ALASKA TECHNOLOGY INNOVATION CENTER (TIC) PLANS

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BUILDING THE INDUSTRY OF THE FUTURE

- Industry needs
  - Processing and production technologies
  - Infrastructure
  - Workforce
- Engagement of public-private partnerships
VISION

• Perform R&D that enables deployment of commercial processing technologies and production of REE-CMs
• Couple CM processing with the production of high-value, nonfuel, coal products
• Develop public-private partnerships and educating the next generation workforce
MISSION

• Collaborate with miners, manufacturers, equipment suppliers, financial institutions, academics, national laboratories, and the general public to establish carbon ore recovery, manufacturing and processing science that enables a new sustainable industry in Alaska.
GOALS

• Collaborative platform
  – Engage public, private, and other stakeholder groups to identify opportunities for developing CORE-CM resources and facilitating deployment of new and innovative technology for new local production.

• Accelerate research
  – To accelerate research that will enable commercial deployment of advanced processing and production of REE, CM and high-value, nonfuel, coal products by working with our strong team of partners.

• Education and training
  – Advancing and developing opportunities for the education and training of the next generation of technicians, skilled workers, and STEM professionals.
SHORT TERM GOALS

• Find innovative technologies
  – Seek innovative and technology to economically concentrate REEs and CMs at remote deposits so that they may be shipped to refineries for product production.

• Adapt current technologies
  – Bring in existing, yet new to the industry, technical innovations (TRL3-5) that can be further adapted/developed and deployed in the REE/coal mining industries. Approaches to be considered for acceleration of the R&D include integration of modular approaches to technology evaluation and development.
LONG TERM GOALS

• New technologies
  – Researching and developing robust new technologies (TRLs 1-3) for economic REE and CM concentration, separation, and metal making processes that can be developed and deployed.

• Workforce development
  – Based upon successful technical innovations we will foster workforce and economic development for the Alaskan coal, REE and CM industries.

• Be adaptable
  – Based upon our efforts to build out innovative technologies that have successful economic and workforce expansion, we expect that a longer-term program focused on broader and deeper CORE-CM topics will result.
TIC PLAN

• Create a collaborative environment to:
  – Establish carbon ore recovery, manufacturing and processing science
  – Develop technologies to identify and efficiently separate valuable materials for a range of carbon ore-based and other ore streams
  – Build strategies and technologies to enable greater recovery of materials from carbon-based ores
  – Create and design new tools and design principles that facilitate material recovery from a variety of ores and potentially from recyclates
  – Extend and demonstrate and leverage the research and development (R&D) already underway at other federally-funded facilities
  – Create carbon ore processing and manufacturing jobs
  – Train the current and future workforce
  – Communicate the AK-TIC’s activities to all interested parties
APPROACH