

Memorandum of Understanding (Split Sampling of Processed Effluents)

This Memorandum of Understanding ("MOU") is dated **June 14, 2023** ("Effective Date"), By and between:

Holtec Decommissioning International, LLC, a Delaware corporation with corporate offices at 1 Holtec Blvd., Camden, NJ 08104 ("HDI"), and

New York State Department of Environmental Conservation, with offices at 21 S Putt Corners Rd, New Paltz, NY 12561 ("New York State" which includes personnel from the New York State Departments of Environmental Conservation (NYSDEC)¹, Health (NYSDOH)², and Public Service) (each is a "Party"; collectively, the "Parties").

The Parties agree as follows:

1.0 Background

- 1.1** In May 2021, affiliates of HDI completed the acquisition of Indian Point Energy Center (the "Site" or "IPEC") in Buchanan, New York.
- 1.2** The Site owners designated HDI to be their "operator" with responsibility, among other things, for supervising decommissioning of the Site. HDI conducts its activities at the Site under licenses issued by the U.S. Nuclear Regulatory ("NRC").
- 1.3** As part of the acquisition, HDI, various New York State agencies, Westchester County, various local government entities, and several stakeholder groups entered into a Joint Proposal dated April 14, 2021 (the "Joint Proposal" or "JP"). The Joint Proposal describes various commitments made concerning, without limitation, financial assurance, project and financial reporting, and emergency management and response.
- 1.4** The Indian Point Nuclear Decommissioning Oversight Board (the "DOB") was also established by the Joint Proposal to advise on and assess how to protect the financial, environmental, and physical interests of the communities affected by decommissioning, including the interests of the current workforce as it relates to continuing the public safety of the surrounding communities. The DOB consists of representatives from state agencies, scientific and technical experts, state and local officials, labor union representatives, and an environmental organization.
- 1.5** The process of effluent discharges from the Site is a topic of discussion at many DOB meetings.

¹ NYSDEC will analyze samples for SPDES permit requirements and EPA priority pollutants.

² NYSDOH will analyze samples for radiological components.

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2.0 Purpose

- 2.1 The general purpose of this MOU is to outline the protocol regarding New York State's request to perform split sampling of effluents from the Unit 2 and Unit 3 Spent Fuel Pools (SFPs) and Reactor Cavities/Refueling Water Storage Tanks (RWSTs). Specifically, when the effluents are transferred to the Unit 2 Waste Distillate Tanks (WDTs) or the Unit 3 Monitoring Tanks (MTs)³ of the Liquid Waste Processing Systems and processed in preparation for release to the Discharge Canal. This request also includes witnessing split sampling that is currently performed at the Site's Discharge Canal and the Roseton control location (which is approximately 20 miles north of the Site).

3.0 Scope

- 3.1 The specific sources of the effluents to perform split sampling at the WDTs or MTs are:
- 3.1.1 The U2 SFP,
 - 3.1.2 The U3 SFP,
 - 3.1.3 The U2 reactor cavity/RWST, and
 - 3.1.4 The U3 reactor cavity/ RWST.
- 3.2 At the WDTs or MTs, two samples will be taken and split from each source listed above.
- 3.2.1 The first sample will be taken after the effluents are processed but before discharging.
 - 3.2.2 The second sample will be taken after approximately 50% of each source volume has been discharged.
- 3.3 Once a sample is taken, the sample will be split and shipped to the laboratories as specified by HDI and New York State.
- 3.4 New York State may witness the current weekly and/or monthly sampling being performed at Roseton and the Discharge Canal. These samples are taken by HDI's vendor and split samples are sent to a New York State lab(s) for analysis.

4.0 Terms and Conditions

- 4.1 The effluent waste in the WDTs or MTs is required to be recirculated a minimum of three times prior to sampling. This ensures that a representative sample of the tank is analyzed prior to generating a Waste Release Permit and commencing release. This MOU does not change this requirement.
- 4.2 The samples taken at the WDTs or MTs are in a Radiologically Controlled Area (RCA) and are

³ To accommodate the Holtec Hi-Lift Crane installation in the Unit 3 Fuel Storage Building (FSB), the existing Unit 3 Liquid Radwaste Processing System (LRPS) skid was removed from the FSB Truck Bay. As a result, Unit 3 effluents are currently transferred to the Unit 1/2 Integrated Liquid Waste Processing (ILWS) System where they are processed and subsequently released from the WDTs instead of the MTs. A replacement for the Unit 3 LRPS skid is currently being evaluated. This agreement applies to effluents from Unit 3 SFP, reactor cavity and RWST regardless of point of treatment and discharge location.

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considered Radioactive Material. Therefore, the samples shall be handled by qualified HDI personnel. The samples will be split and shipped to the laboratories as specified by HDI and New York State.

