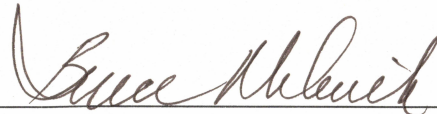


# Andy Petro Team Award for Outstanding Accomplishment

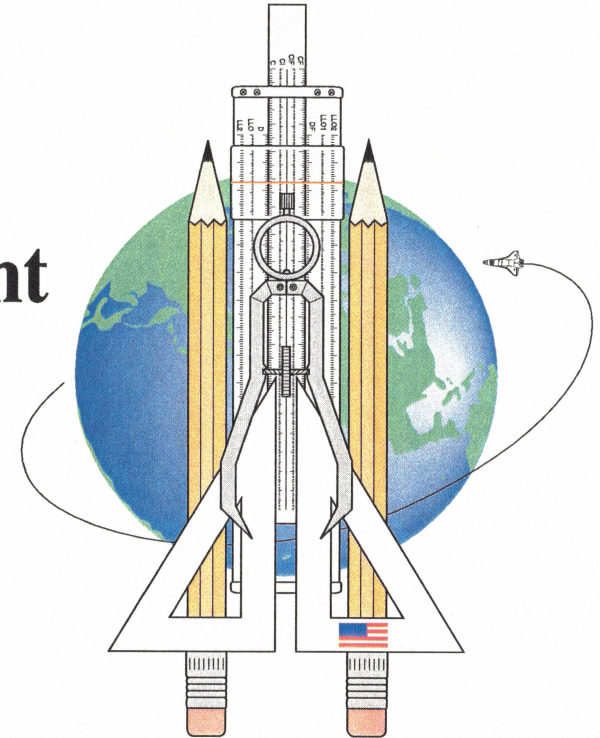
*Presented to*

*Ken Hollis*

*In recognition of your outstanding performance in the STS-69 MPS 750 PSI Regulator removal and replacement. Your efforts preserved the opportunity to attempt the launch of Endeavour on August 31, 1995.*



Bruce E. Melnick  
Vice President/Director



**Lockheed Martin Space Operations**

**TO :** SPC AWARDS BOARD

**FROM :** J.M. STERRITT

**DATE :** Oct. 12, 1995

**SUBJECT :** ANDY PETRO TEAM AWARD FOR OUTSTANDING ACCOMPLISHMENT

On 8/29, during the STS-69 Launch countdown; the MPS 750 PSI regulator failed as the system was being activated for MPS final preps. These preps are performed after the Orbiter aft fuselage is closed out for flight, about 48 hours prior to launch. The failure occurred on second shift with limited support available to help resolve the proper course of action. Mike Palmer quickly identified the problem as real as opposed to instrumentation and made the right contacts, both on and off site, to put the resolution of the problem in motion. He recognized the seriousness of the problem and its potential impact to the launch, which was scheduled for the morning of 8/31, only two days away. Initially, the decision was made to proceed ahead as though an aft entry would be made to replace and retest the failed reg, while in parallel, troubleshooting would continue to determine if the reg could possibly support the STS-69 mission. Mike could not support both the troubleshooting effort and the removal and replacement effort, so Chip Galliano, the other MPS second shift eng'r jumped on board and began to coordinate the reg change out. Normally, changing out an MPS reg is a somewhat complex operation as it takes a good task team leader to coordinate the vehicle system safing, assure the proper parts are available and clean, establish access for the Tech. and quality required, research the OMRS to insure all retest req. are met, etc. This is done slowly and meticulously, then thoroughly checked by a second set of eyes before the paper is even presented to the customer. A failed component is normally not replaced for at least 24 to 48 hours after the failure as it takes that long for the coordination and the checks and balances to be performed. The team in place on the night of 8/31 had to perform to this same standard of excellence but in a very short time. This is when the capability for close team work, and the dedication to the safe performance of a critical task is absolutely essential. As Mike completed the troubleshooting, outlined through calls from the Chief Engineer, RI LSS, and RI DWNV, Chip had the removal and replacement task in high gear. With about 2 hours left in second shift, the troubleshooting determined that the reg would indeed have to be changed. MPS had only one third shift person scheduled to support the launch so the MPS assistant lead engineer for Endeavour, Glenn Johnson, came in to make up the second half of the third shift team along with Ken Hollis.

With the paper in good shape and the hardware staged, Ken and Glenn took over. Access to the aft was established with a minimum of intrusive work. Ken stayed with the job at the pad while Glenn handled the Firing Room. Working as a team, Glenn was able to initiate retest as soon as Ken gave the go that the new reg was installed. Then as Glenn completed the retest, Ken completed the assessment of the removed hardware and helped coordinate the reclosure of the aft. The MPS lead for OV-105, Frank Travassos was on site mid-third. As Ken and Glenn coordinated completion and closure of the reg paper, Frank started to write the paper to re-perform the aft confidence tests required to properly verify Propulsion system integrity when the Aft fuselage was once again closed out for flight. By noon on the 30th of Aug. the failed MPS reg had been changed out and retested and the Aft was in the process of being closed out. Glenn and Frank then turned over the completion of the task to John Frazer. John, as the final main member of this team, completed the MPS post close out reverification effort. In less than 24 hours this team had properly identified a serious hardware failure, completed special testing to confirm the need to reenter the closed Aft fuselage, led the reg change out and retest effort, and reverified system integrity post closeout. This was accomplished without error. These engineers demonstrated the ability to perform as a coordinated team with the confidence in each other to take a hand off and run with it. The smooth transition through the different phases of the jobs and across shifts resulted in no one person having to remain on site to see the job through, eliminating the need for excessive overtime and shift exceedance waivers.

