

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF CLIMATE, CLEAN ENERGY & RADIATION
PROTECTION
RADIATION PROTECTION ELEMENT
MONTHLY REPORT**

JANUARY 1 THROUGH JANUARY 31, 2020

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SECTION I- OFFICE OF THE ASSISTANT DIRECTOR

Original signed by:

Assistant Director, Pat Mulligan

SECTION II – BUREAU OF X-RAY COMPLIANCE (BXC)

A. OFFICE OF THE BUREAU CHIEF

DEP Webinar: Compliance and Enforcement’s Office of Quality Assurance on Quality Systems for Managing Data

On January 15, Bureau staff participated in a DEP Webinar sponsored by Compliance and Enforcement’s Office of Quality Assurance on Quality Systems for Managing Data.

Lean Six Sigma (LSS) Champions and Green Belts Meeting

On January 16, the LSS Green Belts met their Champions to discuss the progress of their projects. Chief Robinson is facilitating the Radon Compliance Improvement Process with the Bureau of Environmental Radiation.

Contact: Arthur Robinson (609) 984-5634

B. REGISTRATION SECTION

Machine Source Registration and Renewal Fees

The Registration Section has begun invoicing the registrants for FY2020 registration renewals. In addition, new equipment is invoiced administrative and prorated registration fees when they are installed. The table below represents monthly and year to date activities.

Machine Source Fees Invoiced and Collected for FY 2020					
Monthly Invoiced	Monthly Collected	Fiscal YTD Invoiced	Fiscal YTD Collected	Fiscal YTD Adjustments	Percent Collected
\$22,941.00	\$76,493.00	\$3,024,966.00	\$2,933,980.00	\$5,800.00	97%

Progress on Collection of FY 2020 Registration Renewal Fees

Renewal Groups	Paid 7/31/19	Paid 8/31/19	Paid 9/30/19	Paid 10/31/19	Paid 11/30/19	Paid 12/31/19	Paid 1/31/20	Paid 2/28/20	Paid 3/31/20	Paid 4/30/20	Paid 5/31/20	Paid 6/30/20
0-F	45%	79%	89%	97%	98%	99%	100%					
G-L	N/A	49%	73%	88%	97%	99%	99%					
M-R	N/A	N/A	45%	75%	89%	94%	97%					
S-Z	N/A	N/A	N/A	49%	74%	89%	94%					

The Bureau of X-ray Compliance issued administrative orders to registrants who have failed to pay their annual registration fees. Of the total number of invoices paid to date, 16% percent paid on-line.

Monthly Machine Source Registration Activity FY 2020

	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	YTD
New Facilities	28	16	19	27	16	14	22						90
Terminated Facilities	27	39	28	37	32	25	35						131
Net Change (Facilities)	1	-23	-9	-10	-16	-11	-13						-41
New Registrations	156	124	147	156	145	122	194						583
Stored Registrations	56	63	46	53	51	32	73						218
Disposed registrations	102	90	98	89	98	120	102						379
Net Change (Machines)	-2	-29	3	14	-4	-30	19						-14

The Registration Section staff continues to collect registrant e-mail addresses and enter them into the database in preparation for sending future notices and invoices electronically.

Contact: Ramona Chambus (609) 984-5370

C. MACHINE SOURCE SECTION

The machine source section is charged with the responsibility of inspecting all x-ray machines used within the state. Below is a summary of the inspection initiatives that the section is engaged in.

Medical Diagnostic Quality Assurance Inspections

One initiative of the machine source section is the inspection of medical facilities that perform diagnostic x-ray procedures to ensure that they have implemented a quality assurance program. Department regulations require that each facility implement a program that includes the periodic performance of quality control tests and in-depth annual equipment performance testing of its x-ray equipment by Department certified medical physicists. The goal of the quality assurance program is for facilities to ensure optimal operation of the x-ray equipment in order to achieve high quality diagnostic x-ray images while simultaneously maintaining/reducing patient radiation exposure to acceptable levels. As part of the Bureau's inspections, image quality and patient radiation exposure metrics are gathered and evaluated as an indicator of facility performance. These measurables are reported to the facility along with the results of similar facilities performing similar x-ray studies.

Image Quality

As part of the Bureau's quality assurance inspection program, an x-ray image of our image quality (IQ) phantom is taken and scored by the inspector in six criteria: background density, high contrast resolution, noise and artifacts, density uniformity, low contrast detail and low contrast resolution. Additionally, our database calculates an overall image quality score which is reported to the facility.

A report is generated and sent to each facility at which an IQ film was done. This report identifies which category (excellent, good, fair or poor) each of the six tests and the overall score the IQ falls into. The report explains IQ and its determining factors. Facilities with poor IQ scores are asked to consult with their physicist and determine the cause of the poor IQ, take corrective actions to improve IQ, and send a report of their findings and corrective actions to the BXC within thirty days.

In January 2020, IQ evaluations were performed on 52 x-ray units with the following results:

- 39 units (75%) had excellent image quality scores.
- 12 units (23%) had good image quality scores.
- 1 unit (2%) had fair image quality scores.
- 0 units (0%) had poor image quality scores.

Entrance Skin Exposures

Entrance skin exposure (ESE) is a measurement of the radiation exposure a patient receives from a single x-ray at skin surface. There are three main factors that affect ESE: technique factors, film-screen or digital image receptor speed, and film or digital image processing. A key element of our strategy is to ensure that facilities are aware of their ESE and to encourage them to take steps to reduce their ESE if it is high.

When the Bureau conducts inspections to determine compliance with New Jersey Administrative Code 7:28, a measurement of entrance skin exposure (ESE) is taken. A report containing the measurement results is sent to each facility at which an ESE measurement was taken. This report categorizes the facilities measured ESE as low, average, high or extremely high. Facilities with extremely high ESE readings are asked to consult with their physicist and determine the cause of the extremely high ESE, take corrective actions to reduce the x-ray machine ESE, and send a report of their findings and corrective actions to the BXC within thirty days.

Medical Facilities

Prior to the implementation of quality assurance regulations in June 2001, baseline data revealed that twenty-five percent of New Jersey facilities had extremely high ESE. These facilities are delivering unnecessary radiation exposure to its patients. The Bureau has documented a steady decrease in the number of facilities with extremely high patient radiation exposure since the implementation of its quality assurance program.

Radiographic ESE Ranges in Milliroentgens (mR)				
Exam	Low	Average	High	Extremely High
Chest	< 5	5 to 20	21 to 30	> 31
LS Spine	< 100	100 to 450	451 to 600	> 601
Foot	< 5	5 to 30	31 to 40	> 41

In January 2020, ESE measurements were calculated on 36 x-ray units that performed lumbosacral spine x-rays. Two units (5.5%) had extremely high ESE measurements.

In January 2020, ESE measurements were calculated on 2 x-ray units that performed chest x-rays. No units (0%) had extremely high ESE measurements.

In January 2020, ESE measurements were calculated on 14 x-ray units that performed foot x-rays. No units (0%) had extremely high ESE measurements.

Dental Facilities

Dental facilities use two types of digital imaging: direct radiography (DR) or computed radiology (CR); also, referred to as phosphor storage plates (PSP). Dental facilities also use two speeds of film: D and E/F or *Insight*. (*Insight* is the branded name of Kodak's F speed film). D is the slowest speed and requires sixty percent more radiation than E/F or F to produce an acceptable image. Direct radiography requires the least radiation.

The Bureau inspected two thousand eight hundred and twenty-one (2,821) intra oral dental units from January to December of 2015. Eighty one percent (81%) of all dental facilities evaluated in 2015 were using digital imaging systems. This percentage breaks down to seventy three percent (73%) used DR and eight percent (8%) used CR (PSP). Only nineteen percent (19%) of all dental facilities evaluated in 2015 were using film-based imaging. This percentage breaks down to twelve (12%) used D speed film and seven percent (7%) used E/F or F speed film.

An inexpensive way to reduce radiation is to change to a faster speed film. Our research determined that E/F or F speed film costs only a few cents more per film than D speed. No changes in equipment or processing are necessary to use a faster speed film.

When the Bureau conducts inspections to determine compliance with New Jersey Administrative Code 7:28, a measurement of entrance skin exposure (ESE) is taken. The Bureau collected baseline ESE data on dental x-ray machines for the years 2008 and 2009. This data was evaluated to establish the ranges for four ESE categories similar to those in the medical quality assurance program (low, average, high and extremely high). A report is generated and sent to each facility at which an ESE measurement was taken. This report gives the ESE and identifies which category the ESE falls into. The report explains ESE and its determining factors. Facilities with extremely high ESE readings are asked to consult with their digital or film representative or physicist and determine the cause of the extremely high ESE, make changes to reduce ESE, and send a report of their findings and corrective actions to the BXC within thirty days. The table below depicts the current ESE ranges for the various imaging systems used.

Dental ESE Ranges Measured in Milliroentgens (mR)				
Image Receptor	Low	Average	High	Extremely High
Digital (DR)	0 to 20	21 to 110	111 to 160	≥161
CR (PSP)	0 to 35	36 to 170	171 to 215	≥216

Film Speed				
D	0 to 100	101 to 285	286 to 350	≥351
E/F, F, Insight	0 to 50	51 to 150	151 to 205	≥206

In January 2020, ESE measurements were calculated on 104 dental x-ray units that used DR digital imaging. Eight units (8%) were measured as having extremely high ESE.

In January 2020, ESE measurements were calculated on 11 dental x-ray units that used CR (PSP) digital imaging. No units (0%) were measured as having extremely high ESE.

In January 2020, ESE measurements were calculated on 11 dental x-ray units that used D speed film. One unit (9%) were measured as having extremely high ESE.

In January 2020, ESE measurements were calculated on 3 dental x-ray units that used E/F, F or Insight speed film. No units (0%) were measured as having extremely high ESE.

Dental Amalgam Inspections

Effective November 1, 2009, all dental facilities that generate amalgam waste were required to install amalgam separators (N.J.A.C. 7:14A-1 et seq.). In June 2010, the Bureau met with Division of Water Quality staff to discuss the dental amalgam requirements and to develop an amalgam questionnaire. This questionnaire would be provided to each dental facility when they are scheduled for an x-ray inspection. During each inspection, the inspector verifies the information on the questionnaire and visually inspects that an amalgam separator has been installed. In January 2020, 71 amalgam questionnaires were collected. The total dental amalgam questionnaires collected for FY2020 is 565.

Inspection Activity and Items of Non-compliance

A three-page Inspector Activity Report of inspections performed, enforcement documents issued, and a description of the non-compliances found follows in Appendix A of this report.

