



## **Decommissioning Oversight Board**

**Holtec Decommissioning International, LLC (HDI)**

### **Enbridge Gas Line Discussion**



**IPEC Decommissioning Update  
March 17, 2022**

**Rich Burroni, Site Vice President  
914-254-6705**



# Enbridge Gas Lines Discussion



- We are obviously aware of the pipelines on site, respect the energy they contain and have taken mitigating actions to limit the potential of an event.
- The Joint proposal requires us to take into account the location of the pipelines during the decommissioning and site restoration activities and spent fuel operations. Relative to the 26 and 30 inch lines, we have installed steel plates in an above ground “airbridge” configuration that was based on the past transport of our heaviest loads on the roadway in question. Enbridge has confirmed that this configuration is satisfactory. The current design is good for 5 times the weight of our heaviest load without impacting the gas lines. Upon our request, Enbridge also performed an in-field inspection with satisfactory results.
- The joint proposal requires Holtec to inform Enbridge 5 days prior to crossing the pipelines with heavy loads. As a daily routine, there is commercial traffic crossing the airbridge configuration. With the present configuration approved by Enbridge, the 5 day notification period has been met and will be formalized by the State and Holtec with the designated points of contact memorializing this in writing. If the transportation of any vehicle exceeds our current “heaviest loads”, Holtec will then contact Enbridge in accordance with the 5 day prior requirement.
- Since this road will be used through the decommissioning process and potentially beyond, Enbridge is looking at a potential subsurface configuration change to protect the lines. More to follow.
- As previously discussed, the transport of spent fuel from either spent fuel buildings to the ISFSI Pad DO NOT cross the gas lines.
- Our engineering staff here communicates as needed with the Enbridge staff and the same holds true for the Management Staff. We have committed points of contact established.
- Where we can avoid crossing the pipelines, we do so in order to provide us with margin. As an example, we use our North Entry Gate to allow for cement trucks to enter the site for the ISFSI Pad work. We can use the South gate also if and when required.
- There are scheduled quarterly meetings with Enbridge, NYS representatives and Holtec where activities are discussed and if there any issues or concerns, they are addressed as well. The most recent was this past Tuesday, 3/15/22.

# Enbridge Gas Lines Discussion

- Building demolition activities within the protected area occur north of the pipelines. Additional demolition activities will take place further south as well. In all cases, Enbridge will be notified 5 days in advance as to when these activities are to occur.
- Control Room Operators are required to have direct phone line access to Enbridge and this is in place in each control room.
- A fire protection plan for IPEC has been developed and submitted for review to the NYS Division of Homeland Security and Emergency Services. The plan was submitted on 9/24/'21. RAI was received from DHSES on 12/16/'21, our response was submitted on 2/7/'22.
- Our procedure instructs the control room operators to contact the Verplank Fire Department in case of fire along with contacting Enbridge. Verplank will respond and assume command and control.
- The function of our Fire Brigade and our Fire Protection System is to protect the site facilities and systems required to ensure cooling functions are maintained.
- Enbridge is committed to provide training to the 4 local fire departments and the fire brigade on site. This will happen in the May – June timeframe.
- The next slide shows the airbridge plate design installed and the allowed traffic pattern

# Enbridge Gas Lines





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# Agenda

- Spent Fuel Storage Activities (10/2021 – 3/2022)
- Hi-Lift (Davit Crane) Update
- Vessel Segmentation Activities (10/2021 – 3/2022)
- NRC Inspections & Activities (10/2021 – 3/2022)
- Oyster Creek – NRC Enforcement Action
- Building Demolition
- State Pollutant Discharge Elimination System
- CDI – HDI transition
- Community Relations
- Monitoring Project at the BV School

# Spent Fuel Storage Activities



## Spent Fuel Storage Activities 10/2021 – 3/2022

Four casks of spent fuel were loaded and transferred from the Unit 2 Spent Fuel Pool to the Independent Spent Fuel Storage Installation (ISFSI) Pad in the fall of 2021, finishing up in early November.

The four casks resulted in a total of 24 casks that were required to be loaded and transferred to the ISFSI Pad through the end of 2021 as per the January 2017 agreement between N.Y. State, Riverkeeper, and Entergy.

Prior to the 24 casks, there were already 34 casks on the pad for a current total of 58.

To store all the fuel from both spent fuel pools, an additional 69 casks are required. ( 28 needed for Unit 2 Fuel, 41 needed for Unit 3 Fuel).

In total, all fuel from all three spent fuel pools will result in 127 casks to be stored on our ISFSI Pads. This number has increased by 2 since last reported as a result of allowable heat loads per canister.

The U2 Spent Fuel Pool off-load campaign starts in August 2022.

The U3 Spent Fuel Pool off-load campaign starts in February 2022.

Fuel on Pad Protected is scheduled for October 2023 (considering this one of our critical paths).

# Spent Fuel Storage Activities



# Spent Fuel Storage Activities

## Spent Fuel Storage Activities 10/2021 – 3/2022

Currently, to support the casking of fuel, all fuel assemblies are required to have a visual inspection to ensure no integrity issues. There are 896 fuel assemblies required to be inspected at Unit 2, and an additional 1280 fuel assemblies required to be inspected at Unit 3. All inspections should be complete within the next three weeks.

