

SOUTH DAKOTA BOARD OF REGENTS

Budget and Finance
Consent

AGENDA ITEM: 5 – O (1)
DATE: December 13-14, 2023

SUBJECT

Capital Asset Purchase Greater than \$500,000 – SDSMT – X-Ray Photoelectron Spectrometer Purchase

CONTROLLING STATUTE, RULE, OR POLICY

[SDCL § 13-49-15](#) – Purchasing and contracting for institutions.
[BOR Policy 5.4](#) – Purchasing.

BACKGROUND / DISCUSSION

The Board has delegated authority to enter into contracts for the purchase of equipment, supplies, and services to the institutions. Purchases of capital assets with a per-unit cost exceeding \$500,000 must be approved by the Board of Regents prior to a purchase order being issued.

IMPACT AND RECOMMENDATIONS

South Dakota School of Mines and Technology (SDSMT) is requesting to utilize \$1,097,251 of research funds to purchase an X-ray Photoelectron Spectroscopy (XPS). XPS is a powerful materials characterization technique required for development of innovative materials, progressive technologies, and next-generation transformative systems. XPS is a non-destructive quantitative spectroscopic surface analysis allowing detection of all chemical elements except hydrogen and helium. Furthermore, XPS allows researchers to uniquely describe chemical interactions between atoms and groups of atoms by detecting electronic states of elements within a specific chemical environment. The Nexsa G2 system from ThermoFisher Scientific will add new and unique capabilities to the existing instrumentation at SD Mines with a substantial and direct impact on R&D efforts across the state of South Dakota and nationwide. This purchase is funded by an NSF grant award.

ATTACHMENTS

None

DRAFT MOTION 20231213_5-O(1):

I move to approve SDSMT’s request to purchase an X-ray Photoelectron Spectroscopy (XPS) for research and development using \$1,097,251 of research funds.