Contact: Patricia Malloy (609) 984-5370

D. TECHNOLOGIST EDUCATION AND LICENSING SECTION

The Section continued to process license and examination applications investigate complaints and respond to inquiries during the month of January. Statistical information follows in Appendix A of this report. In addition to its regular business functions, the following highlights are reported:

Medical Physicist and Medical Assistant Certification Renewal Update:

On December 31, 2020, 290 medical physicist and medical physicist assistant certifications expired. Physicists and Assistants had the option to either renew on-line using the Department's Business Portal or mail the invoice to the Department of Treasury. Processing time via on-line

renewal is immediate and a license is issued within three days. Mailing a renewal may take up to two weeks to process.

As of January 31, 2020, 256 certifications have been renewed (88%). Fifty-one percent were renewed on-line. A current certification is needed to perform the annual medical physicist QC surveys that are required under N.J.A.C. 7:28-22.

Technologist Education and Licensing Section (Fees)

The Section continues to invoice individuals for initial licenses and examinations as applications are received or license renewal requests are made. The table below represents monthly and fiscal year-to-date billing and revenue activities.

Technologist Education & Licensing Section FY 2020 Invoiced & Collected				
Invoice Type	Monthly Invoiced	Monthly Collected	Fiscal YTD Invoiced	Fiscal YTD Collected
Examinations	\$0	\$0	\$480	\$480
Initial Licenses	\$5,440	\$4,120	\$48,580	\$48,500
Renewal Licenses	\$1,080	\$3,950	\$9,650	\$29,910
Totals	\$6,520	\$8,070	\$58,710	\$78,890

Contact: Al Orlandi (609) 984-5890

E. MAMMOGRAPHY SECTION

Stereotactic Facilities Inspected

The Mammography Section inspected 3 facilities with stereotactic/needle localization breast biopsy unit during the month of January. A total of 20 of the 61 planned stereotactic facility inspections have been performed since July 1, 2019.

Mammography Facilities Inspected

Mammography facilities are inspected by the Bureau’s FDA certified MQSA inspectors under the Mammography Quality Standards Act (MQSA). Any areas of non-compliance discovered during MQSA facility inspections are classified into one of three categories: Level 1, Level 2 and Level 3. Level 1 and Repeat Level 2 non-compliances are the most serious and the facility has fifteen days from the date of the inspection to respond to the FDA detailing the corrective actions they have taken. Level 2 and Repeat Level 3 non-compliances are considered serious. The facility must respond with their corrective actions within thirty days. Level 3 non-compliances are considered less serious and the facility is expected to correct the non-

compliance in a timely manner. Inspectors will review facility corrective actions at the next annual inspection.

The Mammography Section inspected 17 facilities in January. There was one facility found to have non-compliance issues. A total of 93 of the 239 facilities scheduled to be inspected under the contract that will expire on July 31, 2020.

Facility Non-compliance Discovered

There were no facilities with **Level 1 and Level 2 Repeat** non-compliances.

There was one facility with **Level 2** non-compliances.

Diagnostic review workstation (monitor) testing is not adequate because QC testing was not done at the required frequency.

Diagnostic review workstation (monitor) testing is not adequate because corrective actions before further images are interpreted for QC failures were not documented.

There were no facilities with **Level 3** non-compliances.

A table of inspection details can be found in Appendix A.

Contact: Mary Kanewski (609) 984-5370

F. BUREAU ENFORCEMENT SERVICES SECTION

Enforcement Actions for January 2020

Bureau Enforcement is responsible for producing and following up on all enforcement actions for violations found during Bureau x-ray inspections. Since the Bureau has not yet been fully integrated into the Department's NJEMS database system, it enters summary inspection information into NJEMS on all inspections conducted by the Bureau to provide more accurate inspection numbers for the Department's NJEMS reports. See the table below for current month and year to date information.

Inspections and Enforcement Documents Issued
January 2020

Bureau of X-Ray Compliance			
		Month	YTD
	Compliance Inspections entered into NJEMS	99	442
	Dental/CBCT Inspections entered into NJEMS	79	478

Notice of Violations	Closed	Effective	Pending	Total	YTD
	12	3	4	19	116

Administrative Orders	Closed	Effective	Pending	Total	YTD
	4	13	27	44	214

Notice of Prosecutions	Closed	Effective	Pending	Total	YTD
	0	17	24	41	210

Amount Assessed in Penalties	Amount Assessed for Month	Total amount assessed for FY	Amount Collected from current FY	Amount Collected from previous FY	Total amount collected
	\$24,700.00	\$96,350.00	\$78,800.00	\$25,150.00	\$103,950.00

Contact: Arthur Robinson (609) 984-5634

Inspector: ALL
Discipline: ALL

Number of Inspections Performed

Inspection Type	Inspection Description	Facilities Inspected	Machines Inspected	<u>Machines Audited</u>	<u>Machines Uninspected</u>
1	ROUTINE INSPECTION	84	248		27
2	VIOLATION INSPECTION ON SITE	3	2		8
9	HAND DELIVERY	24			61
11	INVESTIGATION	12			1
12	STEREOTACTIC INSPECTION	3	4		
15	QA INSPECTION ROUTINE LEVEL 1	73	59	62	2
22	NON-QA INSPECTION - HOSPITALS	1	1		1
28	DENTAL CBCT INSPECTION	28	161		3
Total On-Site Inspections:		<u>228</u>	<u>475</u>	<u>62</u>	<u>103</u>
6	OFFICE VIOLATION RESPONSE REVIEW	13		14	
18	OFFICE QA VIOLATION RESPONSE REVIEW	29		33	
23	OFFICE TECH CERT INSPECTION	7		7	
24	OFFICE INITIATED ENFORCEMENT ACTION	5		21	
27	OFFICE COMPLIANCE LETTER (FEES)	1		7	
30	DENTAL CBCT OFFICE REVIEW INSPECTION	8		8	
Total Office Inspections:		<u>63</u>		<u>90</u>	<u>0</u>

Number of Enforcement Documents Issued

NOV	11
AO	33
NOP	30
Amount of Penalties	\$18,100

Inspector: ALL

Discipline: ALL

Violation Code	Glossary Information	Description Non-Compliance	Number of Violations By Code
Violations Cited Non-QA			
Analytical			
A-001	8.1(g)	personnel monitoring records or true copy of same not available upon request.	1
A-002	21.6(a)1	Testing safety devices every six months.	1
A-005	21.6(a)3	Finger or wrist personnel monitoring equipment not provided.	1
Cabinet			
C-006	17.7(c)	Requirements for film badges not met.	2
CB			
CB-001	22.3(i)	No Alternate QA program for CBCT	6
CB-003	22.7(a)3	CBCT No MPQCS	6
Dental			
D-002	16.8(a)1	Survey of environs not available or not performed	1
D-003	16.8(a)2	Survey not available upon relocation or changes to shielding	2
D-016	16.3(a)7	kVp exceeds manufacturer's specifications (certified unit).	2
D-025	16.3(a)16	Timer accuracy exceeds manufacturer's specifications (certified units).	1
FEE			
FEE-001	3.12(g)	Failed to pay registration fees within 60 days of invoice date.	5
G			
G-007	2.5(c)	device not working properly	2
Registration			
REG1	3.1 (a) and	Failed to register the ionizing radiation producing machine within 30 days of acquisition.	2
TC			
TC-001	19.3(c)	x-rayed humans without a valid NJ license	7
Veterinary			
V-001	7.1(a)	veterinary unit no radiation safety survey of the environs	1
Total Violations Cited Non-QA			40

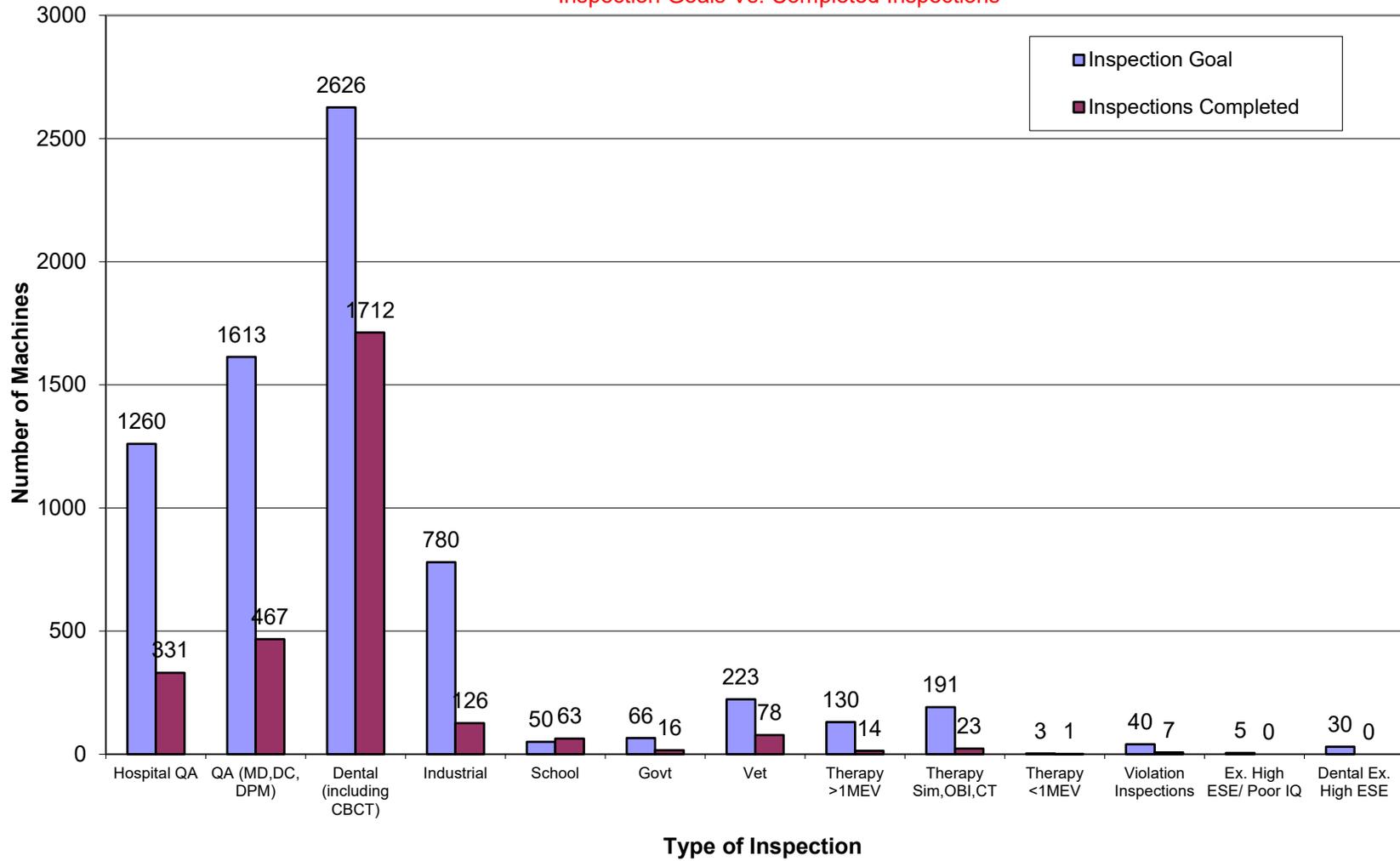
Violations Cited QA

Inspector: ALL
Discipline: ALL

Violation Code	Glossary Information	Description Non-Compliance	Number of Violations By Code
Violations Cited QA			
Quality Assurance			
QA-011	22.5(a)2	QC tests from Table 1 (Radiographic) not performed at the required intervals.	10
QA-012	22.5(a)3	Medical Physicist's QC Survey not performed at required interval or all tests not performed.	7
QA-037	22.6(a)2	QC tests from Table 2 (Fluoroscopic) not performed at the required intervals.	3
QA-063	22.7(a)2	QC tests from Table 3 (CT) not performed at the required intervals.	1
QA-097	22.8(f)1	Registrant failed to immediately initiate corrective action recommended I	1
QA-174	22.5(j)3	All images for QC tests for items 8, 11, 12 & 13 maintained for 1 year	2
QA-180	22.7(j)3	All images for QC tests for items 6, 7 & 8 maintained for one year	2
Total Violations Cited QA			<hr/> 26
Total Violations			<hr/> 66