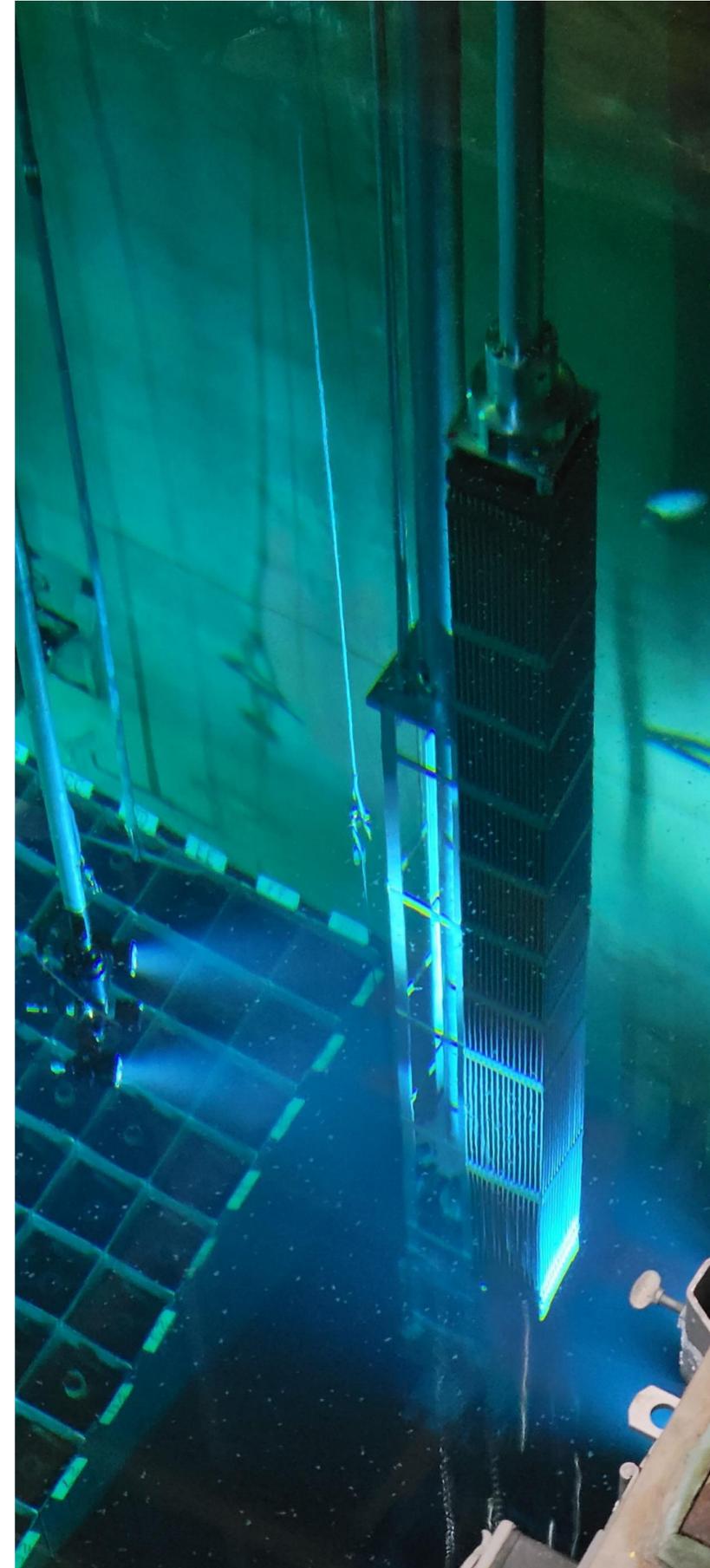
To accommodate the storage of all casks, an additional ISFSI Pad must be built.

The existing pad will hold 75 casks and the new expansion pad will hold an additional 52 casks.

The final concrete pour for the pad is scheduled for this spring.

The new pad construction requires a retaining wall on the north side of the installation. The forms and rebar required are currently being worked on. Concrete pour is scheduled for next week.

# Spent Fuel Storage Activities



# Spent Fuel Storage Activities



# Hi-Lift (Davit Crane) Update

To recap, in an effort to meet the FOPP time frame of 10/23, a crane (Hi-Lift) needs to be installed in the Unit 3 Spent Fuel Pool Building.

The application for the installation of the Hi-Lift Crane was originally submitted by Entergy Nuclear by way of a License Amendment Request (LAR) on March 24, 2020.

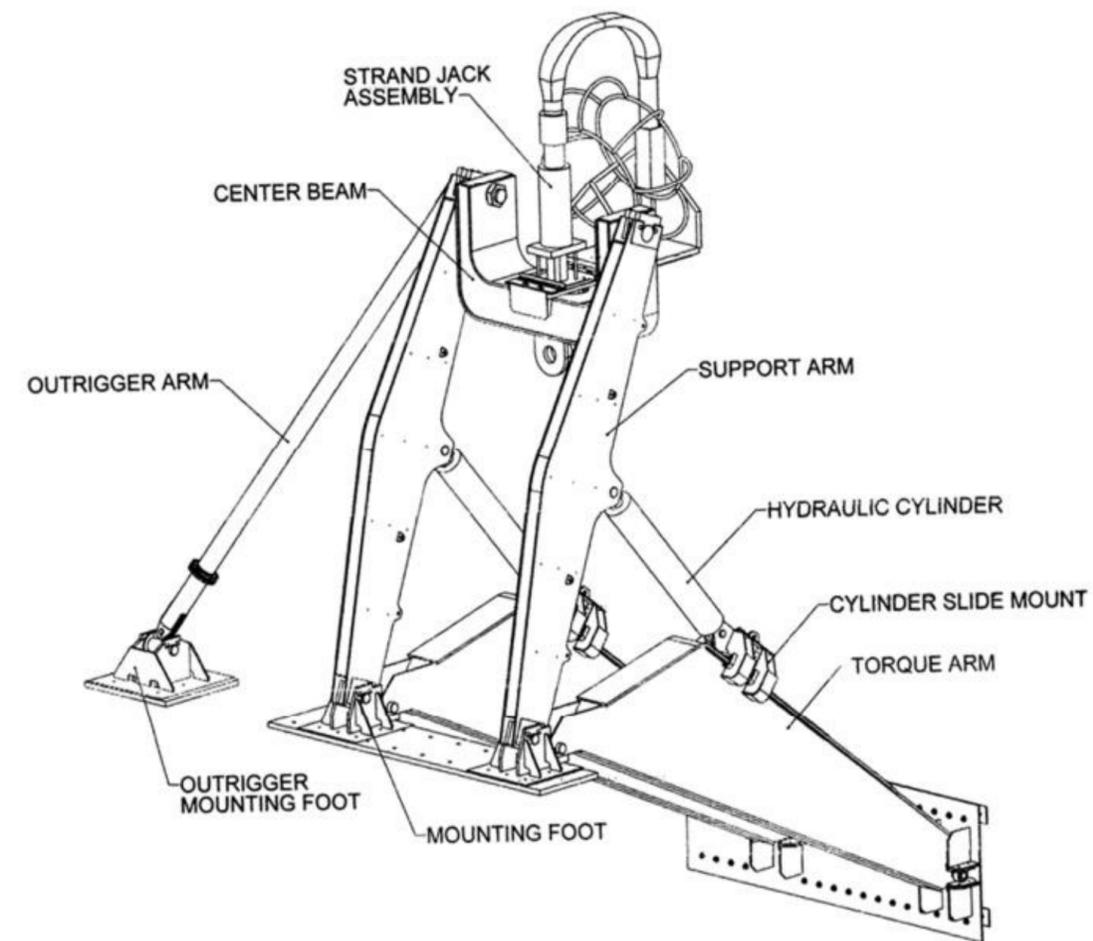
A series of reviews and requests for additional information (RAI's) by the NRC followed (four in total). It was a rigorous review by the NRC in which Holtec answered all requests for the information needed.

