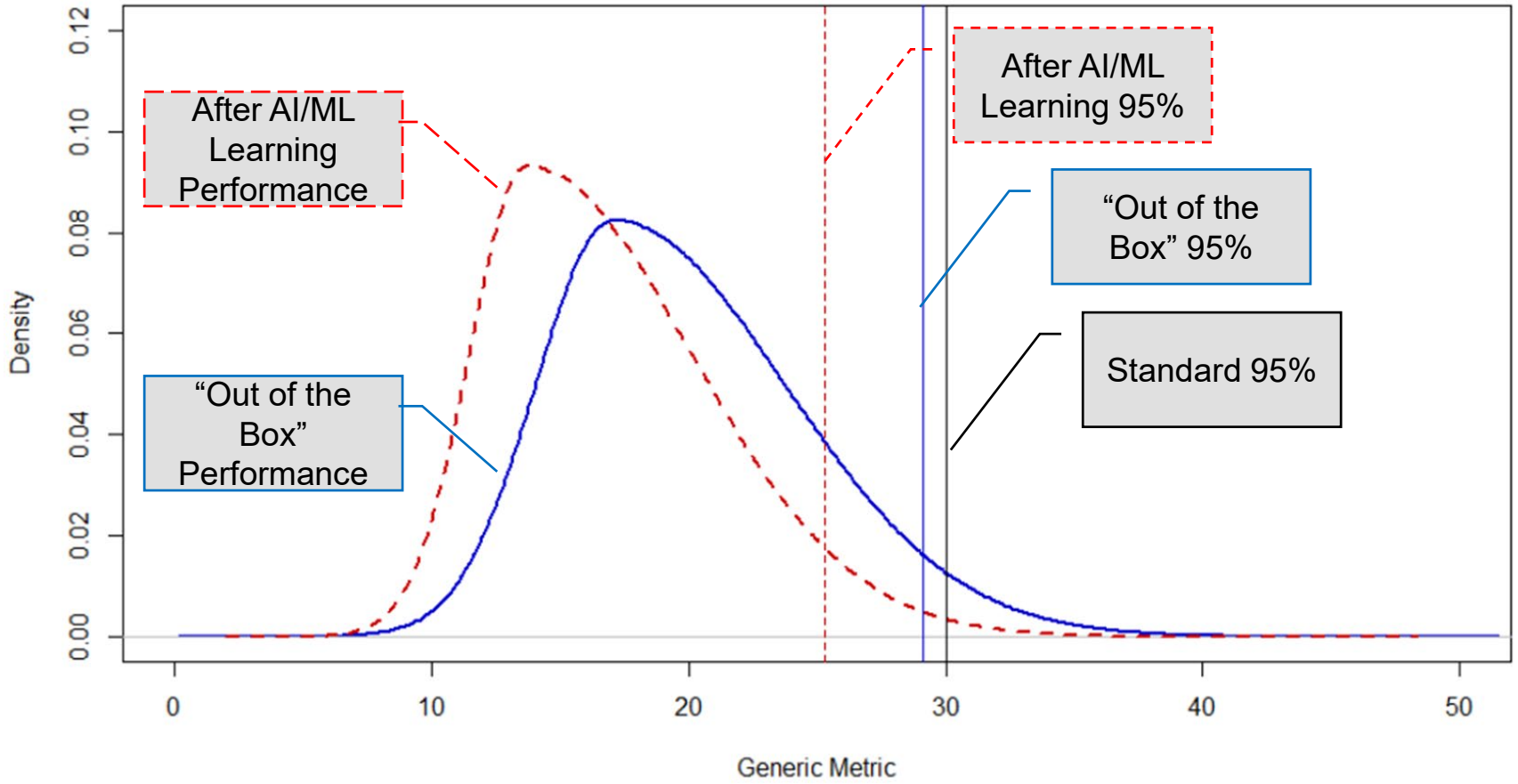
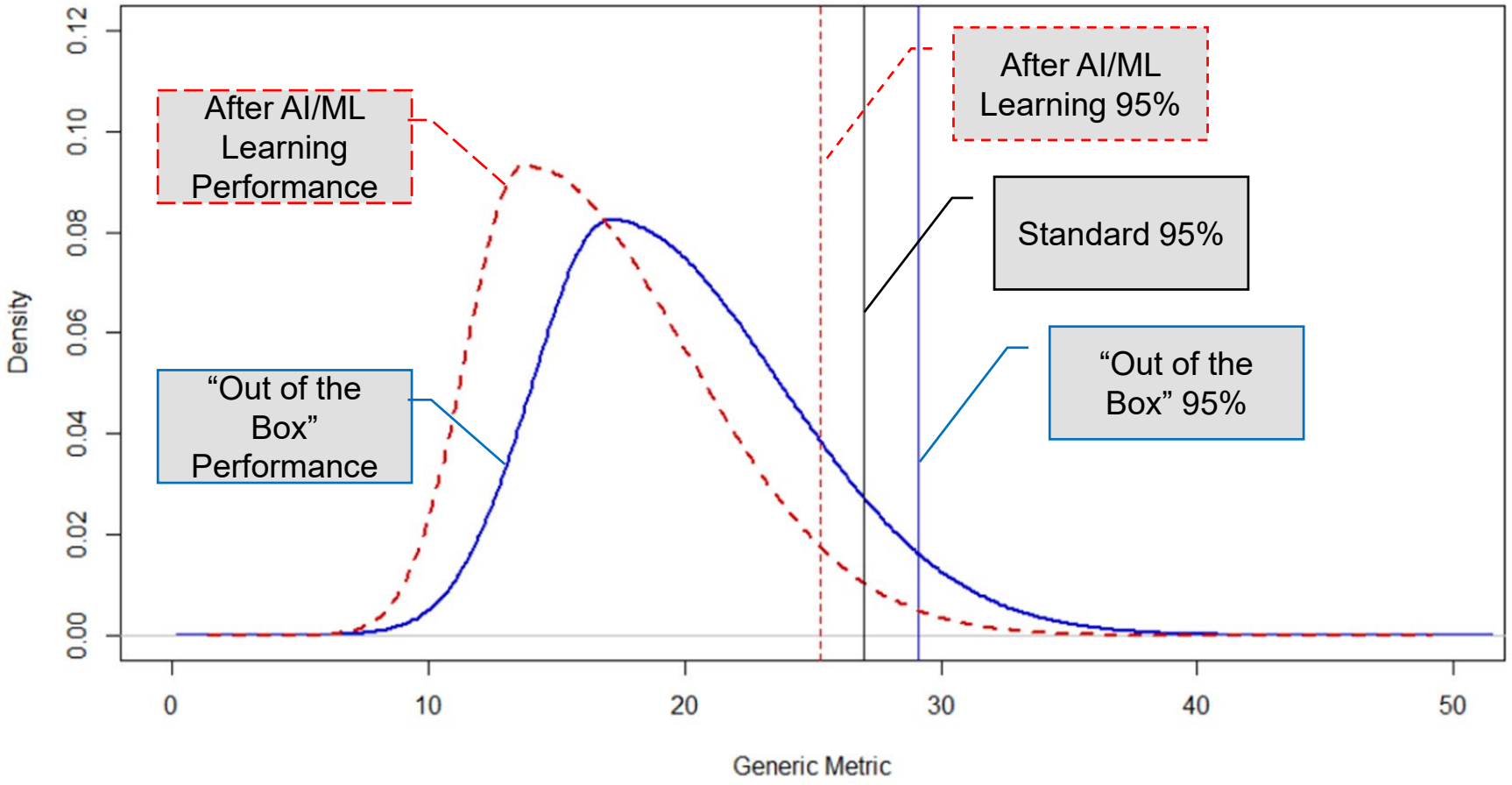
THE BENEFIT OF AI/ML

- **Use Cases**
  1. Technology where “out-of-the-box” performance (prior to learning) meets the performance standards, but AI/ML could make performance even better over time
  2. Technology where “out-of-the-box” performance (prior to learning) falls short of the performance standards, but enough operational trials prove that the AI/ML exceeds the performance standards quickly

“OUT-OF-THE-BOX” MEETS THE PERFORMANCE STANDARDS – AND IMPROVES AFTER TIME WITH AI/ML



“OUT-OF-THE-BOX” FALLS SHORT OF THE PERFORMANCE STDS – BUT IMPROVES AFTER TIME WITH AI/ML



CERTIFICATION QUESTIONS / CONSIDERATIONS

- **Are there any potential certification accommodations for “out of the box” solutions that fall short of the standard but quickly improve and perform better than the standard after learning?**

- **In how many representative environments would the AI/ML need to show improved performance to achieve certification?**

- **Would adding a built-in integrity monitor to alert the operator if the product is no longer meeting the performance standards be an adequate mitigation to unpredictable AI/ML performance?**

- **How would AI/ML performance be certified if the learning algorithms were “in the cloud” and updated learning data bases communicated to the on-board avionics?**