Responses to Don Hancock Questions
700-C Ventilation Fan Restart

Q: Why the delay in releasing documents that were dated months ago? The CRESP report is dated May 28, 2020. The NWP white paper and rationale are dated August 2018. The Rick Fuentes letter is undated but is presumably from an even earlier time when restart of both 700-B and C fans was being considered.

A: Documents were not released until DOE completed its internal review processes and determined that it was appropriate to pursue initial testing of the 700-C fan to improve air quality in the underground.

Q: Why the fundamental change in how to provide underground ventilation?

A: While DOE is implementing other strategies to address air quality in the underground, such as the use of Tier IV diesel equipment and electrical equipment, DOE also chose to evaluate the 2017 CEMRC recommendation to resume operation of the 700 series fans in an unfiltered mode. As a result, it was determined that operation of 700-C fan can safely increase airflow to the underground, improving worker air quality and more readily meeting regulatory requirements while we work to bring the permanent ventilation system online.

Q: What are the criteria for which the test is evaluated to "pass" or "fail"? We see no clear discussion of what such criteria are and what specific evaluation process will be used for the resulting data. How such data will be made publicly available is not discussed."

A: The preparation for returning the 700-C fan to operating status includes three distinct phases: 1) Four-hour test of the 700-C fan to measure mechanical stability and validate release estimates of trace quantities of radionuclides, 2) underground airflow test and balance, 3) formal readiness review to return to operation). Each phase of the restart process must be performed in sequence and data from each phase is needed prior to proceeding to the next phase.

During the first phase, the 4-hour test, Nuclear Waste Partnership (NWP) will monitor radionuclide ground level deposition and airborne emissions for the protection of the public, the environment and the workers performing the testing. Work packages and radiological work permits have pre-established radiological "stop points" defined to ensure that deposition and emissions do not exceed the calculated values which indicate all emissions and ground level activity will be well below any regulatory limits. Additionally, NWP and the Carlsbad Environmental Monitoring and Research Center (CEMRC) will collect samples for laboratory analysis which will further support and refine that data collected during the test. The NWP results from the monitoring and laboratory analysis will be compiled into a report, reviewed by NWP and the DOE, and compared against the calculated release values from the technical basis

documents. Based upon these comparisons, if the data indicates the release of radioactive material was equal or less than the values expressed in the technical basis documents, then the test would be considered to have "passed". If the data indicates that the release was higher than initially calculated the DOE will review further with NWP and determine if the project will be moved to phase two, the multi-day air-balancing run, or if other actions will be necessary prior to proceeding.

The final data summary developed by NWP will be made readily available on the WIPP website following DOE review which is expected to be within two weeks following the completion of the four-hour test.

Q: Where is the documentation about the structural and maintenance status of the 700-C fan, what structural issues will be evaluated during the tests, and what are the budget and costs of the restart and two years of operations of the 700-C fan?

A: Structural and maintenance status documentation can be found in dozens of routinely completed work packages, preventive maintenance evolutions, and engineering inspections and evaluations. The WIPP operating contractor has inspected the fan and associated structures, performed required pre-operational maintenance of the fan and did not identify any issues that would preclude safe operation of the 700-C fan. Restart costs are being managed within current funding profiles. Operating costs for 700-C are not expected to increase current operating expenses for the ventilation system operation.

Q: Where is the documentation about what additional amount of airflow is provided in excess of the existing IVS system and what specific accomplishments will be achieved as a result of that additional airflow by the end of FY 21? What documentation would be made available during the expected two years of the restart to evaluate the actual accomplishments?

A: Operation of the 700-C fan will provide an increase of approximately 60,000-94,000 cubic feet per minute above the existing WIPP ventilation systems (underground ventilation filtration system, interim ventilation system, and supplemental ventilation system).

The increased ventilation will primarily increase airflow available to workers in the north end of the mine, allowing improved safety for the operation of diesel-powered equipment for roof bolting, floor repairs, and loading and hauling salt from mining. As a result, the efficiency of simultaneously performing ground control and mining activities will be increased.

Q: What amount of reduced chemical exposure to underground workers will be achieved? The rationale does not include the range of chemical exposures received by underground workers in Fiscal Year 2020 and the expected amount to be received by underground workers when the 700-C fan operates. How will the actual worker exposures be measured and data publicly available?

A: An expected order of magnitude reduction in exposure limits of certain diesel emission chemicals is one of the primary drivers for 700-C restart. Predictions for worker exposure reduction are based on reduction of contaminants due to fresh airflow sweeps. The effect of the additional air sweep is variable within the mine environment and dependent on location, equipment position and ventilation configuration among other factors.

Worker radiological and chemical exposures are measured by calibrated instruments and through laboratory analyzed sample collection as required by federal regulations. This data is available to workers and their representatives as required by federal regulations.

Q: How will air monitoring be publicly available? The fact sheet states that CEMRC will continue its normal air monitoring activities during the restart, which SRIC supports. However, CEMRC has not posted its 2018 and 2019 Annual Reports, nor any recent air monitoring data. How will the DOE and CEMRC monitoring data before, during, and after the restart be made available in a timely manner?

A: All data collected by NWP during the initial test for the 700-C will be reviewed, formatted and reported publicly by the DOE on the WIPP website at least 2 weeks before the multi-day air-balancing run of the 700-C fan. DOE will also send a notification to its stake holders within 48 hours of posting the data to the WIPP website. Additionally, CEMRC will provide independent support to monitor the test in addition to the routine sampling they already perform at the WIPP site. CEMRC personnel will set up sample collection equipment, monitor the activity, collect samples, and analyze in their laboratory.

Q: When will the Radiological Monitoring Plan (RMP) be publicly available?

A: The Radiological Monitoring Plan was posted to the WIPP website on Tuesday, Dec. 7.

Q: When and where will the following reference from the White Paper be publicly available? Archer, J., Sanchez, R., Strait, A., Underground Flow Measurement and Particle Release Test, Revision 0, December 1998.

A: The reference will be posted to the 700C link on the WIPP webpage if public releasable.