

**Exhibit 3 (Attachment 4):
Statement of Work – IceCube Neutrino Observatory Upgrade**

**DESY-Zeuthen
1 October 2018 through 30 September 2023**

Scientific and Technical Contributions

This document specifies the equipment that will be designed and built as part of the Memorandum of Understanding (MoU) for IceCube Maintenance and Operations of 2 March 2004 that is in place between the University of Wisconsin – Madison and DESY-Zeuthen.

DESY-Zeuthen will make every effort to carry out their responsibilities consistent with the project schedule and contribute the following items for the IceCube Gen2 Phase 1 project:

WBS L3	Quantity	Item
1.3.1 mDOM		mDOM DAQ Electronics design
1.3.1 mDOM	430	All components to assemble 430 integrated mDOMs, except the PMTs which are provided by KIT
1.3.1 mDOM	1	mDOM assembly and testing facility
1.3.1 mDOM	225	Labour for assembly and testing of 225 integrated mDOMs
1.3.4 Ice Comms Module		Ice Comms Module design
1.3.4 Ice Comms Module	900	900 assembled Ice Comms Modules
1.4.3 FieldHub	7	Field hubs

The Board of Regents of the
University of Wisconsin System

Madison, _____

Dr. Kael Hanson
Principal Investigator
IceCube Gen2 Phase 1

Deutsches Elektronen-Synchrotron DESY

Hamburg, 16. JAN. 2020 _____

Prof. Dr. Helmut Dosch
Chairman of the DESY Board of Directors

Prof. Dr. Christian Stegmann
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