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2. It is also important to note that the indices utilized in this paper are based solely on commercial-off-the-shelf equipment, which as explained above means that it is not representative of all the customized equipment that NNSA often requires to accomplish its mission.
3. Another limitation of all three methodologies is that the exact purchase date is estimated. The date used in the analysis is an estimate based on the equipment's first day of operation and the lead time required to procure it. For the more volatile indices, a difference of just one month can impact the accuracy of the escalated price estimate.
4. Also, the BLS producer price indices rely on listed prices for equipment, whereas PRWG estimates are based on the actual purchase price. Other studies have shown a difference between producers' listed prices and the actual prices paid by customers<sup>11</sup>. NNSA prices are generally greater due to the complicated nuances in the qualification process allowing vendors to sell to an agency supporting nuclear weapon safety and modernization.
5. Perhaps the greatest limitation in this research is the assumption that a piece of equipment will always be replaced with an *identical* piece of equipment. This is a necessary assumption to create escalation rates with minimum bias, but it is not realistic. As technology ages and scope evolves, new equipment will often incorporate significant upgrades and increased capabilities in comparison to the

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<sup>11</sup> Betsock, T. & Newman I. (1993). The Problem of List Prices in the Producer Price Index: The Steel Mill Products Case. In M. Foss, et al (Ed.), *Price Measurements and Their Uses* (pp. 261 – 274).

















