalls

(From left) **Jeff Rainey**, Business Rep District Lodge 166 IAM-AW, **Michael P. Balzano**, Executive Director, National Industrial Base Workforce Coalition, and **Charles H. Bofferding**, Executive Director, Council of Engineers and Scientists Organizations pose with Commission Chairman **Edward C. (Pete) Aldridge Jr.** after testifying before the Atlanta hearing.

Texas AFL-CIO, gave the Commissioners an example of the technical consequences of the rapidly eroding skill base in NASA programs. He told the Commissioners about what happened after the unexpected loss of one of the shuttles. There was a need to replace the tiles that enable the shuttle to reenter the Earth's atmosphere. Since the contractor producing the tiles had long stopped production, there were only two retired workers who could be found who were familiar with the technology to reconstruct the tiles, without which the shuttle could not fly.

David Goodreau, Chairman & Co-Founder Small Manufacturers Association of California, testified to the need for greater participation by the education community in preparing the next generation of workers that will construct the next generation of space vehicles and technologies. Goodreau told the Commissioners that the nation is not paying attention to the loss of small machine shops that make up the supplier base. He pointed to the need to increase training at the high school level to provide careers in manufacturing. He noted that at the very time the Commis-

sion was meeting, the president of the San Francisco State University was proposing the elimination of the State University School of Engineering.

In his testimony before the Commissioners, Goodreau argued that contemporary education has created a culture that has systematically eliminated vocational programs designed to develop student awareness of mechanical skills and the career value of these skills. He said that the SFSU president has not had exposure to the strategic value of manufacturing careers. He told the Commissioners that in his view any attempt to pursue a renewed vision of discovery will be futile unless we address the crisis in America's manufacturing infrastructure and the culture bias that discriminates against those individuals with mechanical traits. "We must stop dismantling the infrastructure that gives America an edge in the global economy and reaffirm our pride in the blue collar worker and the career ladders that lead to higher education and greater opportunities," Goodreau said. He noted that manufacturing science and technology educational programs were once called

See Space, page 12

Space Exploration



Photo from NASA/Bill Ingalls

Dean Zvorak, President of UAW Local 887 at the San Francisco space hearing traces the fall of jobs in his local from 70,000 to 1,200 following the end of the Apollo program.

From Space, page 11

the “industrial arts,” which most schools have eliminated from their curriculum. This has eliminated a possible career path for high school students who do not choose to go on to college.

Dean Zvorak, President of UAW Local 887 representing workers at Rockwell’s Space Division with facilities in Downey, Seal Beach, Long Beach, and Palmdale, California, echoed statements made by Jeff Rainey concerning the economic devastation that followed the loss of major NASA programs. He told the Commissioners, “During Apollo, our union local had over 70,000 members with 30,000 members working directly on the program. Now our union is down to 1,200 members, and the Downey facility was closed in the early 1990s. Closed facilities and laid off aerospace workers are representative of what has happened to our nation’s space programs.”

The Commission’s Report

Commission members delivered their report to the President on June 16, 2004. They made recommendations

under four principle headings: Organizing the U. S. Government for Success; Building a Robust Space Industry; Exploration and Science Agenda and Inspiring Current and Future Generations.

- **Organizing the U.S. Government for Success:** Noting that NASA is structured around an Apollo-era initiative, the Commission recommended restructuring and reorganizing NASA, as well as creating a permanent Space Exploration Steering Council chaired by the Vice President or a key presidential appointee. The task of the Council would be to “develop policies and coordinate work by [all U.S. government] agencies to share technologies, facilities and talent with NASA to support the national space exploration vision.”

- **Building a Robust Space Industry:** The Commission advocates the creation of a space industry comprised of many diverse, competitive interests, not necessarily tied to government contracts. They recommend a cultural shift toward encouraging private sector activity.