2nd Quarter FY20

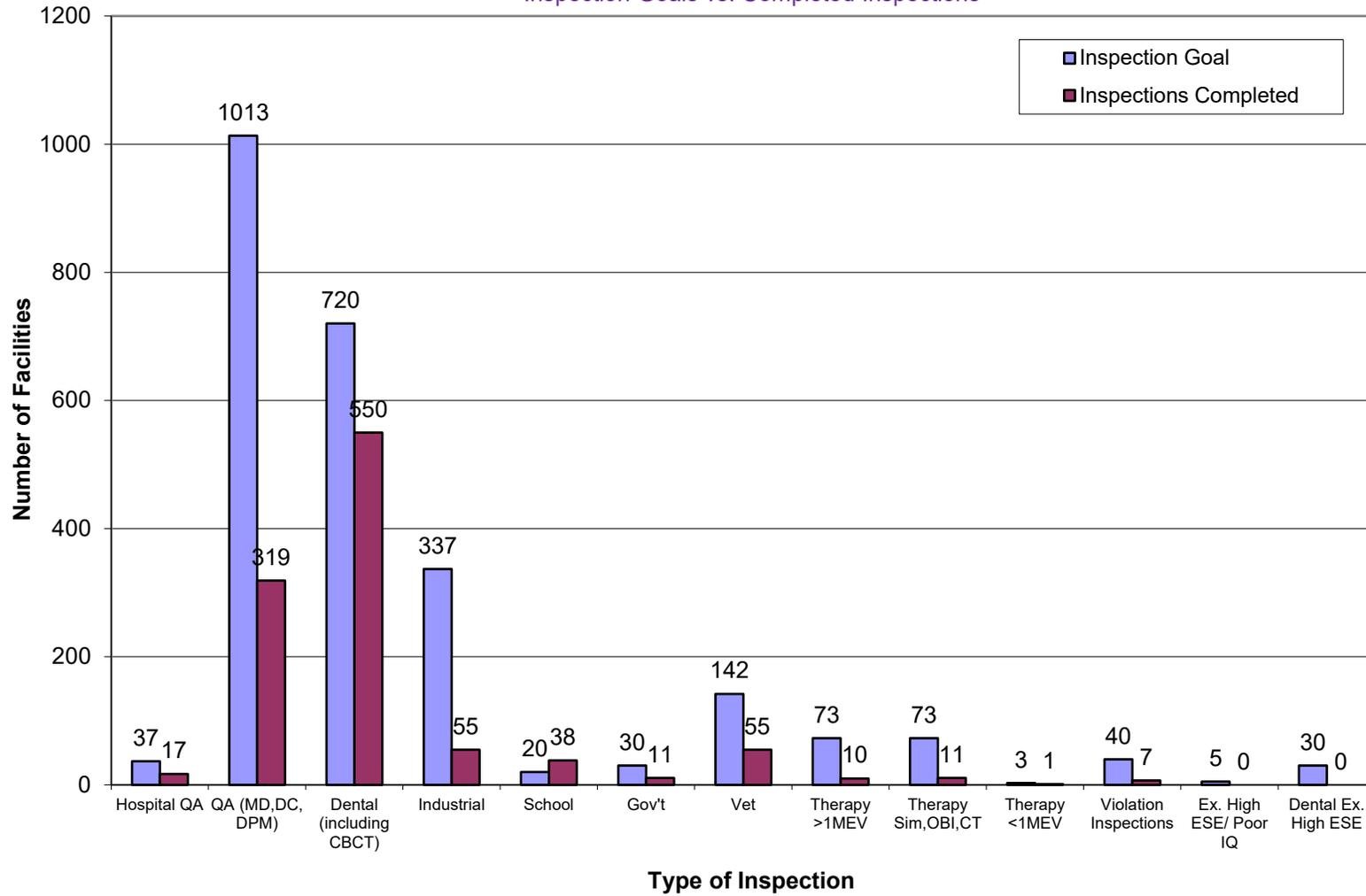
Machines Inspection Goals Vs. Completed Inspections



2nd Quarter FY20

Facilities

Inspection Goals vs. Completed Inspections

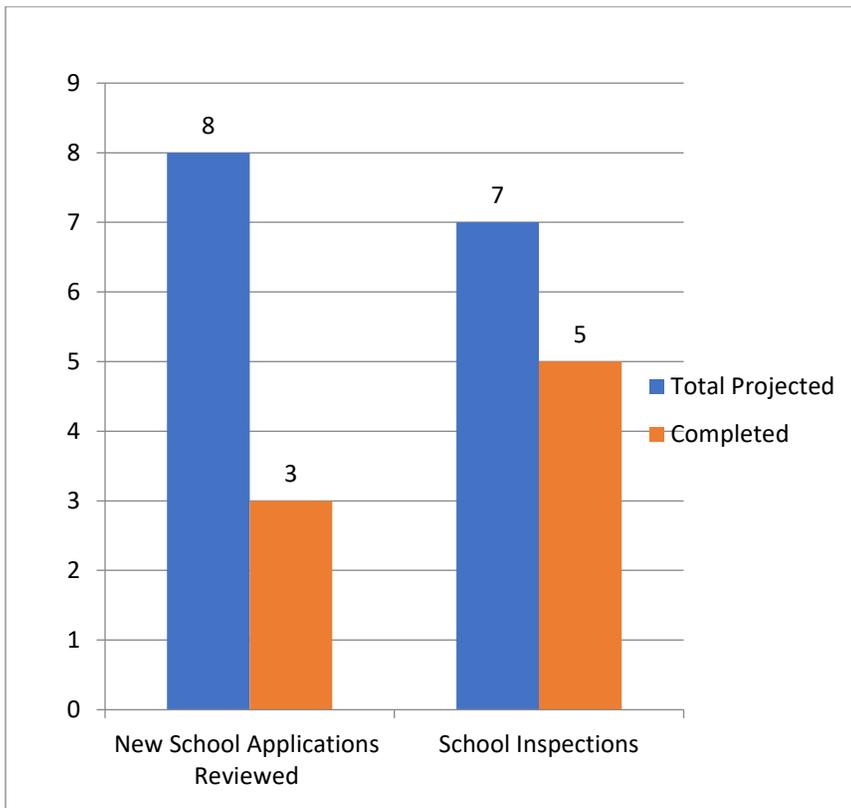
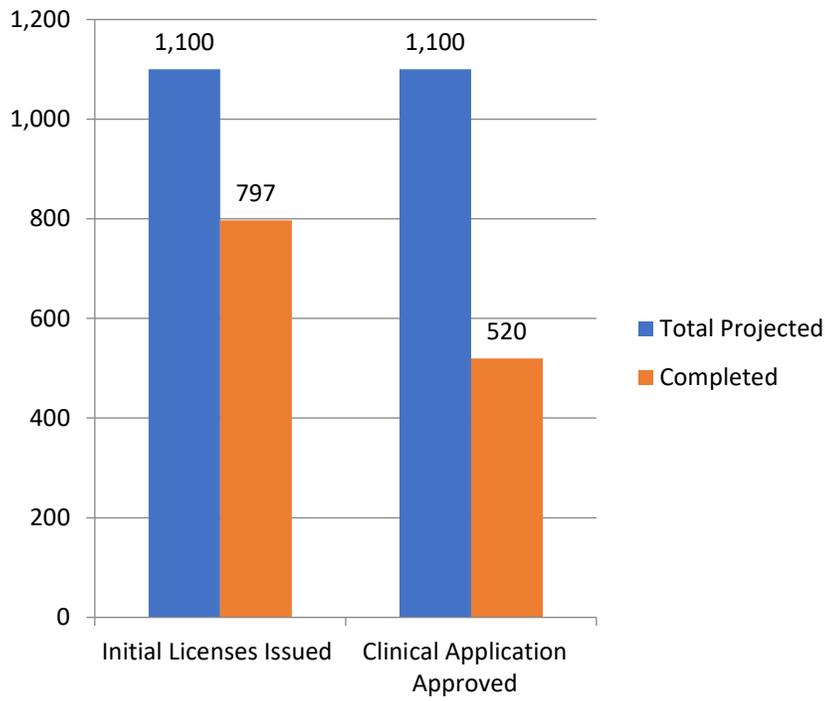


APPENDIX A - TECHNOLOGIST EDUCATION AND LICENSING SECTION

MONTH OF JANUARY 2020

License Category	Diagnostic Rad	Nuc Med	Rad Therapy	Dental Rad	Chest Rad	Podiatric Rad	Orthopedic Rad	Fusion Imaging CT	Monthly Total	FY to Date	FY Projected
Initial Licenses Processed	19	4	3	37	-	-	-	-	63	797	1,100
Licenses Renewed	7	2	1	29	-	-	-	-	39	300	N/A
Total Licensed	9,284	1,021	863	11,683	55	22	7	77	23,012	N/A	N/A
Exams Scheduled	-	-	-	-	-	-	-	-	0	2	N/A
Investigations Conducted	-	-	-	2	-	-	-	-	2	24	30
Licenses Verified	189	15	10	482	-	-	-	-	696	3,960	7,000
Expired Licenses	-	-	1	-	-	-	-	-	1	17	N/A
Unlicensed	3	-	-	2	-	-	-	-	5	18	N/A
Enforcement Documents Issued	12	-	4	8	-	-	-	-	24	140	N/A
NEAs Issued	-	-	-	-	-	-	-	-	0	0	N/A
Offer of Settlement	\$2,700	-	\$450	1,800	-	-	-	-	\$4,950	\$27,950	N/A
Licenses Sanctioned	-	-	-	-	-	-	-	-	0	2	N/A
Approved Educational Schools	15	2	3	21	-	-	-	-	41	41	N/A
New School Application Evaluated	-	-	-	1	-	-	-	-	1	3	8
Curriculum Modifications Evaluated	1	-	-	-	-	-	-	-	1	16	20
School Inspections Conducted	-	-	-	1	-	-	-	-	1	5	7
Total Schools Reviewed	1	-	-	2	-	-	-	-	3	24	27
Clinical Applications Approved	-	-	-	114	-	-	-	-	114	520	1,100