Note that this is the normal process – LAR's are submitted and typically the NRC submits RAI's to the licensee for further clarification which the licensee is required to answer.

In response to the LAR, the NRC issued a Safety Evaluation Report on February 25<sup>th</sup>, allowing the installation of the Hi-Lift Crane.

Construction is in progress at Holtec's Pittsburgh facility.

Factory Acceptance Testing (FAT) is tentatively scheduled for early second quarter of this year



# Segmentation Preparation



We are treating Vessel Segmentation as the second critical path.

To date, we have progressed with the removal of insulation, piping and reactor support components that are not internal to the Reactor Coolant System or the Reactor at either unit.

The existing equipment hatches were not big enough to facilitate the removal of large pieces of equipment or the dimensions of waste transfer casks, therefore they had to be enlarged. A water cooled diamond embedded wire was used to perform the cutting of the concrete, rebar and steel liner. The combination of the water cooled system in addition to maintaining a negative pressure in the buildings prevented dust and silica to be free released to the atmosphere.

The reactor cavities will be prepared to ensure that they can accommodate flooding where segmentation work on the reactor internals will be performed under water.

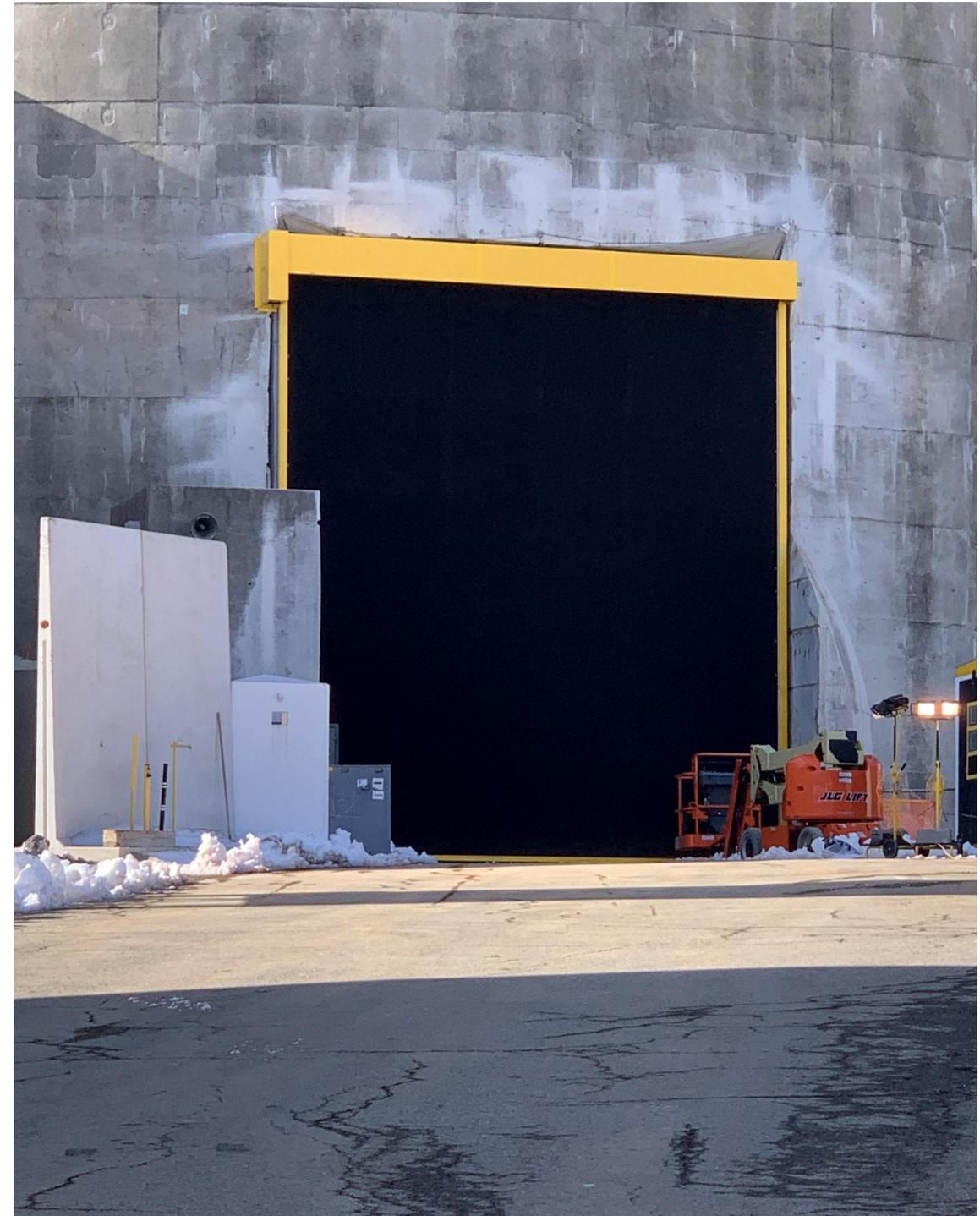
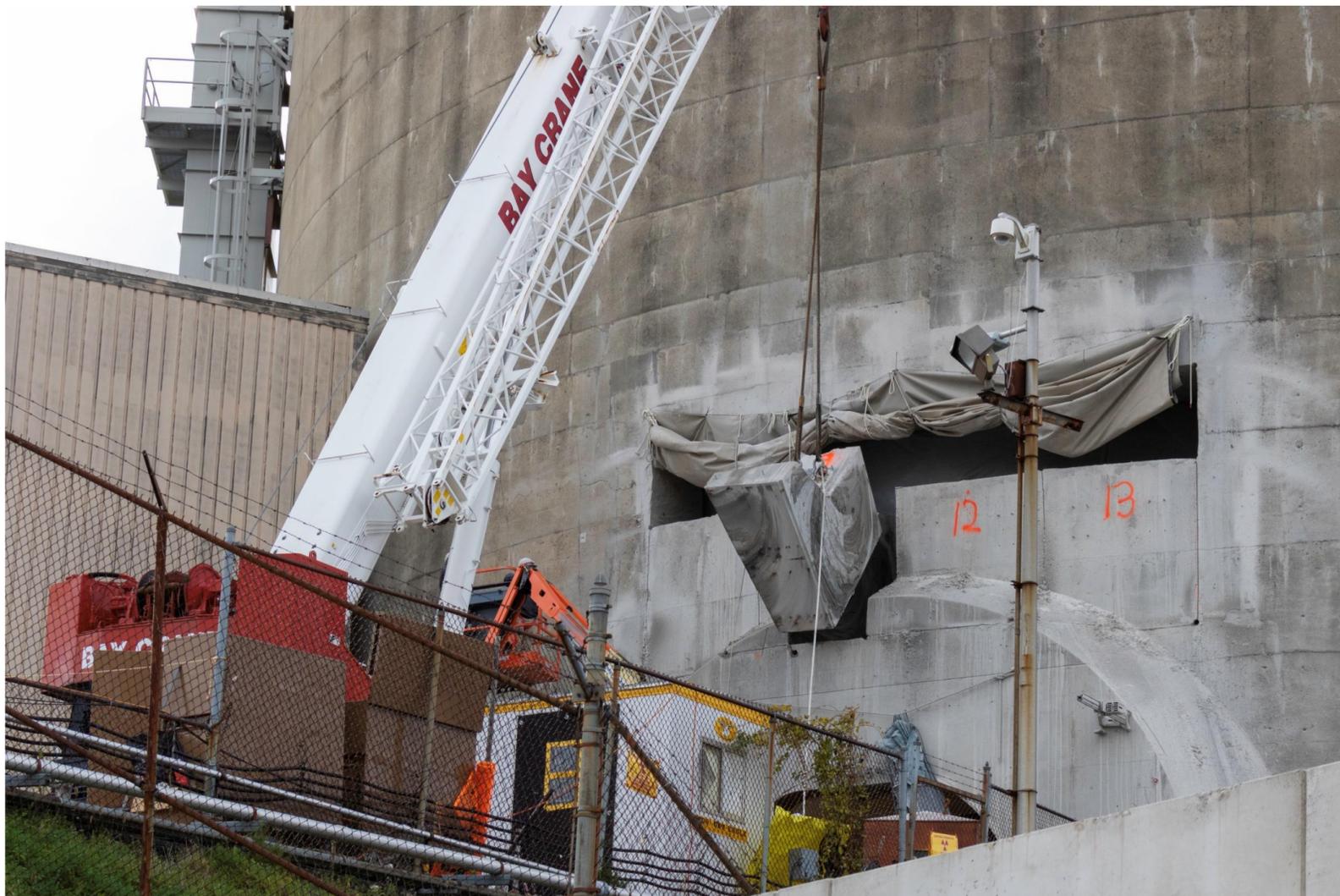
A series of saw blades will be used to demo the internals and the reactors themselves.

