Fleet Readiness Center Southeast
Targeting, Surveillance and RADAR Systems Program
Naval Air Station, Jacksonville, Florida

Introduction

Fleet Readiness Center Southeast (FRCSE) provides depot-level maintenance for multiple weapon systems, delivering cost-wise combat-ready products to the Warfighter. One of these products is the AN/AAS-44(V) Forward Looking Infra-Red (FLIR) System flown on the H-60 Helicopter. The Targeting, Surveillance and RADAR Systems (TSRS) production shop began its Lean journey in 2004 by taking advantage of a Greenfield opportunity and implementing a cellular production line using Lean single-piece flow methodology. The results have been significant reductions in cost and cycle time while maintaining a high degree of quality; thus enabling the TSRS shop to provide true cost-wise readiness to the Warfighter.

Company Profile

FRCSE is located in northeast Florida along the banks of the St. Johns River and is an organic manufacturing and repair facility, responsible for providing depot-level maintenance support for multiple critical weapon systems for United States Navy, Marine Corps, and Air Force. These weapon systems include the following aircraft: F/A-18 Hornet, EA-6B Prowler, P-3 Orion, and H-60 Seahawk; and engines: J52, F404, F414, T56, T700, and TF34. Since its inception in 1940, FRCSE has played an important role in national defense and remains a critical component of the Overseas Contingency Operations. FRCSE occupies 70 buildings on 127 acres and is home to more than 4,000 civilian, military, and contract employees, all working together to provide superior cost-wise readiness to our nation's Warfighters.

Product

The TSRS production shop of the Industrial Unique Programs Strategic Business Team (SBT) at FRCSE performs maintenance, repair, and overhaul on the AN/AAS-44(V) FLIR system. The FLIR system is a passive method of determining bearing, course, and speed of a target by viewing the scene as an infrared image, regardless of weather conditions. This capability is used to perform a variety of flight missions including: night navigation, target detection and recognition, search and rescue, avoidance of hazards, long-range identification (terrain/object), and surveillance. The AN/AAS-44(V) FLIR is comprised of three Weapons Replaceable Assemblies (WRAs): the Turret Unit, which houses the infrared receiver assembly; the Electronic Unit, which is the controller of the system; and the Hand Control Unit (HCU), which is the joy-stick the aircrew uses to select the target. The AN/AAS-44(V) FLIR increases situational awareness, enhances aircraft survivability, and provides a threat suppression capability for the H-60 Helicopter. This system allows day and night targeting for missile tracking of designated hostile targets.

Title 10 U.S. Code requires the government to maintain depot capability on Navy Core weapons systems. Performance Based Logistics (PBLs) are a solution to balance current readiness with future readiness through a government-industry partnership providing integrated logistics support to the Warfighter at a reduced cost. PBLs unite the innovation and responsiveness of industry with the expertise, capability, and capacity of the government to achieve cost-wise readiness.

FRCSE is leading the way in PBLs with the goal of providing increased readiness at reduced cost. For this submission FRCSE is in such a partnership with Raytheon Corporation to support Warfighter needs with the AN/AAS-44(V) FLIR program for the H-60 weapons platform.

Process

FRCSE utilizes the Navy-wide sponsored AIR*Speed* Program as its main tenet for Continuous Process Improvement (CPI). Utilizing Lean and Six Sigma as well as Theory of Constraints, the command has invested its future in a rigorously structured academic development and deployment of employee-driven change agents charged with driving continuous improvement throughout the center.

This umbrella of CPI has been the cornerstone management approach for the Industrial Unique Programs SBT and its TSRS production shop for well over five years. During this timeframe, the TSRS production shop has achieved significant improvements in its major performance measurements to include cycle time reduction and increased production quality, while at the same time reducing cost of doing business through both workload standards reduction and budgeted hourly rate reductions.

An underlying goal of this approach is to ensure the TSRS shop has proper alignment with the strategic vision and goals of the FRCSE organization. Every organizational level within the SBT has a specific performance and measurement plan. This approach

allows for the seamless integration of the Lean strategy at every level. The plan at each level has the following characteristics in common: organizational alignment, definitive performance goals, and the use of Lean principles to pursue process improvements and to measure performance.

People
The TSRS shop of the Industrial Unique Programs SBT is comprised of 61 artisans, support personnel, and industry (Raytheon) partners. The commitment of the TSRS shop to Lean and CPI is evidenced by the collaborative teamwork within the production shop, the support competencies, and the industry partner. This approach consists of key representatives at the shop level performing weekly Wildly Important Goals (WIGs) sessions to gather commitments from each member to perform tasks that will help the team improve on the goal of delivery to schedule and at reduced cost. Many of these opportunities for improvement are determined from the SBT driven Operational Maturity process and the projects or "just-do-its" that result from the assessments. This same team construct happens at the weekly Level 1 SBT WIG session where barriers identified at the shop level get elevated to more senior representatives for resolution along with any SBT related opportunities for improvement. This multi-tier approach ensures alignment of FRCSE command goals not only within the SBT but within each shop of the SBT as well. To help achieve this and to ensure goal alignment, all members of the TSRS shop have been trained in Lean basic with some receiving more advanced AIR*Speed* training. Additionally, all members of the team have received training on The Four Disciplines of Execution™ through Franklin-Covey.

Achievements
The TSRS shop began its PBL partnership in 2004 and since then has accomplished many significant, measurable improvements. Lean principles and an environment of CPI have become a way of life for the TSRS shop which is committed to employing these tools as it continues to pursue the goal of providing cost-wise readiness to its customers, as well as achieving corporate visions and goals.

Accomplishments
- Reduced repair Hours Per Unit (HPU) by 20%
- Increased availability from 41% to 100%
- Increased Mean Time Between Unscheduled Removal (MTBUR) by 50%
- Reduced repairs by 20%
- Received Raytheon Six Sigma (R6S) PBL Award
- Received Secretary of Defense PBL Award
- Achieved 100% Defect Free Score

Productivity
The success of this PBL partnership is evidenced by the most recent achievement of delivering the 1,000th consecutive depot level WRA on time to the Warfighter. This achievement is significant in that the AN/AAS-44(V) mission system is currently operating in a high operational tempo environment specifically in the Middle Eastern Theatre and the availability of spare assets to support mission requirements is essential.

Quality
The TSRS shop places a heavy emphasis on quality of work to ensure no sacrifices to quality are accepted in the process of reducing cost and cycle time. This focus on quality is evidenced by the 100% first time yield (internal) of products produced and zero accepted Quality Deficiency Reports (external) from fleet activities. FRCSE is ISO 9001:2000, AS9100:2004 Rev. B, and ISO 14001:2004 certified.

Cost
Reduction of costs and adding value for the customer is an essential element of the TSRS goal set. During the performance of the PBL, depot production maintenance costs have been reduced by 20% while fleet MTBUR has increased by 50%.

Safety
Providing the workforce with a safe environment in which to work is of the utmost priority. Safety training, constantly provided to all employees, is reinforced vigorously by leadership and is included in our strategic planning as a measurable goal. The TSRS leadership ensures all artisans as well as support personnel have the latest in personal safety protection. In the past several years, FRCSE has been one of the most recognized centers of safety excellence within the Navy. Safety mishaps within the TSRS shop have been zero.

Customer Satisfaction
As part of the PBL partnership with Raytheon Corporation, FRCSE receives periodic Net Promoter Scores (NPS). This scoring is a compilation of key measurements including cost, quality, turn-around-time, financial billing, and communication. FRCSE has consistently received a NPS score of 9 or better (valued provider), indicating a provider of choice for Raytheon.

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