

An Air Framer's Pursuit of AC 20-135 Testing

Northrop Grumman (NGC) is a prime military aircraft contractor. Not the type of company one would expect to do applied aircraft fire research. When presented with the opportunity to create the capability to test materials for compliance to “fire resistant” or “fire-proof” requirements per the FAA’s AC 20-135, POWERPLANT INSTALLATION AND PROPULSION SYSTEM COMPONENT FIRE PROTECTION TEST METHODS, STANDARDS, AND CRITERIA, NGC took it. To execute this project, NGC Engineering turned to one of our more obscure test facilities at our Space Park Center of Excellence, “Area 67”. Once funding was secured, the team laid out a plan. With all of the readily accessible information on aircraft fire testing, including material from the FAA’s Next Generation Burner accumulated from the FAA’s Triennial International Fire & Cabin Safety Research Conference in hand, the team set off to work. This paper will describe the efforts and “adventures” that took Northrop Grumman from no fire test capability to operating a facility that would rival any specialty test house in the country. We offer this and our lessons learned so that anyone attempting to follow in our footsteps can avoid the hidden pitfalls (we managed to hit most of them) in setting up your test facility and join us in working to design aircraft fire protection systems that allow all of our military flight crews to make it home after every mission.