Factory Acceptance Testing (FAT) of the blades and their support structures is in progress with satisfactory results to date.

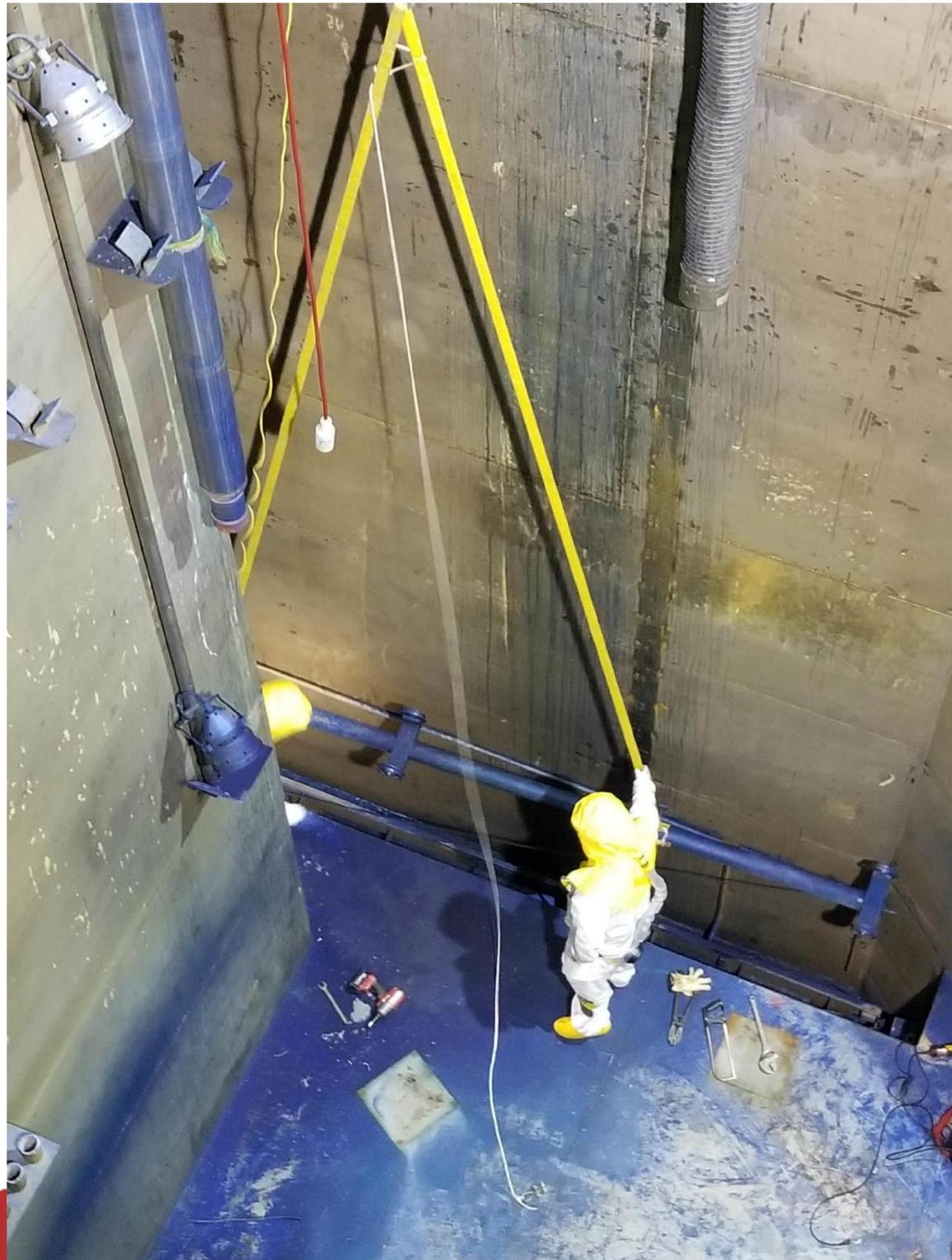
Training for the individuals performing the cutting will take place next month.