- **Exploration and Science Agenda:** The Commission recom-

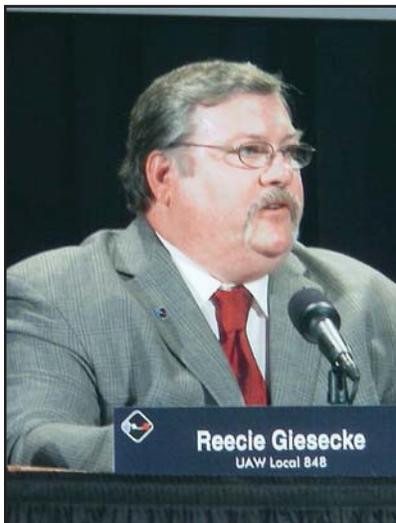


Photo from NASA/Bill Ingalls

Reecie Giesecke, President of UAW Local 848 speaking to the space Commissioners in San Francisco about the impact of skilled workers being retired and the loss of expertise.



Photo from NASA/Bill Ingalls

David Goodreau tells Moon Mars Commissioners in San Francisco that there is a need for the nation to focus on reinvigorating the industrial arts programs in the high schools and at the community college level.

mended that the scientific community be included in constantly evaluating the progress of the vision, implementation of the resulting technologies, and a discovery-based process by which destinations beyond the initial vision will be considered.

- **Inspiring Current and Future Generations:** The inspiration and education of current and future generations to support and inherit the overall Space Initiative and the President’s vision was at the center of the Commission’s final recommendations.

During the Commission’s deliberations, they highlighted the importance of the role that private industry will play in achieving the President’s vision. It will be necessary to see the effort as a national endeavor instead of just a NASA-oriented goal. “If we don’t do it, someone will,” said Commissioner Carleton Fiorina. “We’re not exactly living in Sputnik...but someone will figure out how to send someone into space and commercialize it.” She added that it is important that the U.S. protect its role as an economic and technology leader in the world. ❖

Op Ed

Save Our Skills

by David Goodreau

I remember it like yesterday, watching the “Save the Music” special on VH1 in 1997. Promoters said it would be the Concert of the Century! It was compelling to watch artists like Garth Brooks, Bruce Springsteen and Cheryl Crow pledge their support to keep kids away from drugs and gangs. Even the President came to say he was a better person for having had a music class. This concert was clear proof that bringing together the media with musical artists focused attention to specific causes resulting in a powerful change of public perception and funding priorities. These highly visible social events have captured our attention, while increasing awareness and funds for global causes. Unfortunately, some social causes don’t have the benefit of emotional media productions and celebrities to fuel public perception and donations.

One such social cause that gets little attention or funding is the Industrial Arts programs in our public schools. Compared to music classes, the funding of Industrial Arts is a subject that most community leaders and school administrators would rather you don’t know about! The future of America’s industrial infrastructure and the lives of thousands of young people are being sacrificed at the budgetary altar of “College at any Cost.” High school administrators are being pressured and measured on their college transfer rates as the accomplishment of success rather than by the per-

centage of students transferring to college and those Industrial Arts students who have moved on to meaningful employment within their communities. Tragically, many states do not even consider industrial technology classes as equal to those in musical arts as college acceptance criteria.

One could argue that a nation could measure the health of various economic sectors by the vitality of its educational institutions. If so, the heart and soul of the industrial technical infrastructure would be credentialed teachers. In 1993, Dr. Kenneth Volk stated in the Journal of Technology Education that

At this school within a school, the dropout rate of Academy students was less than 10 percent compared to the 50 percent for the other students at the same school.

“With the continued decline in technology educators being prepared and the changing emphasis in program options, the very survival of the profession is at stake.” One example is California, an industrial powerhouse, where only two of seven universities offer teaching credentials. In a state with over 50,000 manufacturing jobs, those two remaining schools graduated only 15 industrial technology teachers in 2003.