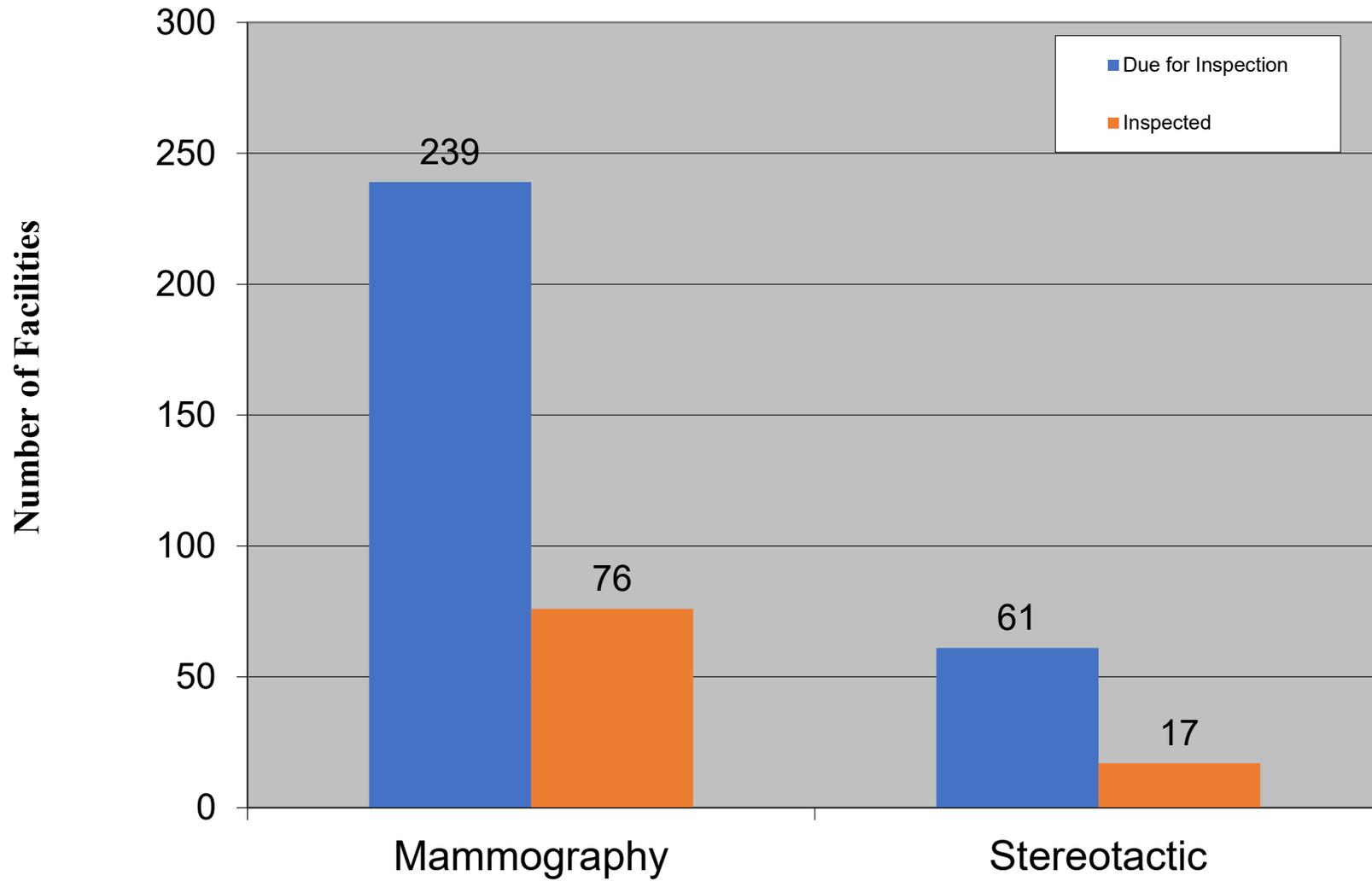
Technologist Education and Licensing Section 2nd Quarter



**Appendix A - Bureau of X-ray Compliance
Mammography Section
January 2020**

Type of Facility	INDUSTRY	PHYSICIAN	HOSPITAL	GOVERNMENT	TOTAL MONTH	FY TO DATE	TOTAL DUE THIS FY
MQSA							
Facilities Inspected	0	14	3	0	17	93	239
Machines Inspected	0	22	4	0	26	127	
FDA Violations Level 1	0	0	0	0	0	0	
FDA Violations Level 2	0	1	0	0	1	11	
FDA Violations Level 3	0	0	0	0	0	0	
Registered	0	1	2	0	3	19	
Canceled	0	0	0	0	0	25	
Stereotactic							
Facilities Inspected	0	0	3	0	3	20	61
Machines Inspected	0	0	4	0	4	21	
Notice of Violation	0	0	0	0	0	0	
Administrative Order	0	0	0	0	0	0	
Notice of Prosecution	0	0	0	0	0	0	
Registered	0	1	2	0	3	3	
Canceled	0	2	1	0	3	3	

Mammography Inspections FY2020 Inspection Goals vs. Completed Inspections - 2nd Qtr



SECTION III - BUREAU OF ENVIRONMENTAL RADIATION (BER)

A. OFFICE OF THE BUREAU CHIEF

National Radon Action Month Activities

The Radon Section partnered with the NJ Department of Health (DOH), Middlesex County, NJ municipalities, and the North Carolina Department of Environmental Protection (DEP) for a successful Radon Action Month in January. Posts on DOH and DEP social media and numerous articles on the internet played a crucial role in reaching residents of New Jersey. Specific details are outlined in the Radon Section report below.

New Staff Member

Christopher Giaquinto began his career at BER on January 21, 2020. Chris earned his Bachelor of Science degree at the Rutgers University School of Environmental and Biological Sciences (formerly Cook College). Chris has begun his training on basic health physics and will be working toward becoming a qualified license reviewer and inspector in the Agreement State Program.

B. RADIOACTIVE MATERIALS PROGRAM

Medical, Industrial, and Reciprocity

During the month of January 2020, the Radioactive Materials Program responded to three (3) radiation incidents:

Date	Type of Incident	Description	Status
1/8/20	Soil	Two loads of soil rejected at a RCRA waste facility and returned to origin at project site where it will be handled and processed as previous loads from this site have been.	Pending
1/21/20	Other	Notification of radiological contamination on an existing site cleanup investigation.	Closed
1/29/20	Soil	Load of soil rejected at a RCRA waste facility, returned to origin in Maryland.	Closed

Contact: Nancy Stanley (609) 984-5452

Training

On January 28th, two BER RAMRAT staff attended the Primary Screening Backpack (PackEye) course offered by the NJ State Police Hazardous Materials Response Unit (HMRU) held at the Middlesex County Fire Academy.

Contact: Nancy Stanley (609) 984-5452

C. ROUTINE ACTIVITIES

	This Month 1/1/20-1/31/20	FY-To-Date 7/1/19-1/31/20
Number of Amendments Processed:	17	131
Number of Renewals Processed:	3	18
Number of Initial Applications Processed:	0	9
Number of Active Licenses	585	585
Number of Terminations:	1	10
Number of Reciprocity Requests Received:	45	197
Number of Incidents:	3	15
Number of Inspections:	5	133

Contact: Debbie Wenke (609) 984-5509

General Licensing

Reconciliation of the Generally Licensed and Tritium Databases that were inherited from the NRC in 2009 continues. 139 sources on the databases were verified during January.

Staff continues to maintain entry of quarterly reports from manufacturers and distributors into the generally licensed database. 27 reports were received reflecting quarterly transactions.

Generally Licensed Device Registration Forms continue to be maintained. A total of 50 registrations are currently active.

Contact: Sarah Adkisson (609) 984-5466

D. SUMMARY OF ENFORCEMENT – January 2020

Bureau of Environmental Radiation – By Month (1/1/20 – 1/31/20)				
Administrative Orders				
	Closed	Effective	Pending	Total
Radioactive Materials Section	1	1	1	3
Radon Section	0	0	3	3
Notice of Prosecutions				
	Closed	Effective	Pending	Total
Radioactive Materials Section	0	0	0	0
Radon Section	0	0	1	1
Notice of Violations				
	Closed	Effective	Pending	Total

Radioactive Materials Section	0	0	0	0
Radon Section	0	0	2	2
Bureau of Environmental Radiation – Fiscal Year to Date (7/1/19 – 1/31/20)				
Administrative Orders				
	Closed	Effective	Pending	Total
Radioactive Materials Section	11	4	1	16
Radon Section	0	0	3	3
Notice of Prosecutions				
	Closed	Effective	Pending	Total
Radioactive Materials Section	1	1	0	2
Radon Section	0	0	1	1
Notice of Violations				
	Closed	Effective	Pending	Total
Radioactive Materials Section	4	2	0	6
Radon Section	0	0	2	2
Amount Assessed in Penalties = FY				
	Total Amount Assessed for FY 20	Amount Collected from Current FY20	Amount Collected from FY19	Total Amount Collected (FY19+FY20)
Radioactive Materials Section	\$1,250.00	\$1,250.00	\$ 6,505	\$ 7,755
Radon Section	\$0.00	\$0.00	\$87,000	\$87,000
Amount Assessed in Penalties = By Month				
	Total Amount Assessed for 1/1/20 – 1/31/20		Amount Collected from 1/1/20 – 1/31/20	
Radioactive Materials Section	\$0.00		\$0.00	
Radon Section	\$0.00		\$0.00	

E. RADIOLOGICAL AND ENVIRONMENTAL ASSESSMENT SECTION (REAS)

Water Treatment

There are currently 23 active water treatment systems regulated with specific licenses and 17 active general license registrations (12 radium systems and 5 uranium systems). One specifically licensed facility was terminated. One inspection of a generally licensed treatment system was conducted. No items of noncompliance were found.

Contact: Joseph Power (609) 777-4252

Decommissioning and Contaminated Site Reviews

Staff worked on the following sites/projects:

- National Lead site in Sayreville
- Shieldalloy Metallurgical Corporation in Newfield
- Howmet Corporation in Dover
- JT Baker in Phillipsburg
- American Dream Meadowlands Project in East Rutherford
- FMC Corporation in Carteret
- Rustoleum in Newark
- Schlumberger in Princeton

A site visit was conducted at Howmet to assess ongoing remedial investigation.

Contacts: James McCullough (609) 984-5480 or Joseph Power (609) 777-4252

Historic Non-Military Radium Project

Staff are planning surveys necessary to address one historic radium company, located at six contiguous properties in Newark. Remediation of one previously identified property was undertaken, and BER staff were on-site for assistance.