To complete this task safely, with no errors and within the time allotted a maximum emphasis had to be placed on all aspects of operational engineering. The paper had to be near perfect the first time through, good communication with the customer and management had to be maintained, the release of paper and information had to support the most efficient execution of the waterfall of events. This team has praised the support it received from logistics, shop and the on site engineering management who were involved with this operation. The best support though, will not accomplish a task such as this if the task team leadership cannot close the loop. This team's performance will gauge what can be accomplished when the right combination of people are committed to "Here's how we can, not why we can't". The methods of coordination and staged paper release that allowed this job to operate smoothly as many parallel operations has been used before in MPS, but the refinements that resulted from this operation will improve the process for the next "time critical" hardware removal and replacement.

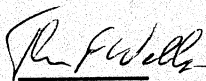
The nominees for this award all have served with distinction in the MPS group for many years. Mike Palmer and Chip Galliano make up the permanent MPS second shift team, Ken Hollis the sole Third shift engineer. The second shift team used to be comprised of five engineers. Four working Orbiter MPS and one working MPS GSE. Due to layoffs and attrition, this team has been reduced to just the two individuals. Their ability to constantly switch from orbiter to orbiter and OPF to VAB or Pad takes consistent superior effort to stay on top of the varying system configurations, GSE and

operations. Ken has always been our only permanent third shift MPS engineer. As the group got smaller it became harder to shift an SSME eng'r to third when engine testing on that shift required standboarded support. In order to learn more about the Integrated Propulsion system and to better serve his group, Ken took it upon himself to crosstrain in the SSME group. Ken is now dual standboarded in both MPS and SSME. This allows him to cover all testing on third shift easing the requirement to shift a person over to support a one or two day test.

Frank Travassos is the Lead engineer for OV-105 MPS and Glenn Johnson is the Assistant 105 lead. John Frazer is the assistant lead for OV-102. The dedication these engineers displayed during the execution of this operation is a good example of the sustained superior performance these individuals have become known for and is one of the reasons they hold leadership positions in the MPS group.

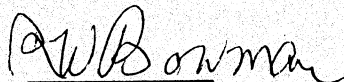
The ability of a group of engineers to form a close-knit fully functioning team able to see a complex task through to completion in the absolute minimum of time with no error, and to perform this operation under the full scrutiny of the launch team on the day before launch, preserved the opportunity to attempt the launch of Endeavour on Aug.31st, 1995. In recognition of the completion of this task, the following personnel are recommended for the Andy Petro Team Award for Outstanding Accomplishment :

Mike Palmer  
Chip Galliano  
Ken Hollis  
Glenn Johnson  
Frank Travassos  
John Frazer



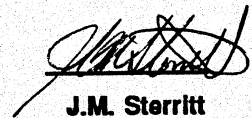
**T.F. Wells**

Supervisor, LMSO MPS/SSME  
MPS/SSME



**R.W. Bowman**

Mg'r Dept 17-52



**J.M. Sterritt**

Group Supervisor, LMSO

**Lockheed Martin Space Operations**  
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Ken Hollis  
MPS Engineer  
DEPT. 17-52  
Lockheed Martin Space Operations

**SUBJECT: Andy Petro Team Award For Outstanding Accomplishment**

Dear Ken,

In recognition for your outstanding performance in support of America's Manned Space Flight Program, it is my pleasure to present to you the Andy Petro Team Award for Outstanding Accomplishment.

The dedication and initiative that you demonstrated while working on the STS-69 750 PSI Regulator Changeout during the final stages of S0007 countdown preserved the countdown attempt. Your system expertise and teamwork were exemplary.

You are a valuable member of Shuttle Engineering, the LMSO Team and the Space Shuttle Program. I would like to take this opportunity to express to you my appreciation for your continued dedication and professionalism. This award is well deserved and I heartily congratulate you.

A handwritten signature in cursive script, reading "B.E. Melnick".

B.E. Melnick, Vice President/Director  
Shuttle Engineering  
Lockheed Martin Space Operations



TM-TPO

October 3, 1995

Reply to Attn of:

TO: Distribution  
FROM: TM-TPO/W. C. Dowdell  
SUBJECT: STS-69 Post Test Review Action Items

The STS-69 pad flow was eventful to say the least having dealt with hurricanes, booster repairs, and a fuel cell R&R thrown in for good measure. "Hats off" to the entire 105 team for a great job overcoming these weather and hardware problems. Special recognition is due to:

- SRB mechanical engineering, Morton Thiokol technicians, the KSC Safety community, and the MLP shop for the efforts put forth to make the booster repairs successful.
- MPS engineering and aft shop for the excellent work they performed to replace the helium reg in the aft.
- PRSD engineering and midbody shop for a great job replacing the fuel cell.

Four formal action items were assigned during the debrief and are enclosed with this letter. Please respond by 10/25/95.

Thanks.

A handwritten signature in cursive script that reads "Bill Dowdell".

William C. Dowdell