“Save the Music” highlighted inner-city students saved by a clarinet and a caring music teacher. Similarly, I’ve witnessed the power of a Machine Tool Academy where

“at-risk” young people received a curriculum that integrates history, math, English and science into the industrial arts program. At this school within a school, the dropout rate of Academy students was less than 10 percent compared to the 50 percent for the other students at the same school. One student consistently skipped his classes yet climbed the fence in the afternoon to get to his metal class. Magic happens when students connect to the learning experience through their participation in an Industrial Arts program. Unfortunately, those who value mechanical skills must continually fight cultural ignorance.

Yet statistics highlight the fact that high-risk students are eight to ten times less likely to drop out in the 11th and 12th grades if they enroll in a career/technical program rather than a general program. In fact, a survey of effective school programs to reduce dropouts found they commonly used a jobs and career focus, using courses that led directly to jobs and including internships and apprenticeships. America’s fading industrial arts programs need a hero to trumpet these statistics and focus attention on the need for renewed focus on our country’s industrial arts programs.

The *Tonight Show*’s host Jay Leno was right on the money in his 2001 Popular Mechanics article *Calling all Machinists* when he said, “I like the idea of making the job of a mechanic a respectable

See Skills, page 14

Op Ed

From Skills, page 13

position. In my mind, I rank a machinist higher than a computer operator. But I think in America's mind, a machinist is like a Jiffy Lube guy—nothing against Jiffy Lube, but these are guys who have only the most basic automotive skills. The machinist's craft just isn't acknowledged, probably because it's hard, meticulous, often dirty work. People don't understand it."

All of us who work in industry know it is exhausting to consistently battle the cultural and bureaucratic barriers that seem to work in unison to close industrial arts programs in our high schools. Music classes have but one enemy — money. Industrial Arts programs are plagued with cultural perceptions of blacksmith occupations, low wages, dirty sweatshops, pollution, and costly equipment. Supporters have even reinvented the "Industrial Arts" name to "Industrial Technology" in an attempt to improve public perception.

No matter what you call this educational cluster, the "hands on" application and development of mechanical skills is still a needed, fundamental part of our American culture that has been around for a number of years.

Jay Leno made another significant observation: "...*Somebody literally made all the airplanes, the fighters, bombers and transports we used in World War II. We didn't win the war just because we were great fighters—not to demean anybody who fought—but we also won because we had the ability to overwhelm the enemy in terms of skilled production and technology. Think*

about Henry Ford and his chief engineer, Charlie Sorensen, figuring out how to build four-engine B-24 Liberator bombers on a mile-long assembly line in an enormous building at Willow Run, Michigan. In California, before these East Coast guys got into the picture, they built aircraft painstakingly one at a time outside in the sun. But under the pressure of a world conflict, a couple of mechanical geniuses figured out a better way. Back then, we had plenty of people with the necessary skills: Kids learned machining and welding in high school, then they worked as apprentices."

Mechanical skills are core to the American Culture and its economy, but due to current pub-

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lic policies and academic mandates we are denying young adults the opportunity to explore their innate gifts and development of intellect. As medical technology evolves, we learn that the connection between the hand and the brain is essential to human development. Here, music and industrial arts are united in the development of intellect.

Denying students equal access to the tools that unlock their minds to learning beyond musical arts may have ramifications beyond poor graduation rates. The slow dismantling of these vital educa-

tional tools has been thirty years in the making. The result is that our schools have lost core competencies within the industrial arts curriculum.

Like a music class, mechanical skill development programs change lives, yet there is passionate opposition against supporting and funding these programs. Stakeholders must take a lesson from those who have succeeded in using the media to educate their peers and the community at large. Even the worst critic can't argue with a job and individual success. Our ability to succeed at meeting customer expectations on price, quality, delivery and convenience is directly related to America's competitive-

ness in the global market. Without an education in industrial arts as well as other rigorous academic curricula, millions of our sons and daughters will be ill prepared for the realities of finding a job in America.