Contacts: James McCullough (609) 984-5480 or Jenny Goodman (609) 984-5498

F. RADON SECTION

National Radon Action Month Activities

- Governor Murphy issued proclamation, Dec 2019
- The NJDEP Radon Section home page saw a record high of over 2,200 visitors during RAM
- 2 NJDOH & 5 NJDEP Tweets; 2 NJDOH & 1 NJDEP Facebook posts; and 1 NJDOH RAM Instagram post during January yielded 37 likes, 23 shares, and 65 bit.ly clicks
- The NJDEP assisted Middlesex county by conducting a presentation covering the topic of radon in residential homes
- 165 phone calls received for RAM2020 by NJDEP Radon Section
- The NJDEP attended a League of Municipalities convention where radon information and materials were shared
- 61 notices or articles about free NJDEP radon testing kits or promoting Radon Action Month in NJ were posted online

- The NJDEP partnered with the North Carolina DEP to present a four-part webinar series covering a variety of radon related topics presented by industry experts; 500 viewer slots were filled

Contact: Brian Giancola (609) 984-5434

Electrets

Two electrets were sent out to one homeowner as part of the post-mitigation testing program. Two other electrets were sent out to a homeowner as part of the confirmatory testing program. The electrets have not yet been returned.

Contact: Charles Renaud (609) 984-5423

Inspections

Two businesses were inspected. The final reports are pending.

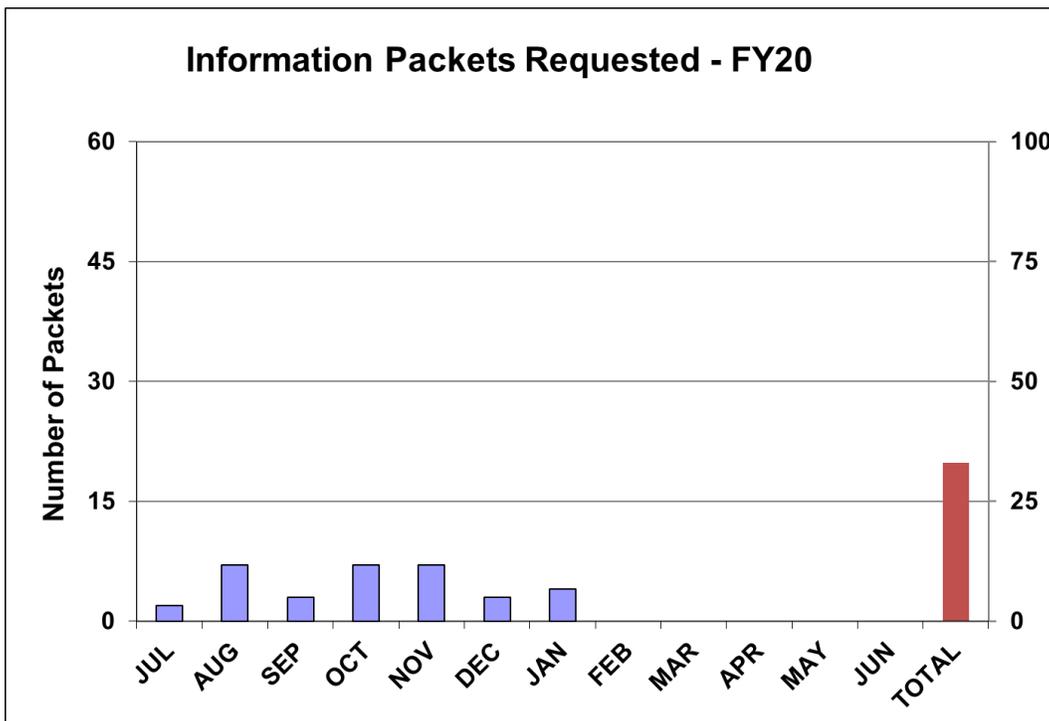
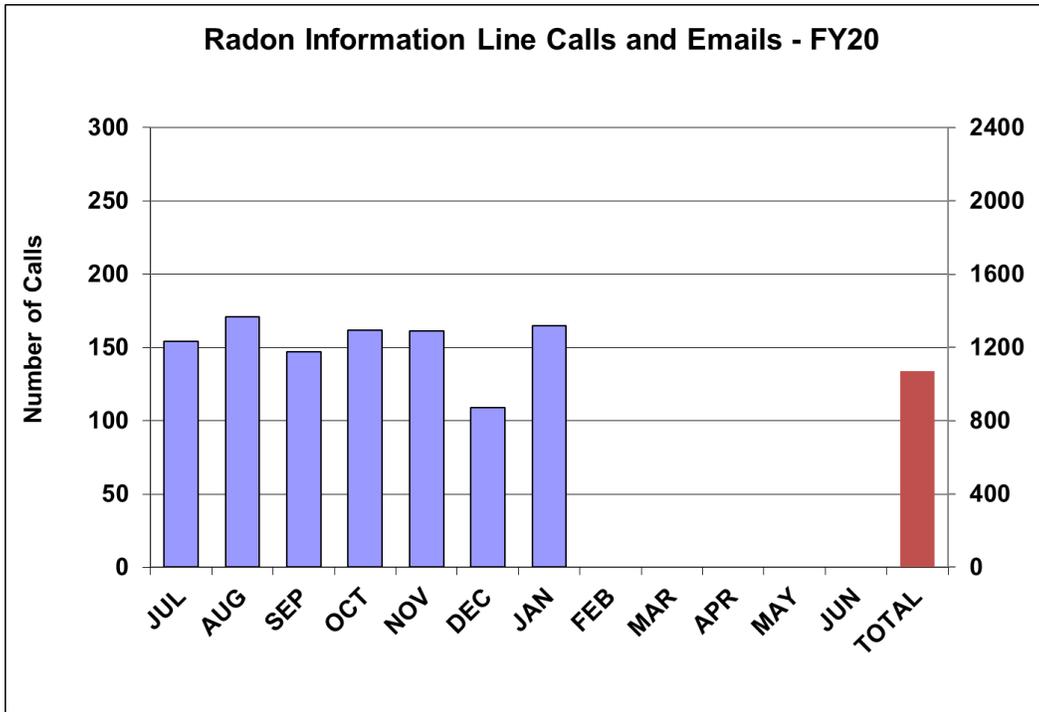
Contact: Charles Renaud (609) 984-5423

Measurement and Mitigation Radon Certifications

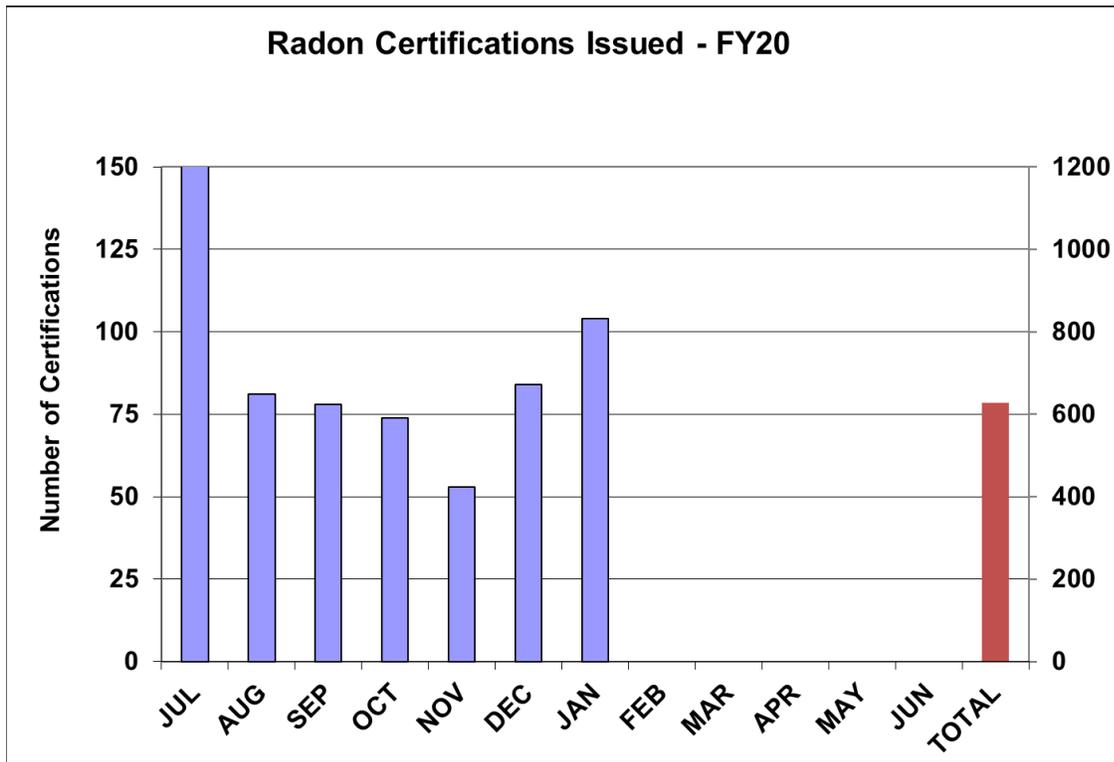
Certification Type	Initial	Renewal
MES		4
MET	8	74
MIS	1	2
MIT	1	1
Provisional to Full		11
MEB		2
MIB		2

