

The logo features two curved lines, one blue and one green, arching over the text. The text "TMI-2" is in a bold, blue, serif font, and "SOLUTIONS" is in a bold, black, italicized serif font.

TMI-2 *SOLUTIONS*

PADEP LLRW Advisory Committee
10/1/2021

Project Director TMI2 Solutions - Frank Helin

Update the PADEP LLRW Advisory on Project Performance and Plans for the TMI-2 Decommissioning

- **Agenda:**
 - Project Performance & Milestone Progress
 - Environmental/Waste
 - Regulatory Overview

Project Performance & Milestone Progress

Safety Performance

Safety Statistics

	Hours Works	Recordable Cases	Restricted Workday Cases	Lost Workday Cases
This Month	6,449	0	0	0
Total	44,444	0	0	0
Rate (Cum Actual)		0	0	0
Rate (Goal)		0	0	0

Site Program Development:

- Gap Analysis against Exelon H&S procedures for early work completed
- Developing Project H&S program/procedures for Phase 1B
- PO development for various services, (IH, OCC Med, Fire Services, Sanitary Services, Etc.) completed
- H&S Consumable/Equipment list completed; materials starting to arrive on site

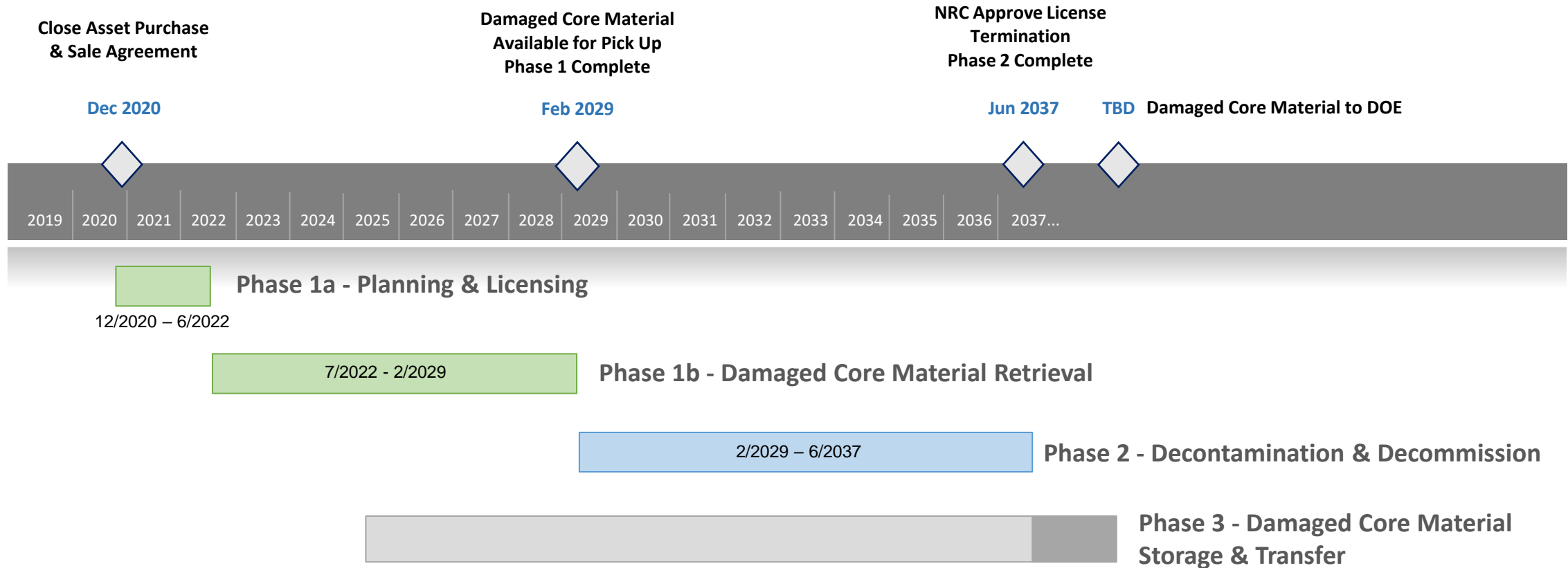
Human Performance (HU):

- Human Performance Program in development

Coaching & Observations:

- INPO 12-012 Traits of a Healthy Nuclear Safety Culture pocket guides onsite and distributed as new personnel are onboarded to site
- Safety Observation Program set up; training completed for initial team members; observations started to be captured. Cards and scanner for onsite purchased and awaiting arrival.