Without delay, industry leaders must reach out and join with the academic community to find solutions to the decline of mechanical skills. In this media age, we need our own stars to communicate the united vision that in America we value our craftsmen and women. Who will be our Willie Nelson and help prepare our youth by spreading that message? We have a great stake in the future of all our young people — even those who wear a "blue collar."

David Goodreau is Chairman of the Small Manufacturers Association of California and President of the Quantum Manufacturing Group. ❖

Member Spotlight

Defining Tomorrow's Manufacturing Supply Chain



David Goodreau

The *National Industrial Base Workforce Coalition* is proud to honor **David Goodreau**, Chairman and co-founder of the *Small Manufacturers Association of California*.

David Goodreau has been involved with the *National Industrial Base Workforce Coalition* since its inception. His interest in declining manufacturing jobs goes back twenty years. In the 1997 issue of the *Coalition Chronicle*, there is a feature piece entitled "Supplier Conference Seeks Solutions to Aerospace Job Loss." Goodreau called together unions, corporate executives, and state and local elected officials to discuss California's eroding manufacturing base. A featured speaker at the conference was then-Governor Pete Wilson.

In 1981, David began *Goodreau Machine Works*, to machine components for second and third tier manufacturing companies. Two years later, he bought into the family-owned machine shop, *Newman Machine Works*, and assumed the position of General Manager in 1986. In 1999, he incorporated the firm as *Quantum Manufacturing, Inc.*

As President of Quantum,

David led the company through the industry-wide downsizing while implementing technology upgrades and product diversification necessary to compete in the evolving marketplace. Goodreau resigned from Quantum in November 2000 however he continues to serve as a director and stockholder. In 2003, David established the *Quantum Manufacturing Group* to address import and export needs of manufacturers.

As the Chairman and co-founder of the Small Manufacturers Association of California, David assists in the daily direction of this state-wide organization of 1,000 companies dedicated to uniting the small and mid-sized manufacturers to improve their business environment. An important issue David and many manufacturers of all sizes around the country are facing is where they will find the next generation of workers educated to run the computerized equipment on the shop floors. David has often declared, "One of the greatest challenges manufacturers face is for business and labor to unite in changing how the government and public perceive manufacturing careers." He said that at a time when the global marketplace has changed so dramatically, small manufacturers and labor are brothers as they fight to define the future and compete in the global marketplace.

David's and the SMA's participation within the *National Industrial Base Workforce Coalition* is a model for the kind of collaboration that he believes needs to take place if the United States is going to retain a strong manufacturing economy with sustainable jobs for American workers.

Through the SMA and SMI, David has played a leading role in

developing regional economic development, educational and manufacturing programs or policies in California. Currently, David is working with the SMA and the Small Manufacturers Institute to further develop economic development strategies that benefit manufacturers and their trade associations. In addition, David has held many leadership positions, which include:

- Director, past Chairman and co-founder of the *Small Manufacturers Institute (SMI)*
- Director, the *San Fernando Valley Economic Development Center*
- Executive Committee and co-founder of the *Economic Alliance of the San Fernando Valley*
- Leadership Board, *United L.A.*
- Board Member of the *Los Angeles City Workforce Investment Board & Youth Council*
- Member of *California Workforce Investment Board's Small Business Subcommittee*
- Executive Board Member, *Community Colleges Economic Development Network*
- Past President and Trustee, *San Fernando Valley Chapter of the national Tooling & Machining Association*
- Past Director, *Foundation for the Advancement of Manufacturing Education*
- Past Trustee, *Los Angeles Education Restructure Now (Learn)*
- 1994 Man of the Year in Manufacturing, *Los Angeles Business Journal*

David and his wife Conny reside in Glendale, California. They have three children, Travis (20), Lindsey (17) and Kristen (14). ❖



The members of the *National Industrial Base Workforce Coalition* salute the men and women in our Armed Forces who keep our country safe. We appreciate the many sacrifices they and their families have made and thank them for their service to preserve the freedoms we enjoy.



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