Contact: Anita Kopera (609) 984-5543

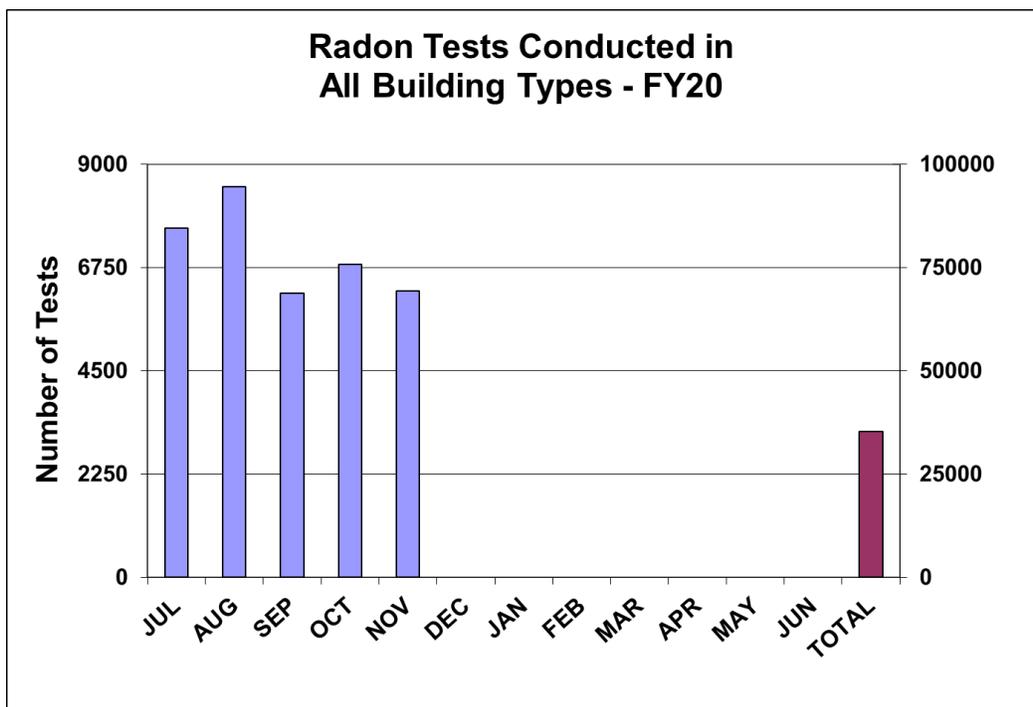
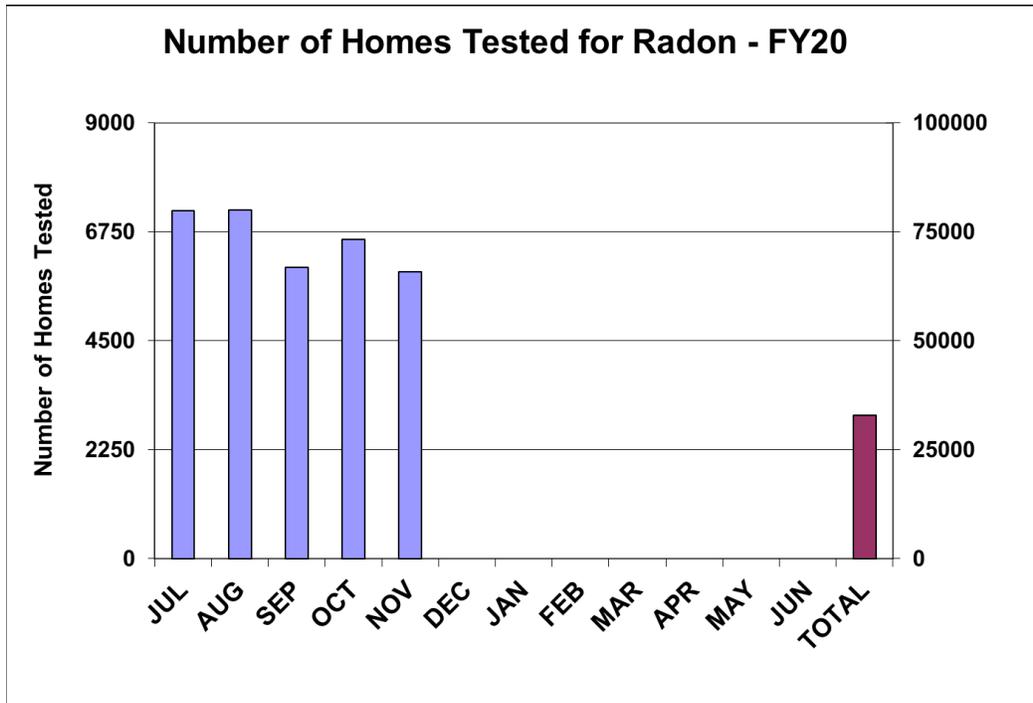
APPENDIX B: BUREAU OF ENVIRONMENTAL RADIATION SUMMARY OF STATISTICS

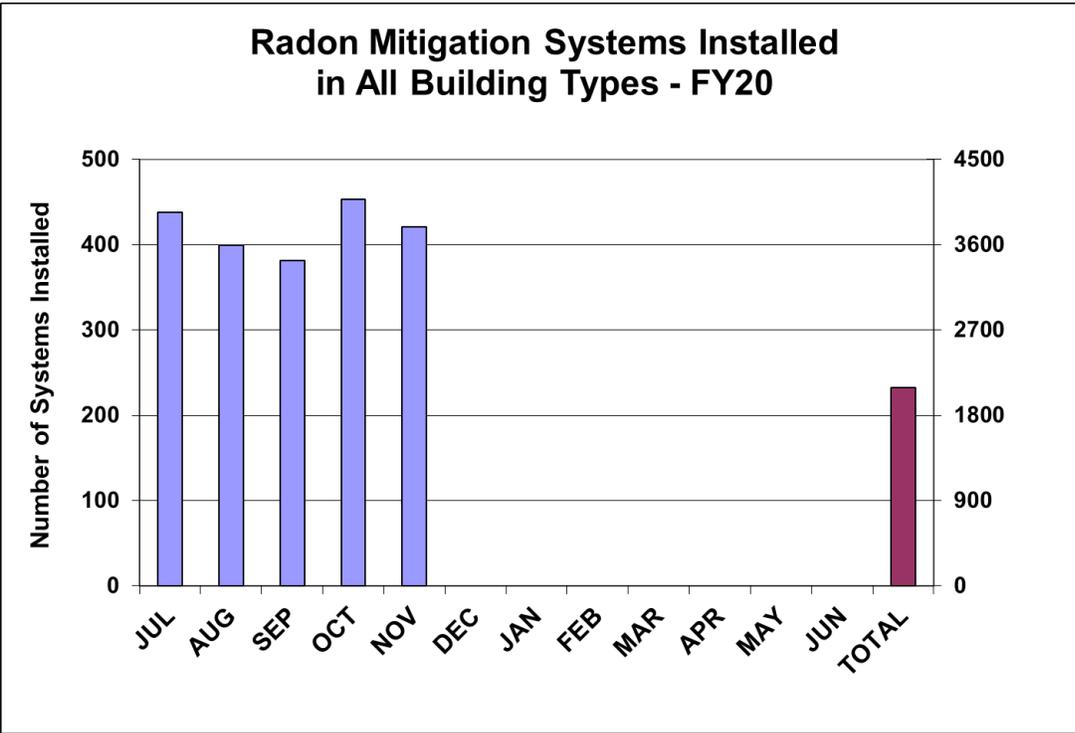
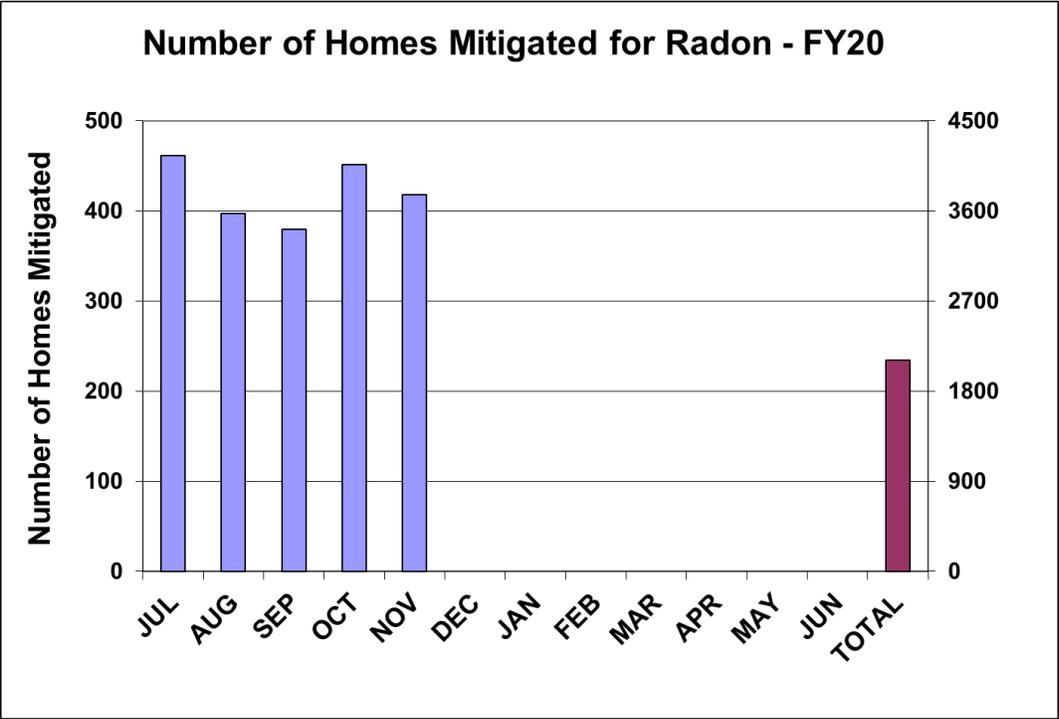


Radon Certifications Issued - FY20



Radon testing and mitigation data is submitted to the Radon Section monthly by all certified radon businesses. This data has been collected for all building types since the implementation of the radon certification regulations in 1991. According to N.J.A.C. 7:28-27.28 (a) and (e), Radon test results and mitigation reports for November 2019 are due by January 1, 2020.





SECTION IV – BUREAU OF NUCLEAR ENGINEERING (BNE)

A. OFFICE OF THE BUREAU CHIEF

Significant Events

None

B. NUCLEAR ENGINEERING SECTION

Oyster Creek – Permanently Shutdown

Exelon permanently ceased power operations at Oyster Creek on September 17th, 2018. Oyster Creek immediately began the process of defueling the reactor which was completed on September 25th, 2018. Following defueling completion, Exelon provided certifications to the Nuclear Regulatory Commission (NRC) of permanent cessation of power operations and permanent removal of fuel from the reactor. Oyster Creek is currently in the DECON mode of decommissioning.

On August 31, 2018, Exelon Generation and Holtec International submitted a License Transfer Application (LTA) to the NRC. The NRC completed its review of the LTA and found that Holtec is suitable and qualified to complete the safe decommissioning of Oyster Creek. The NRC approved the LTA on June 20, 2019. On July 1, 2019, Holtec International and its subsidiaries announced the ownership and acquisition of Oyster Creek. Holtec Decommissioning International (HDI), a subsidiary of Holtec International, is the licensed owner of Oyster Creek. Holtec through its subsidiary HDI, has formed Comprehensive Decommissioning International (CDI). CDI will manage and perform day-to-day licensing and decommissioning activities at Oyster Creek.

Oyster Creek Decommissioning Projects

General Electric Hitachi (GEH) has commenced the reactor vessel head segmentation project. GEH has completed the removal and segmentation of the reactor head heat shield and the drywell head concrete shield plugs. GEH has also completed the drywell head segmentation.

CDI is currently working on the construction of the expansion of the Independent Spent Fuel Storage Installation (ISFSI) pad. The ISFSI pad expansion will accommodate storage of all Spent Fuel and Greater than Class C (GTCC) Waste casks. The ISFSI pad expansion will also provide a new stand-alone Security Building for future ISFSI only operations. The present CDI schedule indicates that all the ISFSI pad construction and dry runs will be completed during 2020 and all fuel assemblies presently in the spent fuel pool will be moved into dry storage on the ISFSI pad no later than the end of 2021.