Cavity flood up and cutting activities are scheduled to start in late August or early September of this year for Unit 3, Unit 2 will follow in March 2023. Greater than Class C waste will be removed and stored by October 23. Vessel Segmentation efforts will continue after 2023, for approximately 10 months with the cavity drained and the Containment Buildings intact.

# Segmentation Preparation



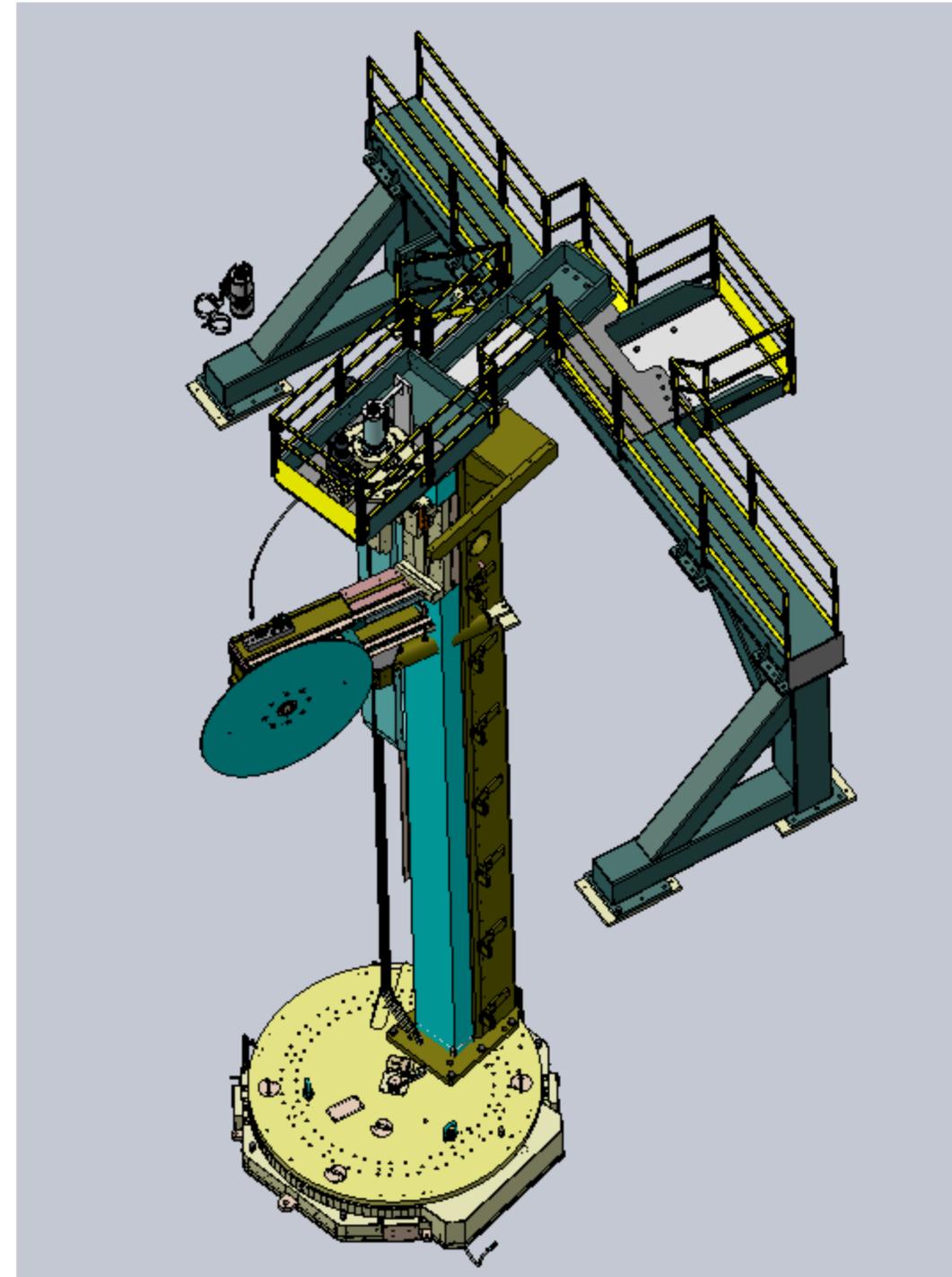
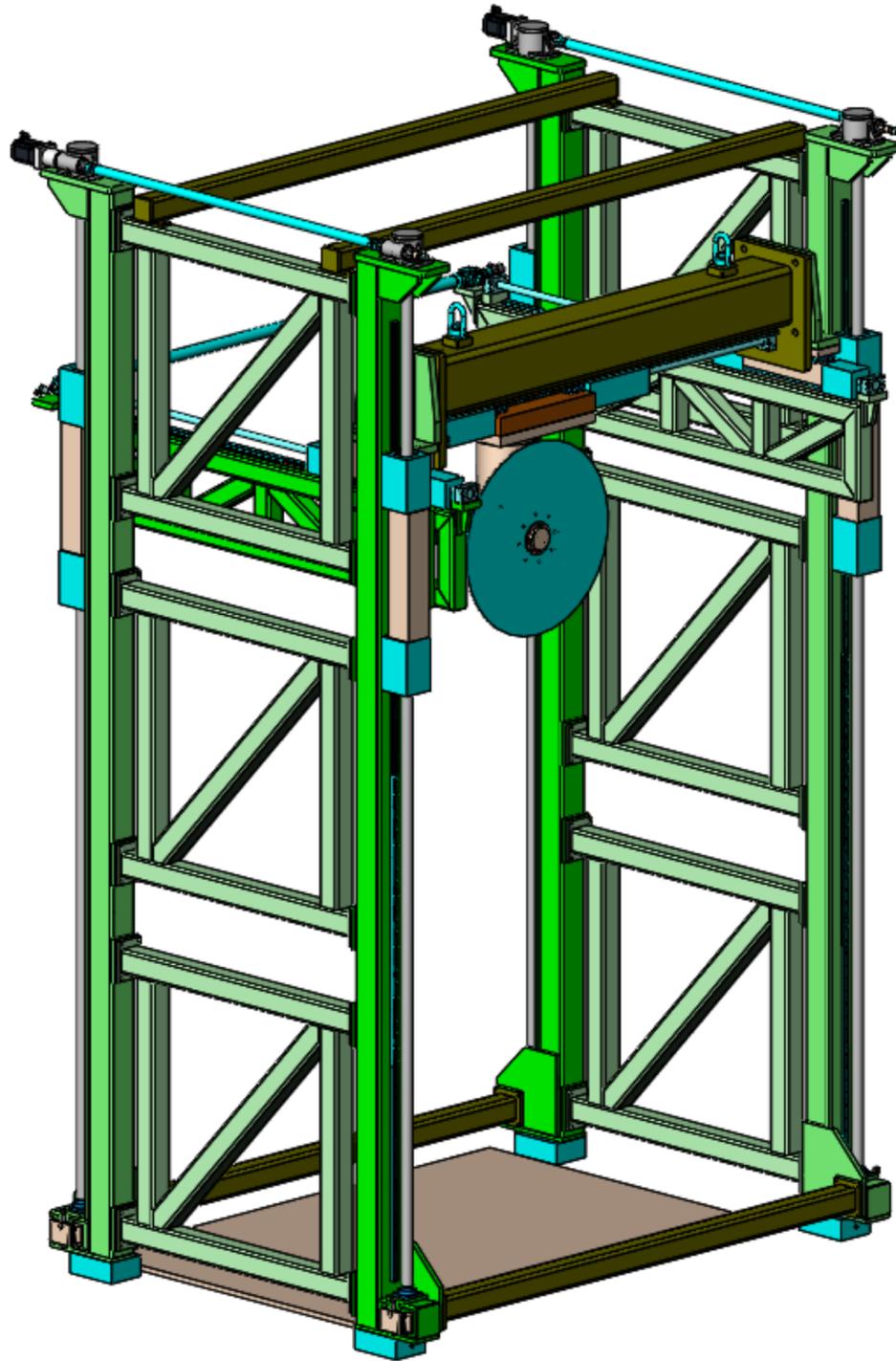
# Segmentation Preparation



