HR0011SB20254-11
High Power Fiber Amplifier (HPFA) Power Scaling
Frequently Asked Questions (FAQs)

1. What are the size, weight, and power limitations for the required HPFA design?
   A: No specific limitation in this phase. It does not need to be a packaged device. But we hope for concepts that can eventually achieve power-normalized SWaP commensurate with current HPFAs.
2. Are there any manufacturability requirements for the needed solution?
   A: To advance the state-of-the-art, we are anticipating intricate designs and unique/exquisite components and/or materials. There are no specific manufacturability requirements for production in this phase, but you do have to show a realistic path to a demonstration unit.
3. Is there a target integration platform, and what are the related restrictions, such as cooling type, output optics interface, and reliability qualifications?
   A: No requirements in this phase. We'll address these issues if/when we've demonstrated a compelling advancement.
4. What is the target price in $/W and the delivery quantity for the HPFA system, assuming it meets all the end-user requirements?
   A: No specific requirements for this phase, and we understand that demo units may be significantly more expensive than production units. System level designs need to be cost competitive with fiber-combined systems, but cost growth at the HPFA level can be offset by cost savings at the system level due to elimination of the combiner. Delivery quantity will depend on the output power achieved and the mission requirements, which can vary by several orders of magnitude.
5. Is a hardware/prototype delivery required for the Phase II?
   A: There is no required hardware "deliverable". But direct-to-phase-II proposals should include a hardware demonstration that proves the concept at relevant powers.
6. Any requirement on the polarization maintaining of this fiber amplifier?
   A: There is no explicit requirement to maintain polarization. Output must be combinable, so the concept must be compatible with some level of polarization control.
7. Does the EO efficiency > 35% include the power consumption of the chiller or other cooling system?
   A: No, the cited 35% electrical-to-optical power considers the electrical (presumably DC) power to the drive diodes and the emission of the laser. Power for cooling and controls is not considered at this phase.
8. Are you looking for power discharge-only solutions, or are you only interested in solutions that can also output a beam?
   A: We are not interested in electrical power systems. Proposals must show a clear path to optical emission as described in the solicitation.