- 4.3 HDI will provide New York State with at least a 2 week notification prior to scheduled sampling events from each of the specific sources of the effluents defined in Section 3.1 herein.
- 4.4 New York State may witness the sample collection, and HDI will maintain the chain of custody for the samples. If New York State plans to witness the sample collection, then personnel should obtain unescorted access to the Site including completing Radiation Worker Training in order to enter the RCA as required. Otherwise, HDI will provide escorts as required.
- 4.5 New York State shall specify the volumes their lab will require to complete the radionuclide analysis. This is so HDI can provide an adequate sample volume.
- 4.6 Prior to sampling, HDI and New York State will agree to analytical methods and analysis detection limits to ensure post sampling evaluation is as comparable as possible.
- 4.7 HDI and New York State will analyze for the following:
 - 4.7.1 At the WDTs or MTs:
 - H-3
 - Gamma spectroscopy (some typical isotopes may include: Mn-54, Fe-59 Co-60, Co-58, Zn-65, Zr-95, Ru-103/106, Cs-134/137, and naturally occurring radioactive material (NORM)).
 - Gross-Alpha
 - Gross-Beta
 - SR-89
 - SR-90

 - SPDES requirements:
 - PCB
 - TSS
 - Oil & Grease
 - Boron
 - For these specific samples, HDI and New York State will also perform analysis for the EPA Priority Pollutants (listed in 40CFR423 - Appendix A)
 - 4.7.2 At Roseton and the Discharge Canal, the HDI vendor lab performs analysis for the following isotopes:
 - H-3
 - BE-7
 - K-40
 - MN-54
 - CO-58 and CO-60

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- FE-59
- ZN-65
- ZR-95
- RU-103 and RU-106
- I-131
- CS-134 and CS-137
- BA-140
- LA-140
- CE-141 and CE-144
- RA-226
- TH-228
- U-235

- 4.8 The first release of each source listed above in Section 3.0 will be performed following completion of the sample analysis. HDI and New York State agree that this would be no more than 12 business days⁴ from the sampling date to allow for time to review and comparison of data from both Parties. Release will commence following this time period.
- 4.9 HDI and New York State agree to jointly review and disposition potential differences in sampling analysis results. Differences in analytical results are not atypical when different labs conduct split sample analysis. Differences that may occur will be reviewed by New York State and HDI staff.
- 4.10 The second sample for each source would be after approximately 50% of the inventory has been discharged. These releases will occur without delay following sampling and in accordance with the SPDES permit and federal regulations already in place.
- 4.11 New York State will be given the opportunity to review the completed Waste Release Permits for the specified releases. This includes information regarding the monitoring equipment available at the time of discharge and will also provide information regarding dilution flow and radiation monitor setpoint.

5.0 Term

- 5.1 This MOU is effective as of the Effective Date and will continue until all effluent from the sources listed in 3.1 above have been discharged.
- 5.2 This MOU only pertains to the specific sampling outlined above. Any changes would require a revision of this MOU.

⁴ Except for SR-90 results which may take more than 12 business days to analyze. When the SR-90 results are available, HDI and New York State will disposition accordingly.

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6.0 Notifications and Electronic Signatures

6.1 For the purposes of this MOU, all notifications shall be made by and to the following persons:

NYSDEC:

Kelly Turturro

Regional Director, Region 3

New York State Department of Environmental Conservation

21 S Putt Corners Rd, New Paltz, NY 12561

kelly.turturro@dec.ny.gov

NYSDOH:

Alex Damiani

Director, Bureau of Environmental Radiation Protection

Center for Environmental Health

New York State Department of Health

alex.damiani@health.ny.gov

HDI:

Richard J. Burroni

Site Vice President, Indian Point

Holtec Decommissioning International

450 Broadway Buchanan, NY 10511

R.Burroni@Holtec.com

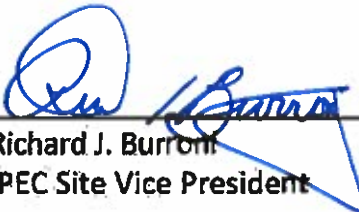
Either party may change its point of contact by providing the other party with written notice of the revised point of contact.

The parties hereto have executed this MOU by their authorized representatives.

6.2 Signatures to this MOU transmitted by electronic mail (i.e., .pdf) or other electronic means intended to preserve the original appearance of a document, will have the same effect as physical delivery of a paper document bearing the original signature.

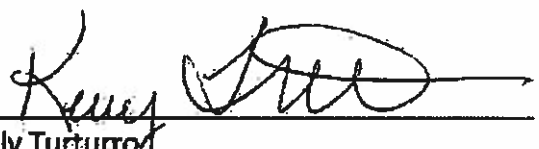
[Signature Page Follows]

**HOLTEC DECOMMISSIONING
INTERNATIONAL, LLC**

By: 
Richard J. Burroni
IPEC Site Vice President

Date: 6/14/23

**NEW YORK STATE DEPARTMENT OF
ENVIRONMENTAL CONSERVATION**

By: 
Kelly Turturro
Regional Director, Region 3

Date: 6/14/2023