



## Increasing F/A-18 cockpit displays availability to 99 percent despite 20 percent budget cut

**Problem:** A 20 percent funding cut in the United States Navy's F/A-18 Displays Performance-Based Logistics (PBL) program challenged the program leadership team to maintain operational efficiency without affecting customer requirements.

Navy fighter pilots on F/A-18 aircraft routinely must find ways to perform at the highest level, no matter what the mission environment. Rockwell Collins' head-up and head-down cockpit displays help them do just that, by enabling flight and mission information that gives the pilots better situational awareness throughout each flight.

Rockwell Collins also supports these F/A-18 displays throughout their life cycle. This Rockwell Collins PBL program has become one of the company's largest.

The program, started in 2003, creates long-term value for the F/A-18 platform. Through the PBL program, display equipment has greater availability, with managed obsolescence and enhanced long-term sustainability through reliability improvements.

The Rockwell Collins products covered under the program are not only warehoused at the Rockwell Collins Service Center, but also at two depot-level repair facilities at Navy Fleet Readiness centers. Additionally, the program supports multiple intermediate-level repair sites worldwide. Performance is measured through supply response time, which is aligned with warfighter operational availability requirements.

In 2014, funding for the program was cut by 20 percent, based on the assumption of fleet size reductions and improvements in operational efficiency. The combined Rockwell Collins and U.S. government leadership team was faced with the complexity of maintaining operational efficiency while meeting all customer requirements. This was further complicated as the life expectancy of the F/A-18 fleet was extended – leaving no viable option to reduce performance scope.

**Solution:** Rockwell Collins took on this challenge by looking for new ways to increase efficiency across the wide range of operational areas within the F/A-18 Displays PBL program. It began by monitoring four key metrics. These are:

1. Requisition fill data – Every month, the team monitors requisitions and fill rates of the PBL assets. This monitoring allows Rockwell Collins to effectively coordinate work share with depot partners at the Navy's Fleet Readiness Center – Southwest (FRC-SW) and Fleet Readiness Center – Southeast (FRC-SE).
2. No Fault Found (NFF) rates – NFF monitoring enables the program to effectively redeploy Rockwell Collins field service engineers to improve operations, working with the Navy maintenance team. These field service engineers use the NFF data as a means for identifying training opportunities at the various intermediate-level maintenance sites.
3. Repeat returns – These are products returned from the fleet within six months of the last repair. Repeat return data is reviewed biweekly. Monitoring of repeat returns allows Rockwell Collins to find any potential recurring issue in the performance or quality of its products and head off concerns at the earliest and lowest levels.

Since inception of this metric, NFF rates have declined in each reporting period.

Since implementation of this metric, quality trends have consistently improved at all three repair facilities.

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4. Reliability reporting – Reliability data is evaluated semi-annually to trend failure modes in the reliability of Rockwell Collins products. This information is used to evaluate and head off any areas of concern. Additionally, the data helps determine how to allocate funds to infuse product improvements.

**Supply chain:** The Rockwell Collins F/A-18 Displays PBL team continuously seeks opportunities to enhance affordability. In one instance, the program’s proactive approach and forward logistics thinking led the team to partner with the production line in order to reduce the material cost of a glass filter element by 50 percent per item.

**Cycle time and efficiencies:** Due to the commercial off-the-shelf (COTS) nature of many components, the leadership team was forced to challenge standard processes and seek a more strategic and proactive method of monitoring obsolescence.

After a thorough analysis, the leadership team decided the best course of action was to staff a full-time obsolescence team dedicated to the F/A-18 Displays PBL program. Rockwell Collins was able to quickly model the efficiency improvements and expedite cost reduction with a dedicated team.

Key obsolescence statistics for the F/A-18 PBL program are:

- Over 10,000 parts are analyzed on an annual basis
- Since 2014, Rockwell Collins has identified 725 obsolete or predicted obsolete parts for the F/A-18 program. Of those, 641 parts have been resolved. The remaining parts are in the redesign process and have been prioritized based on the potential impact to fleet readiness.

**Results:** The value of the PBL program was fully validated in a case study published in The Naval Aviation Enterprise Air Plan.

According to the case study, “Supply material availability prior to the contract award was 46 percent and there were 583 backorders. Since 2005, backorders have been reduced to zero and material availability has exceeded 99 percent for both high- and low-priority requirements. The Rockwell Collins/Navy team has accomplished these significant improvements through a variety of means, including significant corporate investment of material and engineering resources, as well as providing comprehensive training at the organizational maintenance and intermediate maintenance levels.” (The Naval Aviation Enterprise Air Plan, June 2014, Vol. 37, page 1.)

The combined Rockwell Collins and government PBL team found a way to adapt to the needs of the warfighter. The team has exceeded performance expectations while maintaining a commitment to stakeholders through a series of calculated cost reductions. For Rockwell Collins, this all served to further strengthen its core relationship with government customers.

## PBL improvements at a glance

- *Supply material availability\**: 99 percent
- *Back orders\**: zero (down from 583)
- *No Fault Found rates: declined in each reporting period*
- *Quality trends: improved at all three repair facilities*
- *Navy F/A-18 fleet’s valid display repeat returns: 1 percent*
- *Incidence of damaged combiner glass in head-up displays: reduced by 38 percent*
- *Fleet improvement from collaboration: 26 percent cost reduction*

\*Source: The Naval Aviation Enterprise Air Plan, June 2014, Vol. 37

The future of PBL programs requires the removal of barriers, complete team engagement and setting common goals. The U.S. Navy and the Rockwell Collins F/A-18 Displays PBL Team fully embodies this collaborative culture.

The effort and initiative led to the F/A-18 Displays PBL being recognized as a Department of Defense PBL award winner in 2006. Rockwell Collins remains vigilant in its quest to deliver the best PBL service in the industry.

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