Answers to frequently asked questions regarding the community's concern with dust

Updated December 17, 2021

Q: When the conveyor is restarted, what are the days and times it will be in operation?

A: Normal conveyor operating hours will be restricted to 7:00 AM to 5:00 PM MT Monday through Friday. The conveyor may run during these same hours on the weekend when needed. No rock will be discharged outside the 7:00 AM to 5:00 PM operating window.

Below questions last updated December 10, 2021

Q: What are doing to address the community's concern with the dust?

A: Fermilab takes the concern with dust from the LBNF-DUNE project very seriously, and we agree that the levels of dust the community has experienced are unacceptable. We understand there are many questions from neighbors and apologize for the frustration and inconvenience this is causing. Because the dust situation is aggravated by high wind conditions, we have voluntarily shut down movement of rock into the open cut while we are working with the mayor on a plan for limited operations that better accounts for wind conditions. Additionally, as part of a series of dust-mitigation steps, we are working on new measures that include an upgraded chute which should reduce equipment-related dust release. We will continue to provide updates as these measures are put in place. Fermilab remains committed to being a good neighbor, and we thank the community members for their ongoing feedback as we work to resolve this as quickly as possible.

Q: Why did you stop depositing rock into the Open Cut?

A: Fermilab has voluntarily stopped depositing rock into the Open Cut while we work with the Mayor of Lead on a plan for dust abatement. We do not expect to resume until a consensus with the Mayor has been met, and then would resume with limited operations.

Q: What types of measures are you taking to contain the dust?

A: We have implemented a number of dust-mitigation measures since the start of the project and will continue to pursue additional measures as necessary to resolve the dust concerns. Our efforts to date, which have involved consultation with experts in the field of dust mitigation solutions, include professional water sprays, a fogging machine, sprinklers, adding the tackifier product application and chute modification. Additionally, we will be applying a capping compound to the existing material in the Open Cut. If the extended chute and capping agent do not fully resolve the issues, additional measures will be pursued. Fermilab is committed being a good community neighbor and resolving the dust to satisfactory levels.

Q: Is the tackifier being applied to the dust safe?

A: The tackifier (NALCO EG2600) is a non-toxic product derived from glycerol, which is an FDA-approved compound that is commonly used as a sweetener and thickening agent in many foods and medicines. The product poses no threat to human or aquatic life, as outlined in section two of the Safety Data Sheet (SDS) which classifies the product as “Not a hazardous substance or mixture.” The tackifier also meets effluent-based water quality standards governing Class II Cold Water Fisheries for discharge to Whitewood Creek (class 2 cold water fishery and class 8 recreational use). NALCO representatives along with the Fermilab team examined three products that had the potential to mitigate fugitive dust related to discharging rock. TRE Labs performed another toxicity test on NALCO EG2600 at the same concentration being used to treat the rock in the Open Cut showing no toxicity. The product has also recently been used in the State of Colorado in high country applications due to its safety.

Q: Is there a concern of an associated health risk from the dust coming from the Open Cut? Does it contain silica and how do you know it is safe?

A: We understand air quality safety is a key concern of the community. The dust escaping from the Open Cut contains trace amounts of silica. The concentrations of silica that citizens would be exposed to from dust emanating from the Open Cut are below the level recognized as safe for human exposure as determined by the American Conference of Governmental Industrial Hygienists (ACGIH). This is based on dust sampling performed in the underground environment by trained personnel using properly calibrated air dust samplers with results determined by an accredited laboratory (SGS Galson). This sample comes from the same rock and dust being deposited in the Open Cut. We will continue to address questions on this, along with all other resident concerns, through open community meetings.

Q: How are the dust emissions regulated?

A: Dust emissions at the Open Cut discharge are regulated under Federal 40 CFR 60.670 Subpart 000, which stipulates an opacity limit between the discharge point and the first stockpile below. Opacity is a visual assessment of dust or smoke in the air based on how much of the background is blocked by that dust or smoke. That Subpart 000 limit is set at 7%. Thyssen Mining (TMI) personnel perform daily opacity observations at the discharge point to ensure compliance, and both TMI and Fermilab personnel also perform quarterly opacity observations per permitted requirements. The personnel performing these observations are trained and accredited to perform the observations.

Q: How do you monitor the dust and how much has been released?

A: The dust concentrations from the Open Cut are monitored using two methods. First, daily visual observations, called Method 22 Daily Opacity Readings, are performed by personnel who are trained and accredited to perform these observations. Second, before conveying operations commenced, two dust monitoring stations were installed on the rim of the Open Cut, on either side of the conveyor. These stations continuously collect air samples and deliver the dust from those samples onto a very accurate

micro-balance scale. A calculation is made hourly of the concentration of dust in the volume of air sampled. These calculations are recorded by the system and monitored regularly in order to help guide our decisions on operation of the conveyor. It is not possible to monitor the total amount of dust that has escaped the Open Cut due to numerous variable factors involved. These factors include wind speed, direction, duration and the complex geometry of the landscape both inside and outside the Open Cut.

Q: Was the amount of dust considered when the Open Cut was selected for the depositing the rock?

A: Several firms were involved in the engineering and design. Extensive testing was included as part of these efforts which involved analyses for dust particle distribution and control.

Q: When did you become aware that the dust is becoming a concern?

A: Fermilab has been monitoring the dust since we first began running the conveyor in early summer (2021) and recognized the dust as a potential concern. Therefore, we implemented a number of controls to help limit the dust which, over the past three weeks, has been aggravated by high wind conditions.

Q: How long will the project be depositing rock into the Open Cut?

A: The current project schedule for drilling and excavation runs through late 2023.

Q: Have you met with Lead residents about the dust concerns?

A: Fermilab takes the concern with dust from the LBNF-DUNE project very seriously, and we agree that the levels of dust the community has experienced are unacceptable. To listen and better understand community member concerns, we engaged with all the individuals who have contacted us with concerns and are working with the mayor on a plan for limited operations that better takes into account wind conditions. As of Dec 9, 2021, four individuals have contacted either SDSTA or Fermilab with dust concerns. Fermilab has reached out to and engaged with all of these individuals to gather their feedback and discuss activities underway to address the dust and will continue to address residents' feedback through open community meetings and updated FAQs.

Fermilab remains committed to being a good neighbor. If residents have additional concerns, they should contact Fermilab at neighbor-sd@fnal.gov.