Boeing Statement Regarding OIG Report on NASA's Commercial Crew Program

ARLINGTON, Va., Nov. 18, 2019 – In response to the Nov. 14 Office of the Inspector General report titled "NASA's Management of Crew Transportation to the International Space Station," Boeing today issued the following statement:

"We strongly disagree with the report's conclusions about CST-100 Starliner pricing and readiness, and we owe it to the space community and the American public to share the facts the Inspector General [IG] missed," said Jim Chilton, vice president and general manager of Boeing Space and Launch. "Each member of the Boeing team has a personal stake in the safety, quality and integrity of what we offer our customers, and since Day One, the Starliner team has approached this program with a commitment to design, develop and launch a vehicle that we and NASA can be proud of."

Specifically, Boeing offers the following responses to the main assertions:

Boeing's commitment to commercial transportation to ISS

-- Boeing has made significant investments in the Commercial Crew program, and we are fully committed to flying the CST-100 Starliner and keeping the International Space Station crewed and operational. Any implication that we ever wavered in our participation in Commercial Crew is false.

"NASA overpaid Boeing to prepare for multiple crewed missions"

-- Through fair and open negotiations with NASA in a competitive environment, we offered single-mission pricing for post-certification missions (PCMs) 3-6, thus enabling additional flexibility and schedule resiliency to enhance future mission readiness.

-- This single-mission pricing for PCM 3-6 was included in the pricing table in the original contract. That original pricing table remains unchanged.

-- Contrary to the conclusion in the IG report, Boeing contends that the benefits in shorter lead time and flexibility in adjusting launch dates are well worth the higher price in the table.

-- We cut lead time to launch by two-thirds and doubled the launch rate for an overall price increase of only 5%.

-- Boeing assumed more up-front financial risk and is helping NASA with critical decisions key to optimizing future ISS operations.

-- Boeing now holds all the up-front mission costs, which NASA will not have to pay until after each PCM is officially ordered and given the Authority to Proceed (ATP).

$90 million per seat?

-- Boeing rejects the average seat price assessment in the IG report.

-- Boeing will fly the equivalent of a fifth passenger in cargo for NASA, so the per-seat pricing should be considered based on five seats rather than four.

-- For proprietary, competitive reasons Boeing does not disclose specific pricing information, but we are confident our average seat pricing to NASA is below the figure cited.

-- The report also fails to mention Starliner's superior value:

- -- Starliner provides a fifth passenger seat or more cargo capacity at the customer's direction.
- -- NASA crews have full vehicle control in all phases of spaceflight, including backup manual capability.
- -- Starliner flies on the most reliable lifter in the business, an Atlas V modified for human spaceflight safety by people with actual experience in the domain.
- -- The spacecraft touches back down to Earth on land, not a splashdown, something Boeing considers much safer.
- -- Starliner astronauts train in Houston with Boeing and NASA working side-by-side in the former space shuttle and ISS training facilities.

Boeing vs. the competition

-- Because of our history in spaceflight, we understood how difficult this program would be on a short timeline, and priced our offering accordingly.

-- Boeing presented a development bid based on creating a safe and reliable orbital crewed space vehicle from scratch, while positioning our pricing to be sustainable long-term.

-- By contrast, our competitor offered a crewed vessel based on a cargo vehicle designed for human rating, whose development had been funded for several years by NASA on a predecessor contract. That cargo vehicle had already flown multiple times at the time of the Commercial Crew awards.

-- Boeing started development much later but attempted to achieve the same schedule, which is a more expensive development approach.

-- Starliner development and flight prices incorporate the rigorous design, test and verification approach we proposed – leaving no stone unturned to ensure we deliver a quality vehicle and service to our customer.

-- Change requests are considered case by case, but generally use a commercial pricing approach, which we see as aligned with NASA's policy objectives for the program.

-- NASA remains the single buyer in this market, and therefore enjoys significant buying power, tempered only by their policy objectives.

-- Through accepting our bid, NASA agreed we would be delivering them significant value with a spacecraft that meets the original requirement of landing on land, can expand to five passengers, and allows positive control by NASA's flight crews in all spaceflight phases.

"Technical challenges continue to impact the Commercial Crew program schedule"

-- We have made excellent progress on all outstanding technical challenges since the OIG began collecting information for this report.

-- We have retired nearly all possible risk ahead of our uncrewed and crewed flight tests. We are confident that we have designed and built a safe, quality system that meets NASA's requirements.

-- In 2019, we completed:

-- **Service module hot fire test**, validating the performance of our propulsion system in both nominal and contingency scenarios.

-- All **parachute qualification tests** without a single test failure, demonstrating the resiliency of our parachute system even in dual-fault scenarios.

-- Discussions with NASA about our system led to our mutual agreement to perform even more tests and analysis, which validated our system as designed.

-- We are confident in the safety of our system, and we have proven through extensive testing that we have a robust design that has consistently performed above requirements, even in dual-fault scenarios.

-- Pad Abort Test, which was Starliner's first flight test and a near-flawless performance of our integrated propulsion and flight control systems in an abort case.

Certification

-- We are working with our customer to achieve crew certification as soon as possible, but safety is our guiding principle and we will not fly our Crew Flight Test (CFT) before we are ready.

-- Orbital Flight Test (OFT) is currently targeted for Dec. 17, and following a successful flight, we are well positioned to fly our first crew in early 2020.

-- Certification depends on the timing and success of both of those flights.

-- We are more than 99% done with Verification Closure Notices (VCNs) for OFT.

-- There are a smaller number of CFT VCNs, and those are mostly reliant on OFT and Pad Abort Test data, the latter of which we are working on submitting right now.

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