Contact: Veena Gubbi (609) 984-7457

Hope Creek

Hope Creek ran essentially at full power throughout January except for brief power reductions to perform reactor control rod pattern adjustments.

Contact: Jerry Humphreys (609) 984-7469

Salem Unit 1

Salem Unit 1 ran at essentially full power throughout January.

Contact: Elliot Rosenfeld (609) 984-7548

Salem Unit 2

Salem Unit 2 ran at essentially full power throughout January.

Contact: Elliot Rosenfeld (609) 984-7548

NRC Performs Design Bases Assurance Inspection (DBAI) at Salem Generating Station

During the weeks of January 13th and January 27th, two NES engineers observed the NRC Design Bases Assurance Inspection for Salem. The inspection was done in accordance with NRC Inspection Procedure 71111.21M, "Design Bases Assurance Inspection (Team)". The objectives of this inspection were: to verify that components will function as required and support the proper operation of associated systems; to review outstanding design issues, including open/deferred or cancelled engineering action items, temporary modifications, operator workarounds, and items that are tracked by the operations or engineering departments; and to verify that operator actions can be accomplished as assumed in the licensee's design basis or as assumed in the licensee's PRA analysis. The results of this inspection will be documented in NRC report 2020-011 for Salem. The report will be available to the public within forty-five (45) days following the NRC Team exit meeting which was held on January 30th.

Contact: Elliot Rosenfeld (609) 984-7548 or Jacob Fakory (609) 984-7458

Vermont Yankee Nuclear Decommissioning Citizens Advisory Panel (NDCAP) Webcast

On January 13th, one NES engineer attended the webcast of the Vermont Yankee Nuclear Decommissioning Citizens Advisory Panel webinar held in Brattleboro, VT. NorthStar (owner of Vermont Yankee) provided a summary of the ongoing reactor vessel segmentation activities; material transport operations; segmentation of steam separator; turbine valves and steam piping removal; and, the demolition of other buildings. The Vermont Commissioner of Environmental Conservation (DEC) provided a summary of the environmental permitting required for Vermont Yankee's current decommissioning and demolition activities and discussed the timelines for the DEC review of several permit applications filed by NorthStar for upcoming decommissioning and demolition work. A representative from the Vermont Yankee Department of Health

provided a summary on the environmental surveillance and radioactive material shipments for 2019. The representative from the Vermont Department of Public Service provided a summary of its review of financial performance of the project to confirm work performed is consistent with Nuclear Decommissioning Trust (NDT) withdrawals.

Contact: Veena Gubbi (609) 984-7457

NES Supervisor Represents the Council of State Governments/Eastern Regional Conference (CSG/ERC) Northeast High-Level Radioactive Waste Transportation Task Force (NE Task Force) at the Tribal Radioactive Materials Transportation Committee (TRMTC) Semi-Annual Meeting

As part of the national Council of State Governments, the CSG/ERC supports legislative and executive branch state officials from the eleven Northeastern States from Maine to Maryland, Puerto Rico, U.S. Virgin Islands and the Canadian provinces of Quebec, New Brunswick, Ontario, Nova Scotia and Prince Edward Island. This support is in areas relating to agriculture, criminal justice, U.S./Canada relations, education, energy and environment, fiscal affairs, health, international trade and transportation.

The CSG/ERC NE Task Force assists the northeastern states in planning and preparing for the transportation of spent nuclear fuel and high-level radioactive materials with the goal of the safe, secure and uneventful transportation of such materials. The task force also facilitates communication and discussion of information, comments and policies among the northeastern states and between those states and relevant offices and programs of the U.S. Department of Energy (DOE) and other federal entities (e.g., the U.S. Nuclear Regulatory Commission (NRC)). The NES Supervisor is one of the co-chairs for the NE Task Force, along with the representative from Pennsylvania.

On January 23rd & 24th, the Tribal Radioactive Materials Transportation Committee (TRMTC) met in Scottsdale, AZ. The TRMTC consists of members of seventeen (17) active native-American tribes that meet semi-annually to plan and discuss topics relevant for the National Transportation Stakeholders Forum (NTSF). The NTSF is the mechanism through which Department of Energy (DOE) communicates at a national level with tribes and states about the shipments of radioactive waste and materials. NTSF meetings focus specifically on discussing packaging and transportation, emergency management, security, inspection and enforcement, and radiation protection.

The purpose of the meeting was to discuss updates on current tribal activities, federal programs and policy development concerning areas such as radioactive waste storage, transportation, emergency response planning, radiological health, nuclear facility technical issues and other related matters. The TRMTC is the corresponding organization for the native-American tribes that provides the same functions as does the NE Task Force in the northeastern United States. Including the Tribal organization, there are five such organizations in the country (Northeast, South, Midwest, West & Tribal).

The NES Supervisor, in his capacity as a NE Task Force Co-Chair, along with the Director of the NE Task Force attended the TRMTC meeting. The Director and the NES Supervisor provided updates to the TRMTC concerning ongoing activities of the NE Task Force.

Contact: Jerry Humphreys (609) 984-7469

Radioactive Materials Shipment Notifications

The Bureau of Nuclear Engineering is responsible for tracking certain radioactive materials that are transported in New Jersey. Advance notification for these radioactive materials are in three categories: 1) Spent Fuel and Nuclear Waste; 2) Highway Route Control Quantity Shipments; and 3) Radionuclides of Concern. Each category must meet certain packaging and notification requirements established by the federal government. Below is a table representing the number of shipments completed in January 2020:

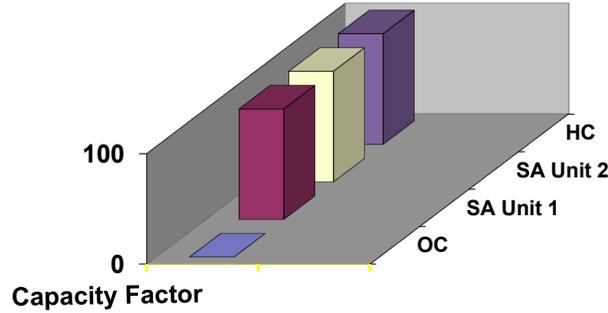
Spent Fuel and Nuclear Waste	Highway Route Control Quantity Shipments	Radionuclides of Concern
0	1	0

Contact: Jerry Humphreys (609) 984-7469 or Veena Gubbi (609) 984-7457

BUREAU OF NUCLEAR ENGINEERING

Plant Operating Performance – January 2020

Note: On September 17th, 2018 Oyster Creek permanently ceased operation.



STATISTICAL INFORMATION

EMERGENCY AND NON-EMERGENCY EVENT NOTIFICATIONS FOR
JANUARY 2020

Emergency events (EEs) at nuclear power plants are classified, in increasing order of severity, as an Unusual Event (UE), Alert, Site Area Emergency (SAE), and General Emergency (GE). Non-emergency events (NEEs) are less serious events that require notification of the NRC within one to twenty-four hours. The nuclear power plants operating in New Jersey also notify the BNE of NEEs. The BNE analyzes the NEEs as part of its surveillance of nuclear power plant operation.

	JANUARY 2020		JANUARY 2019		JANUARY 2018	
	EE	NEE	EE	NEE	EE	NEE
OYSTER CREEK	0	0	0	0	1	0
SALEM 1	0	0	0	0	0	0
SALEM 2	0	0	0	1	0	0
SALEM SITE	0	0	0	0	0	0
HOPE CREEK	0	0	0	0	0	0

C. NUCLEAR ENVIRONMENTAL ENGINEERING SECTION

Radiological Environmental Monitoring Program

The BNE conducts a comprehensive Radiological Environmental Monitoring Program (REMP) in the environs surrounding New Jersey's four nuclear generating stations. The program collected 97 samples during the month of January 2020. The number and type of samples collected are given in the table below.

Sample results are entered into the BNE's database for tracking and trending of environmental results. Data obtained from these analyses are used to determine the effect, if any, of the operation of New Jersey's nuclear power plants on the environment and the public. BNE staff reviews all results to ensure that required levels of detection have been met and that state and federal radiological limits have not been exceeded. Any exceedances, or anomalous data, are investigated. The REMP includes the development of annual data tables. The data tables, covering sampling results conducted during the prior calendar year in the environs of the Oyster Creek and Salem / Hope Creek nuclear power plants, can be found on the NJDEP website at <http://www.nj.gov/dep/rpp/bne/esmr.htm>, along with data tables from previous years.

Questions regarding specific test results or the annual environmental report can be directed to Karen Tuccillo. Results of specific analyses can be obtained by request.

COUNT OF SAMPLES COLLECTED IN JANUARY 2020

SAMPLE MEDIUM	NUMBER OF SAMPLES
AIR FILTER	31
AIR CHARCOAL	31
AIR PARTICULATE COMPOSITE	14
MILK (Cow)	3
SURFACE WATER	9
POTABLE WELL WATER	9
TOTAL SAMPLES	97

Update on Salem Units 1 & 2 and Hope Creek Tritium Monitoring

During the month of January 2020, 7 groundwater monitoring well samples were collected and shipped to the BNE's contract laboratory, GEL Laboratories, for radiological analysis.

Contacts: James J. Vouglitois (609) 984-7514 or Karen Tuccillo (609) 984-7443

Update on Oyster Creek Tritium Monitoring

During the week of January 27, 2020, 14 groundwater monitoring well samples and one (1) surface water sample were collected and shipped to GEL Laboratories, LLC. Results of the groundwater (and surface water) analyses can be found on the BNE website at: <http://www.state.nj.us/dep/rpp/bne/bnedown/FinalOCH3.pdf>.

Contacts: Paul E. Schwartz (609) 984-7539 or Compton Alleyne (609) 984-7455

PSEG Delaware River Dredging Project

NEES staff coordinated the collection and radiological analysis of sediment samples associated with a dredging permit application being prepared by PSEG. The utility is planning to dredge an access channel between the existing main navigation channel in the Delaware River, and their property located just north of the Hope Creek Nuclear Generating Station. The project involves the dredging of approximately 2.39 million cubic yards of sediment from an area comprising 91.9 acres. Pending the results of chemical and radiological analyses of sediment samples from the area to be dredged, the sediment will be deposited in an existing upland confined disposal facility located nearby.

Contacts: Karen Tuccillo (609) 984-7443 or Jay Vouglitois (609) 984-7514

Quarterly Thermoluminescent Dosimeter (TLD) Exchange

On January 15, 2020 and January 16, 2020, technicians from the BNE's subcontractor retrieved 4th quarter 2019 TLD badges and deployed 1st quarter 2020 TLD badges in the surrounding environs and Independent Spent Fuel Storage Installations (ISFSI) of the Oyster Creek and Artificial Island nuclear power plant sites, as well as two background stations. BNE staff analyzed the retrieved TLD badges. Results will be reported in the BNE's Annual Environmental Surveillance and Monitoring Report tables, available for viewing on the DEP website at: <http://www.state.nj.us/dep/rpp/bne/esmr.htm>

Contact: Compton Alleyne (609) 984-7455

New Jersey Workplace Violence Training

Staff members completed mandatory New Jersey Workplace Violence Training – Recognize, Prevent and Report. This online training provides an overview of the legislation that has shaped workplace violence policies and procedures; reinforces preventative measures to take to deter violence in the workplace; and emphasizes the importance of reporting workplace violence incidents. By completing this training, participants will feel empowered with the knowledge and resources needed to support and maintain a productive and safe work environment.