TMI-2 Schedule



TMI2S and LLRW Scope - Schedule Update

Critical Path: The LAR was submitted March 21 and is still tracking for May 2022 approval

Key Activities Completed in Q2:

- 19 of 24 Program and Policy Documents finalized

Key Activities for Next Quarter:

- Work closely with NRC on LAR acceptance and security review
- Finalize LLRW QA Project Plan
- Continue developing WM packaging plans in collaboration with ESJ operational planning
- Complete RP Program, Environmental Program and Ground Water Program development
- Complete drafting procedures for Transportation Incident and Emergency Response Plan & Hazardous Material Transportation Security Plan

Issues and Concerns:

- NRC review and acceptance of the LAR submittal – most limiting event/Site Boundary Dose

Project 2021 Planning Update

- Program and procedure development is a major focus
- Phase 1B planning and schedule development underway
- Staff mobilizing to site
- Placing several key procurements
- Limited characterization work has started
- Cooling Tower work is being rescheduled

Staff Mobilization

- Currently 47 people are assigned to the site and 14 off site
- Currently occupying the North Office Building (NOB)
- A number of additional buildings and facilities have been identified for use
- Computer systems and other infrastructure being built out

Site Characterization Work

- Drone Flights
 - General Area Layout via film
 - Dose Rate measurements
 - [ESJDECOM - Flight 8 - HD 1 of 2 - 053 0007.MOV - All Documents \(sharepoint.com\)](#)
 - [ESJDECOM - Flight 8 - HD 2 of 2 - 053 0008.MOV - All Documents \(sharepoint.com\)](#)
- Reactor Building Basement Plans



Drone work is
supporting detailed
planning

Polar Crane Wheels

Reactor Building Characterization

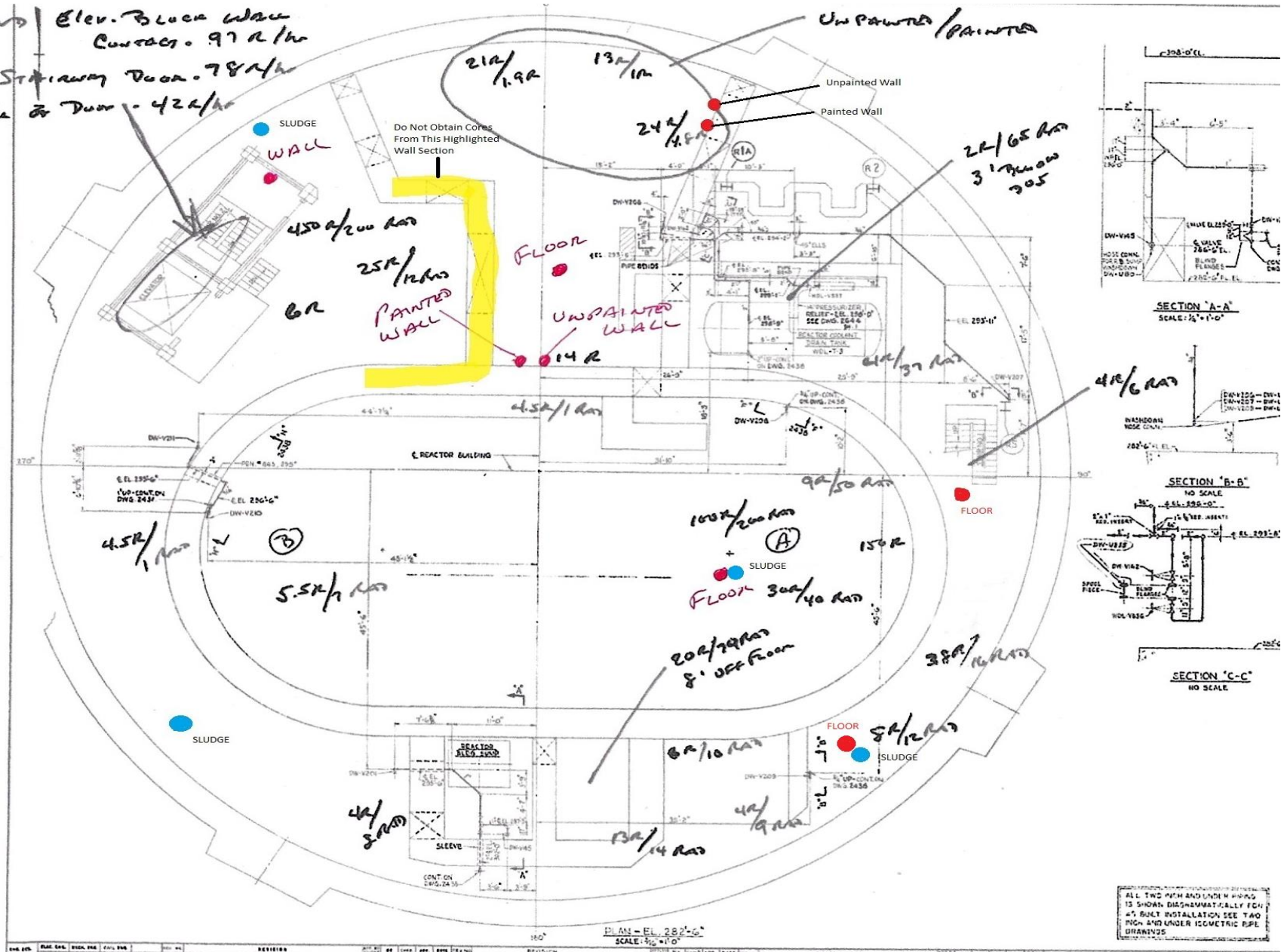
- Purpose
 - Obtain isotopic analysis of contaminants and dose rate information
 - Data will be used by Radiation Protection, Waste Management and Construction PMs
 - Sampling will include sludge samples, core bores and dose rate surveys.

