*Brewster Shaw:*

It was done in the standard way that we executed the program per 07700, which is the Bible for the Space Shuttle Program, that set of documents lays out exactly how you run out the program, who's got the responsibilities, what the requirements are for the program, how level 1, level 2, level 3 relate to each other, how the information and command flows through the program, all the requirements for doing system integration reviews and all of the PRCB that the dailies, the nooners as they're known as that kept the operations primarily in Florida flowing, and then the weekly PRCB where we made decisions about spending program money to do things like these performance enhancements and so we executed this project following the guidelines of 07700 and as we look forward into the program of Constellation and the way ESMD is setting that thing up, I highly recommend that we have an equivalent to 07700, that set of documents was created in 1973 for the Space Shuttle Program and still exists today, having been modified from time to time due to the environment and things that change, but having that Bible to go back to, to tell you how to execute the program and it talks about risk management specifically, having that to fall back on was an excellent way to manage a big, complex, high-risk program like Space Shuttle and like Constellation will be, so we followed the processes laid out in 07700 and we required of the project, the ET project that you have to have a project plan, you know, and you've got to do a systems integration review and we had periodic reviews with them on cost schedule and technical progress as we went through, we would review things, we had PRCBS on a weekly basis every Thursday and then about quarterly we would have a particular project review with each of the elements, the project elements of Shuttle, and during that time we spent a lot of that looking at the progress of super lightweight tank.

So, requirements management, baseline configuration management, are extremely important. Requirements creep is a living thing in our programs and if you don't keep it under control, it'll ruin your program. It'll eat up all the time and schedule you got. So you have to manage the requirements and requirements have to be flowed down from the top. You know, from level 1 they've got to say here's what I need. Level 2 you tell me how you're going to get it. And then, level 3, you tell me how you're going to execute it. So, requirements management, baseline configuration management, once you get a design, if you let the design creep on you and you don't have good baseline management of your configuration, you'll get into a lot of trouble. You'll lose track of that, you'll lose track of your costs, you'll lose track of your schedule and the program will go down the tubes.

*Parker Counts:*

The last count I had, we were somewhere around 60-plus independent reviews, so we didn't shy away. I think the fact that, you know, we had the earlier problems – put us in a mode of: we don't want to exclude any help we can get. So we called a lot of independent reviews on our own and then we had the normal independent reviews that NASA headquarters asked us to do, both financial and technical. And I think these reviews paid great dividends because we did not shortcut anything; we had safety and quality involved with us throughout the design and test of the program; and we ended up with a very solid weight savings and with a structurally sound tank – and I think time has proven – since we've been flying super lightweights since the mid-'98 timeframe, we've had no structural failures.