# Segmentation Preparation



# Segmentation Preparation



# NRC Inspections & Activities

## Major items we have worked on with the NRC since October

- Submitted Exemption request for 10CFR 20 App G – Low Level Rad Waste (LLRW) Shipment reporting requirement from 20 to 45 days..... submitted to NRC 11/21 and approved 2/22
- LAR for HI-Lift Crane – SER received from NRC 2/22
- PSDAR RAIs – replied to NRC 2/22
- PDEP LAR – submitted to NRC 2/22 and acceptance review indicates 1/23 for review/approval
- PDEP Exemption requests – submitted to NRC 2/22 and acceptance review indicates 1/23 for review/approval (10 CFR 50.47)
- Exemption request for casking damaged fuel assembly containing a primary or secondary source – plan to submit by next week.

# Oyster Creek – NRC Enforcement Action



**On December 22, 2021 the NRC issued a confirmatory order resulting from an NRC Office of Investigation (OI) investigation**

- The investigation was opened on March 13 2020, and was concluded March 11 2021.
- The investigation was to determine if a member of the Oyster Creek security department, deliberately failed to perform firearms maintenance activities and falsified records related to those activities.
- NRC determined that, based upon the evidence, the security armorer deliberately failed to perform certain required firearms maintenance activities for calendar year 2019, that the armorer deliberately falsified records related to these activities, and that these falsified records were submitted to the NRC in response to an April 10, 2020, information request.
- The security implications from this investigation and confirmatory order, were violations of 10 CFR 50.5 deliberate misconduct, and 10 CFR 50.9 deliberately submitting false or inaccurate information.

**As a result of this investigation and the confirmatory order, Holtec has taken the following actions**

- The employee involved in the incident was terminated unfavorably.
- Holtec implemented the position of Fleet Security Director, to provide oversight to the security programs at all HDI fleet facilities.
- HDI President communicated via email the importance of integrity and the implications of falsifying records and providing false information.
- Security departments will provide specific training, concerning integrity and compliance with 10 CFR 50.5 and 10 CFR 50.9.
- Holtec fleet security implemented a peer review signature on weapons maintenance documents, to remove the single point vulnerability.
- Holtec is performing a root cause evaluation. Additional corrective actions for Oyster Creek and the fleet will result from the evaluation

# Building Demolition



Building demolition activities are in progress. There are a number of tanks that will require removal also. Removal of systems / components internal to buildings will be a precursor to some building demolition. Schedules are being developed. All demolition activities will require a permit from the Village of Buchanan. Current projection is that the Containment Buildings will be the last to be taken down in approximately 10-11 years from now.

There are a number of engineered techniques that can be used to demo a building. These will be reviewed as plans are developed.

Our most recent use of diamond wire cutting has demonstrated that the silica and dust generated can be contained.

We have also used mechanical shears to demo metal buildings with no dust generation outside of the immediate construction area. A majority of our structures have a metal component. There demo results in little to no dust generation.