Contacts: Karen Tuccillo (609) 984-7443

Effluent Release Data

The BNE monitors the effluents released from all four (4) nuclear generating stations each month. The reported effluents include fission and activation products, total iodine, total particulate and tritium released to the atmosphere and water. At the Oyster Creek, Hope Creek and Salem nuclear power plants, releases to the air and water are monitored each month and compared to historic releases. Releases to the atmosphere are from the 112-meter stack (Oyster Creek) or various monitored building vents (Oyster Creek, Hope Creek and Salem). On September 17, 2018, the Oyster Creek Nuclear Generating Station (owned and operated by Exelon Nuclear) ceased to generate power leading to a reduction in gaseous effluents. On September 25, 2018, the plant officially entered Decommissioning.

Prior to November 2010, Oyster Creek did not routinely release liquid effluents to the environment. In accordance with a DEP Directive (EA ID #: PEA100001) issued to the Oyster Creek Nuclear Generating Station, and the Spill Compensation and Control Act (N.J.S.A. 58:10-23.11), Exelon was required to cleanup and remove tritium discharges released onsite from underground pipe leaks that occurred during calendar year 2009. In late November 2010, the pumping of groundwater at Oyster Creek was initiated in support of the ongoing tritium groundwater monitoring project. With DEP approval, Exelon sampled groundwater from a dedicated pumping well (MW-73), measuring the concentration of tritium in the extracted groundwater and discharging it into the plant's intake structure.

On June 20, 2019, the NRC approved the transfer of the OCNNGS license from Exelon to Oyster Creek Environmental Protection, as owner, and Holtec Decommissioning International (HDI), as decommissioning operator. The license transfer officially took place on July 1, 2019. HDI continued the sampling and measurement of tritium concentration of groundwater from MW-73.

On November 4, 2019, MW-73 was placed out of service due to a pump failure. Based on the licensee's long history of negative tritium well sampling results, HDI shall no longer be pumping groundwater from MW-73. However, HDI will continue monitoring tritium activity from this well on a routine basis. Should there be a change in sampling results (upward trend in tritium activity) from MW-73, the licensee has the option to resume groundwater extraction.

On January 9, 2020, in a letter from the State of New Jersey DEP to the Holtec International Decommissioning Plant Manager of Oyster Creek, the Bureau of Nuclear Engineering and Site Remediation Program concurred that the Oyster Creek site had complied with the requirements outlined in the paragraph 41 of the Directive and Notice to Insurers EA ID #: PEA100001, thereby closing the Directive.

In addition to groundwater monitoring it is necessary for the plant to process and discharge liquid effluents as a necessary activity during decommissioning of the site and eventual license termination. Radioactive liquid effluent discharged as a result of decommissioning activities will be monitored by HDI. All liquid effluent data are reported below. Additional information on the Oyster Creek tritium leak is available at the DEP website, <http://www.state.nj.us/dep/rpp/bne/octritium.htm>.

PSEG Nuclear
Radioactive Effluent Releases¹
Nuclear Environmental Engineering Section
For the Period of 12-01-19 to 12-31-19

Hope Creek
Gaseous
Effluents

<u>Effluent</u>		
Fission Gases	0	Ci
Iodines	0.00004	Ci
Particulates	0.000006	Ci
Tritium	11.9	Ci

Hope Creek
Liquid Effluents

<u>Effluent</u>		
Fission Products	0.000041	Ci
Tritium	1.72	Ci

Salem Unit 1
Gaseous Effluent

<u>Effluent</u>		
Fission Gases	0.0243	Ci
Iodines	0	Ci
Particulates	0	Ci
Tritium	7.86	Ci

Salem Unit 1
Liquid Effluents

<u>Effluent</u>		
Fission Products	0.000085	Ci
Tritium	85.0	Ci

Salem Unit 2
Gaseous Effluent

<u>Effluent</u>		
Fission Gases	0.032	Ci
Iodines	0	Ci
Particulates	0	Ci
Tritium	23.9	Ci

Salem Unit 2
Liquid Effluents

<u>Effluent</u>		
Fission Products	0.00042	Ci
Tritium	112.0	Ci

The gaseous and liquid effluent data for the Oyster Creek, Salem, and Hope Creek nuclear plants for December 2019 have been included in this report.

¹ Effluent releases are preliminary totals. The official radioactive effluent releases from each facility are contained in the licensee's "Annual Radioactive Effluent Release Report" and can be found on the USNRC website at, <https://www.nrc.gov/reactors/operating/ops-experience/tritium/plant-info.html>. These reports are submitted annually by the licensee to the NRC by May 1st of the following calendar year.

**Holtec Decommissioning International (HDI)
Radioactive Effluent Releases
Nuclear Environmental Engineering Section
For the Period of 12-01-19 to 12-31-19**

**Oyster Creek
Gaseous Effluents
Elevated Releases**

<u>Effluent</u>			
Fission Gases	0	Ci	
Iodines	0	Ci	
Particulates	0	Ci	
Tritium	0.093	Ci	

**Oyster Creek
Gaseous Effluents
Ground Releases**

<u>Effluent</u>			
Fission Gases	0	Ci	
Iodines	0	Ci	
Particulates	0	Ci	
Tritium	0	Ci	

**Holtec Decommissioning International (HDI)
Radioactive Effluent Releases
Nuclear Environmental Engineering Section
For the Period of 12-01-19 to 12-31-19**

Oyster Creek Liquid Effluents

<u>Effluent</u>			
Fission Products	0.0002	Ci	
Tritium	0.27	Ci	

Oyster Creek Liquid Effluent Groundwater Extraction²

<u>Effluent</u>			
Tritium	< MDA ³	Ci	

² On November 4, 2019, Pumping Well MW-73 failed and was placed out of service. The current plan is to continue monitoring MW-73, and to terminate pumping unless activity is identified that would require restoration of groundwater extraction by returning the pump for MW-73 to service.

³ The Minimum Detectable Activity (MDA) is the smallest amount of radioactivity in a sample that can be detected with a 5% probability of erroneously detecting radioactivity, when, in fact, none was present, also, a 5% probability of not detecting radioactivity, when in fact it is present. The laboratory's MDA was 1.98E-6 uCi/mL. The USNRC Code of Federal Regulation's 10 Appendix B to Part 20, Table 2, Column 2 tritium (H-3) concentration limit is 1.0E-3 uCi/mL.

D. NUCLEAR EMERGENCY PREPAREDNESS SECTION

Continuous Radiological Environmental Surveillance Telemetry System

Thirty-two Continuous Radiological Environmental Surveillance Telemetry (CREST) sites are located in the environs of Oyster Creek, Salem I, II, and Hope Creek nuclear generating stations. CREST is a part of the Air Pollution/Radiation Data Acquisition and Early Warning System, a remote data acquisition system whose central computer is located in Trenton, New Jersey. Sites are accessed via cellular communication and polled for radiological and meteorological data every minute.

The Air Pollution/Radiation Data Acquisition and Early Warning System is equipped with a threshold alarm of twenty-five (25) microRoentgens per hour. The system notifies staff via text messages and email alerts if the threshold is exceeded, providing 24-hour coverage of potential radiological abnormalities surrounding each nuclear facility.

Contact: Ann Pfaff (609) 984-7451

The following tables include the average ambient radiation levels at each site for the month of January:

Artificial Island CREST System Ambient Radiation Levels January 2020 Derived From One Minute Averages UNITS = mR/Hr				
AI1	AI2	AI3	AI4	AI5
.0063	.0064	.0058	.0063	.0066
AI6	AI7	AI8	AI9	AI10
.0064	.0055	.0055	.0073	.0053

Oyster Creek CREST System Ambient Radiation Levels January 2020 Derived From One Minute Averages UNITS = mR/Hr			
OC1	OC2	OC3	OC4
.0043	****	.0042	.0048
OC5	OC6	OC7	OC8
.0054	.0057	.0049	.0050
OC9	OC10	OC11	OC12
.0058	.0053	.0054	.0054
OC13	OC14	OC15	OC16
.0049	.0055	.0051	.0054

**** indicates insufficient valid data

Contact: Ann Pfaff (609) 984-7451

Licensee Meeting

Representatives of NEPS met with staff from PSEG Nuclear and the NJ State Police Office of Emergency Management on January 13, 2020 for a regularly scheduled licensee meeting. Topics included: the Oyster Creek Safety Advisory Panel; Memorandums of Understanding between the State and licensees; NUREG-0654/FEMA-REP-1 Rev 2 and REP Program Manual, December 2019; preparations for the May 19, 2020 FEMA/NRC evaluated exercise and February 26, 2020 rehearsal exercise at Salem/Hope Creek; Radiological Emergency Response Planning Overview Course on February 5, 2020 at State Police Regional Operations Intelligence Center.

Contact: Ann Pfaff (609) 984-7451

Quality Assurance Training Session

NEPS participated in Compliance and Enforcement's Office of Quality Assurance's training presentation, "Quality Systems for Managing Data at DEP" on January 15, 2020 via Skype link. This training gave insight on how to determine whether data is scientifically valid, of known quality, and fully documented. Staff learned about how DEP implements a quality system that reduces the DEP's vulnerabilities and increases DEP's ability to make reliable, cost effective and defensible decisions that are based on sound science.

Contact: Ann Pfaff (609) 984-7451

2020 FEMA-Evaluated Exercise at Salem/Hope Creek Scenario Sub-Committee Meeting

On January 30, 2020, the Assistant Director of the Radiation Protection Element and NEPS Supervisor joined staff from SPOEM, PSEG, FEMA and the State of Delaware to discuss scenario requirements and expectations for both the February full-scale rehearsal and the May FEMA-Evaluated Salem/Hope Creek exercises. Plume directions, offsite doses and exercise logistics were considered. The second Exercise Planning Conference will be held on March 11, 2020.

Contact: Ann Pfaff (609) 984-7451

Deployment of New Laptops and Monitors at EOF & ENC

With the assistance of Jenn Daino, NEPS successfully deployed new laptops to replace old, out-of-warranty computers still running Windows 7 at the Emergency Operations Facility and Emergency News Center in January. The new laptops which are connected to the DEP Network will be used by NEPS staff at their deployed remote locations in exercises and in the event of an actual emergency. A new monitor, keyboard, and mouse was installed for each laptop as well.

Contact: Ann Pfaff (609) 984-7451