**Possible HEP SBIR/STTR topics related to MDP**

LBNL:

* Non-invasive imaging of interfacial bonding, impregnation cracking and generally, novel diagnostics of mechanical failure modes in high-field magnets. This may include various x-ray and ultrasonic techniques, ideally compatible with cryogenic operation.
* Cryogenic power electronics for distributed powering and quench protection of HTS and hybrid magnets.
* Distributed sensing and identification of the locations of flux flow voltages in multi-strand/tape HTS conductors to understand the conductor and magnet performance.
* HTS cable characterization methods and systems
* Electrically insulating coatings for metal parts which can withstand the heat treatment reaction for Nb3Sn magnets and subsequent operation in helium.
* coatings that increase or reduce (depending on where we want to go) the bonding between turns and mandrel in impregnated coils.
* Cable architectures using HTS wires enabling scalable current….

BNL:

* Quench protection of HTS and HTS/LTS hybrid magnets
* Technology development of high field magnets (20 T and above)
* Alternate designs for very high field magnets (20 T and above)
* Conductor and cable supply chain for high field magnets

ASC:

* Insulation of Bi2212 Rutherford cables

Ken:

* Need to make sure there is a broader customer basis