Open discussions with local building contractors also describes wetting buildings down while dismantling will decrease dust generation.

We will look at all dust prevention options when planning demolitions in the future.

# Building Demolition



# Building Demolition



# State Pollutant Discharge Elimination System



## NYS

DEC On October 22, 2021 the NYS DEC received an application to renew the SPDES permit for IPEC from Holtec. This was required to be submitted 180 days prior to the expiration of the existing permit date of April 30, 2022.

There was also a request to transfer the permit from Entergy to Holtec which was granted on 2/22/'02.

Based on its review, the NYS DEC has informed us that the renewal application was timely and sufficient. (had to be submitted greater than 180 days from expiration) Therefore, in accordance with the State Administrative Procedures Act, the current permit will remain in effect beyond its current expiration date (April 30<sup>th</sup>) until the Department issues a decision on the renewal application.

The NYS DEC will undertake a full technical review of the SPDES permit during its review of the renewal application to determine the need to incorporate new permit requirements under the Federal Clean Water Act and applicable state regulations.

## NRC

The controlled release of effluents within specified limits has been an established part of a normal nuclear facility's operation, and the NRC's regulations and licensing reviews for the facility take into account such releases as part of the NRC's safety and environmental determinations.

Processed Waste and Unprocessed Waste have been discharged to the river in accordance with all state and federal requirements since the units have been in service.

Unprocessed Wastewater does not require any filtering since it is clean water, however it is continuously monitored. It includes Steam Generator Blowdown (no longer in service) and the Unit 1 Sphere Foundation Sump (natural spring under the Unit 1 Sphere)

Processed Waste will currently be from water in the Spent Fuel Pools and the Reactor Water Storage Tanks (RWST). Processed Waste is also generated by the North Curtain Drain System which is due to past operating history of the Unit 1 Spent Fuel Pool and contains cesium.

# State Pollutant Discharge Elimination System



All water in the Spent Fuel Pools, RCS and RWST are one in the same, they effectively communicated during refueling outages in the past. The water in the Spent Fuel Pools is constantly circulated and filtered. Its clarity allows for the off-load of fuel without obstruction.

No water from the Processed Waste Streams are directly discharged to the river. Rather, this water is filtered, housed in collection tanks, circulated, analyzed then discharged. See attached simplified diagram.

The total number of gallons between the RWST's and the Spent Fuel Pool is ~1.3 million gallons. This water will not be discharged until all fuel is casked and segmentation efforts are complete. Note that during years of operation, total gallons discharged to the river (Processed and Unprocessed Waste) averaged around 55 million gallons.

Variables at past, present and future are the NCD and Sphere Foundation Sump which are weather dependent

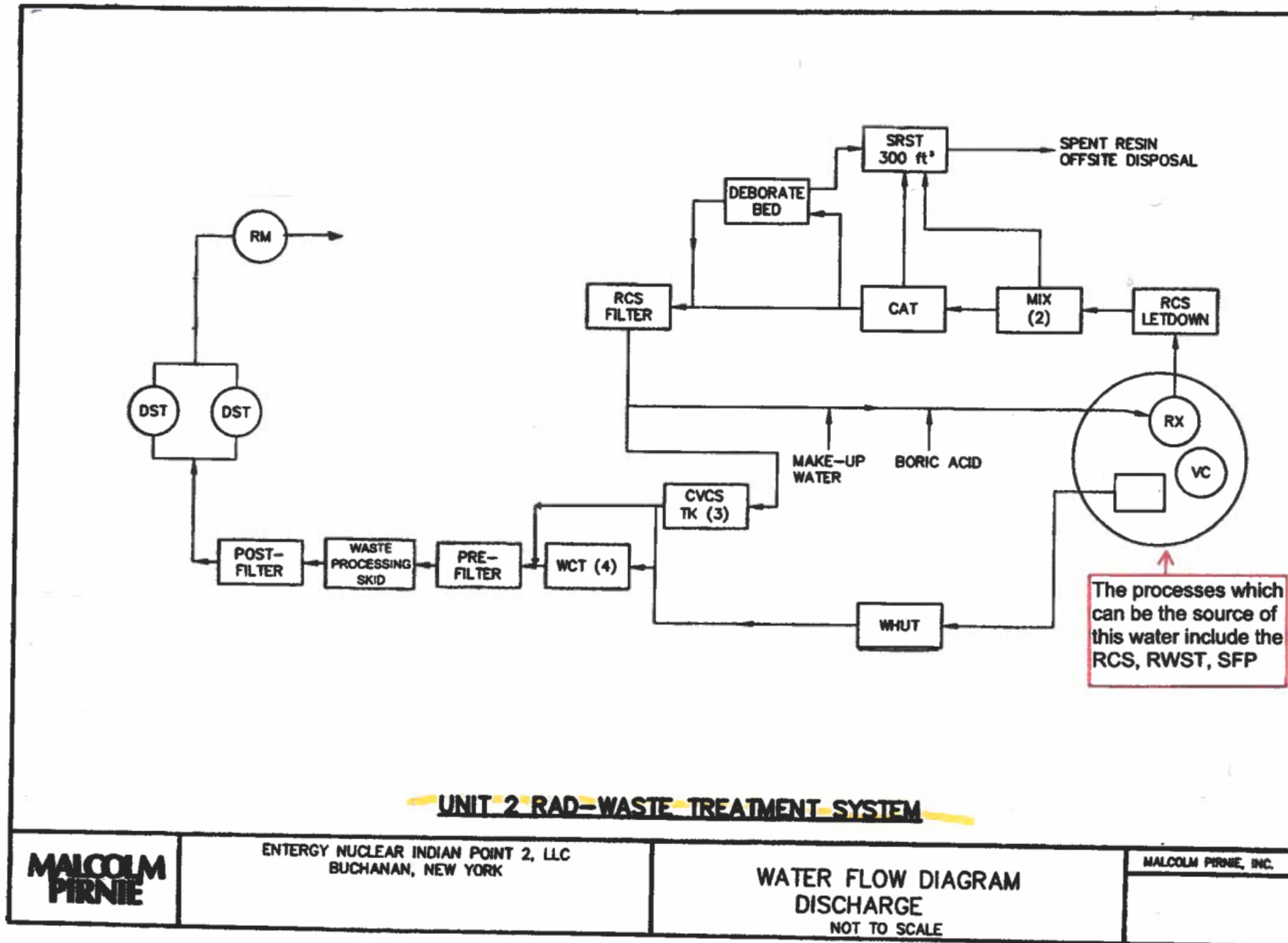
The SPDES Permit requires the monitoring of boron, lithium oil & Grease and total suspended solids.