Sediment/Sludge and Core Bore Sampling

- 5 sample points for sediment/sludge samples from RB Basement floor
- 6 core bore samples from walls, 0.25 inch to 3-inch depth
- 3 core bore sample from stairwell block wall
- 4 core bore samples from the RB Basement floor. 0.5 to 6 inch depth
- Samples will be analyzed for Gamma isotopes, Hard to detect isotopes, metals and PCBs

Sample Locations

- At End Elev. Block Wall Contact = 97 R/hr
- Top Stairway Door = 78 R/hr
- Middle of Door = 42 R/hr



Dose Rate Data

- Map dose rates at distances of no more than 4 feet apart from each other creating a grid of dose rate data in the basement.



DGC Scope Project Status

Completed this Quarter

- CS Davidson Inspected of South and North Bridges
- Hired Warehouse Manager
- Complete SOW for RSCS RB Basement characterization.
- Approved RB-EH Scope Document
- Drone flights and final report on TMI-2
- Scoping the Water Processing System
- Completed 3D Modeling of Turbine Building, Cooling Towers Flumes and Tunnels
- Transition to the Site

Planned for next Quarter

- Issue PO for Cutting Firm – Planning Services
- Evaluate Fuel Debris detection methods
- Development of survey packages using selected characterization robotics technology/radiation detection equipment.
- Characterization of facility using selected characterization robotics technology/radiation detection equipment
- Cask Design
- Evaluate Top-down Approach to RB Source Term Remediation
- Mobilize of SCM & Wall Crawler

Environmental/Waste

Environmental

- Exelon continues to manage Environmental Programs
- Determining which air, water and discharge permits need to be modified to support decommissioning in Summer 2022.
- Demolition permits for cooling towers postponed to 2022.

Rad Waste

- Waste Planning and Characterization is underway.
- No shipments have been made.
- Evaluating removal and recycling of some excess lead bricks.
- We are attempting to avoid generation of any GTCC waste

Fuel Bearing Material (FBM)

- Reactor Vessel & Internals: 890 kg
- Steam Generator B: 55 kg
- Reactor Coolant (RCS): 20 kg
- Steam Generator A: 7 kg
- RC Pumps: 6 kg
- Reactor Bldg. Basement: 2 kg (largest contributor to dose)
- Auxiliary and FHB: 11.5 KG
- Total: 980 kg (1200 assumed in LAR)

Technology for FBM Removal

- Remote equipment with the capability to:
 - Hydrolase
 - Perform chemical decontamination
 - Mechanically scabble
 - Perform vacuum recovery
 - Remove boric acid precipitation
 - Retrieve and handle highly contaminated components
- Encapsulation
- Plasma cutting
- High-pressure water cutting
- Diamond wire saw cutting
- Traditional mechanical cutting

Regulatory Overview

Continuing Interactions with PADEP and NRC

- Our goal is to have no surprises as we share information with PADEP and NRC
- Primary goal to keep the lines of communications open
- NRC Inspection Report issued on June 22, 2021 covering the first part of 2021. There were no violations or open items.
- Quarterly Report now being issued to PA DEP



NRC Approvals Pending

- While in Post-Decommissioning Monitored Storage (PDMS) TMI-2 Solutions must comply with PDMS Technical Specifications
- Requested NRC approval to delete PDMS Technical Specifications that are not applicable for decommissioning the Reactor Building.
 - Plan to begin core debris retrieval in June 2022
- Requested NRC approval to replace the current security license condition to use the Unit 1 Security Plan for Unit 2 with using a specific Unit 2 plan after Unit 1 completes spent fuel transfer to the ISFSI
 - Unit 2 will have its own security program to protect radioactive material
 - Needed to separate from Unit 1 security program

Historical Significance

- Conducted tours of TMI-2 for the:
 - PA Historical and Museum Commission
 - Smithsonian American History Museum
 - PA State Archives
- Working with the PA State Historic Preservation Office to preserve documents, photos, artifacts and other records
 - Provided the PA State Archives a collection of video tapes from the accident and initial plant cleanup
 - Received a list of artifacts and pieces of the control room to set aside for future exhibits