The principle radionuclides that are monitored include tritium, iodine, cobalt, cesium, strontium, nickel, manganese, iron, silver and antimony.

Our liquid discharges of radionuclides do not exceed  $1/10^{\text{th}}$  of 1% of the allowable NRC and EPA limits.

We are required to submit to the NRC an annual radiological environmental operating report with the results of the Radiological Environmental Monitoring Program (REMP) and a radioactive effluent release report every year, both of which are publicly available.

# State Pollutant Discharge Elimination System



# CDI – HDI Transition

- Executive Level changes at HDI
- In December 2021 HDI exercised its termination for convenience rights under the Decommissioning General Contractor Agreement with CDI. Effective January 19<sup>th</sup>, HDI performs all activities previously performed by CDI at all our sites, including managing and performing decommissioning and spent fuel management activities.
- Decommissioning resources and technical capabilities remain intact. There were no personnel changes on site as a result of this transition.
- The migration of resources from CDI to HDI is not expected to impact project costs or decommissioning schedules at any of the Holtec sites. Further, decommissioning trust fund financial assurances remain unaffected by this transition.
- HDI, as the licensee, remains primarily accountable for regulatory licensing and compliance, the outcome of site investigations, responses to NRC requests for information, etc. This change presents an opportunity to streamline and enhance HDI's organizational infrastructure.

# Public Outreach



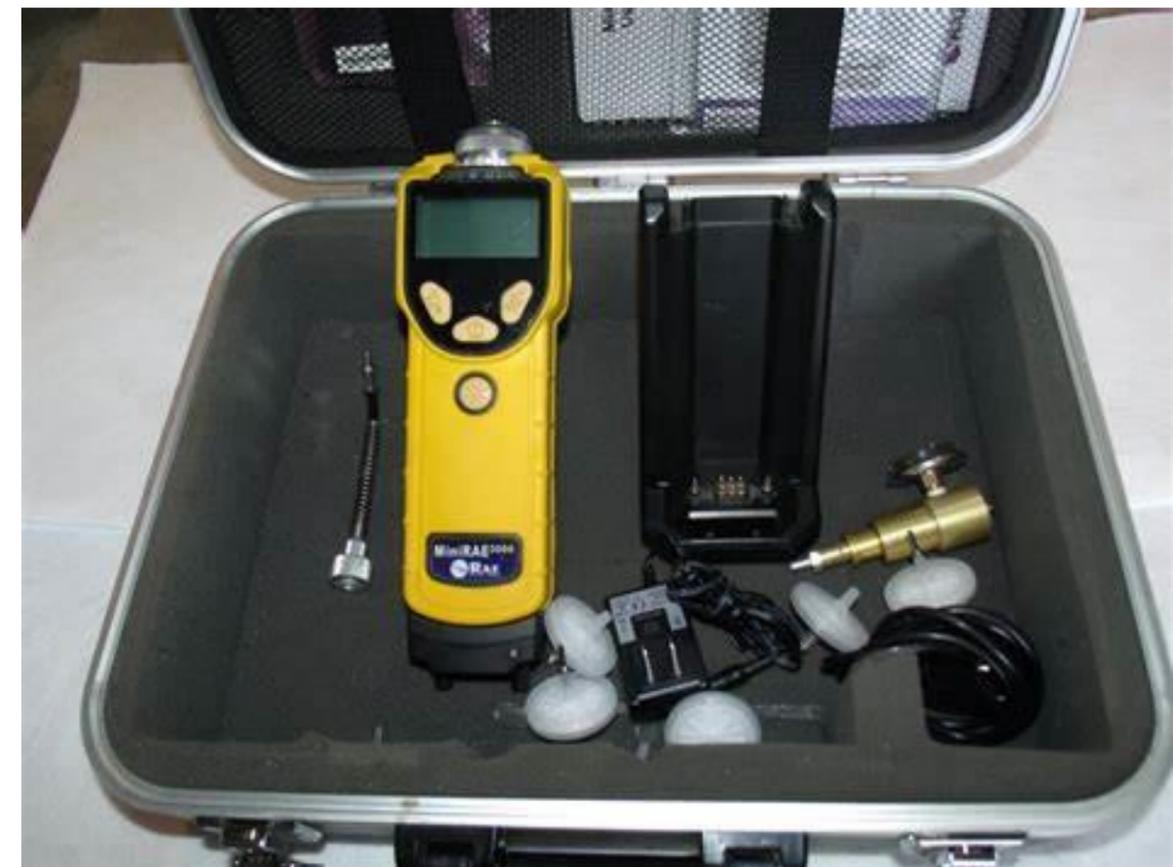
At our last Oversight Board Meeting, I asked if anyone wants a tour of the site, to please let me know and we'll accommodate accordingly.

Since then, we've given 10 tours that included a Congressional Delegation, Community Advocates, various NYS Department Representatives, Local Politicians, Local Fire and EMS Representatives, Local Union Leaders and College Students. All told, we accommodated 75 people. Myself and my team here appreciate the interest in our decommissioning efforts. And again, I'll repeat that if anyone wants a tour or discussion, please feel free to contact me.

To that end, on his visit to IPEC on January 14<sup>th</sup>, Dr. Richard Becker, Town of Cortlandt Supervisor asked if we would work with a group of Columbia graduate students who were working on an air / particulate monitoring scheme for the Buchanan/ Verplank Elementary School.

We fully endorsed this request and I have a dedicated group of folks working with the students to come up with the monitoring plan. We've already agreed to provide information from 2 of the Rueter Stokes monitors (we're working out the details) and we think we have a good idea of the instrumentation needed to accomplish the task. More to follow but we're more than happy to work with Professor Jonathan Hollander and his students. Potential monitoring equipment is shown on next slide

# Public Outreach



# Thank You!



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