



## Task to Training Matrix - PJM Online Training

Course Title (LMS Code)	CEH	Stand	Sim	EOP	Transmission Task Associations										Market Cert Hour
					Task 02	Task 07	Task 08	Task 10	Task 11	EOP-005 R8.2	EOP-005 R8.3	EOP-005 R8.4	EOP-005 R8.5		
OL Annual System Restoration Training (ONLEOPR13)	1	1	--	1	--	--	--	--	--	Yes	Yes	Yes	Yes	Yes	--
OL DOE Reporting Requirements (ONLMSCDE4)	1	1	--	1	--	--	--	--	--	--	--	--	--	--	--
OL Wind Generation Operating Considerations (ONLMSCWG4)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2023 Winter Emergency Procedures Refresh (DRLEPF23P)	1	1	--	1	--	Yes	Yes	--	--	--	--	--	--	--	--
2024 Spring System Restoration Refresh (DRLSRD24P)	1	1	--	1	--	--	--	--	Yes	Yes	Yes	Yes	Yes	Yes	--
2024 Summer Emergency Procedures Refresh (DRLEPS24P)	1	1	--	1	--	Yes	Yes	--	--	--	--	--	--	--	--
2023 Fall System Restoration Refresh (DRLSRF23P)	1	1	--	1	--	--	--	--	Yes	Yes	Yes	Yes	Yes	Yes	--
OL NERC Standards (ONLNERC17)	8	8	--	8	--	--	--	--	--	--	--	--	--	--	--
OL Electrical Theory (ONLFUNET1)	3	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OL NUC-001 (JITOPS143)	1	1	--	1	--	--	--	--	--	--	--	--	--	--	--
Transmission ITP	OL Intro to PJM & Comm, Op Para 1 (T) (ONLTRN17A)	3	0.5	--	--	--	--	Yes	--	--	--	--	--	--	--
	OL Ops Parameters 2 & 3 (T) (ONLTRN17B)	1.5	0.5	--	1.5	--	--	--	--	--	--	--	--	--	--
	OL Ops Parameters 4 & 5 (T) (ONLTRN17C)	1	0.5	--	0.5	--	--	--	--	--	--	--	--	--	--
	OL Stability, BES & Outages (T) (ONLTRN17D)	2	--	--	--	Yes	--	--	--	--	--	--	--	--	--
	OL Emergency Procedures (T) (ONLTRN17E)	2.5	0.5	--	2.5	--	Yes	Yes	--	--	--	--	--	--	--
	OL System Restoration (T) (ONLTRN17F)	2.5	0.5	--	2.5	--	--	--	Yes	Yes	Yes	Yes	Yes	Yes	--
Generation ITP	OL Intro to PJM & Communications (G) (ONLGEN16A)	2	0.5	--	--	--	--	--	--	--	--	--	--	--	--
	OL PJM Markets & Real-Time Ops (G) (ONLGEN16B)	2	--	0.5	--	--	--	--	--	--	--	--	--	--	2
	OL Outage Scheduling (G) (ONLGEN16C)	1.5	0.5	--	--	--	--	--	--	--	--	--	--	--	--
	OL Emergency Procedures (G) (ONLGEN16D)	3	1	0.5	3	--	--	--	--	--	--	--	--	--	--
	OL System Restoration (G) (ONLGEN16E)	1.5	1	--	1.5	--	--	--	--	--	--	--	--	--	--
Governor Control and ACG (ONLMSCGC)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
HEMP/GMD (ONLMSCHMP)	1	0.5	--	1	--	--	--	--	--	--	--	--	--	--	--
Unit Dispatch-Normal & Off-SCED (JITOPS201)	1	--	--	1	--	--	--	--	--	--	--	--	--	--	1
Reserve Performance (JITOPS231)	1	--	--	1	--	--	--	--	--	--	--	--	--	--	1
Blackout Lessons Learned (PJMVTSO12)	2	--	--	2	--	--	--	--	Yes	--	--	--	--	--	--
IROL Simulation Exercises (PJMSIMOL1)	1	1	1	1	--	--	--	--	--	--	--	--	--	--	--
2023 Seminar - Ops Update (SEM23S004)	1	1	--	1	--	--	--	--	--	--	--	--	--	--	--
2024 Seminar - Online Training (SEM24S001)	5.5	2	--	2	--	Yes	--	--	Yes	Yes	Yes	--	Yes	--	
2024 Seminar - Transmission Topics (SEM24S002)	2	0.5	--	0.5	Yes	--	--	Yes	--	--	--	--	--	--	--
2024 Seminar - Generation & Market Topics (SEM24S003)	4	--	--	--	--	--	--	--	--	--	--	--	--	--	3.5
2024 Seminar - Operations Update & Lessons Learned (SEM24S004)	2	1	--	2	--	--	--	--	--	--	--	--	--	--	--



## Task to Training Matrix - PJM Online Training

Course Title (LMS Code)	CEH	Stand	Sim	EOP	Transmission Task Associations										
					Task 02	Task 07	Task 08	Task 10	Task 11	EOP-005 R8.2	EOP-005 R8.3	EOP-005 R8.4	EOP-005 R8.5	Market Cert Hour	
Operating Concepts Self-Study* (PJMSIMOC2)	2	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--
Voltage Control Self-Study* (PJMSIMVC2)	2	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--
Synching Islands Self-Study* (PJMSIMSR2)	2	2	1.5	2	--	--	--	--	Yes	--	Yes	Yes	--	--	--
Dynamic Reserves Self-Study* (PJMSIMDR1)	2	2	1	2	--	--	--	--	Yes	--	--	--	--	--	--
Ops-X Simulations Self-Study* (PJMSIMOX2)	4	4	4	4	Yes	Yes	--	--	--	--	--	--	--	--	--

\*Available for self-study, pre-registration required

## Task to Training Matrix - PJM Virtual Training

Course Title (LMS Code)	CEH	Stand	Sim	EOP	Transmission Task Associations										
					Task 02	Task 07	Task 08	Task 10	Task 11	EOP-005 R8.2	EOP-005 R8.3	EOP-005 R8.4	EOP-005 R8.5	Market Cert Hour	
Locational Marginal Pricing (LMP) (PJMVTSM01)	2	--	--	--	--	--	--	--	--	--	--	--	--	--	2
Generator Energy Schedules & Parameters (PJMVTSM05)	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
ARR/FTR Basics (PJMVTSM06)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
ARR/FTR Advanced (PJMVTSM16)	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.5
Regulation Market Overview (PJMVTSM07)	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
Reserve Market Overview (PJMVTSM08)	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	1.5
Day Ahead Market Simulation (PJMVTSM14)	1.5	--	1.5	--	--	--	--	--	--	--	--	--	--	--	1.5
Real-Time Market Simulation (PJMVTSM15)	1.5	--	1.5	--	--	--	--	--	--	--	--	--	--	--	1.5
Transmission Line Protection (PJMVTSO01)	2	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--
Voltage Control with Generators & LTCs (PJMVTSO02)	2	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--
Capacitors, Ferranti Rise & Surge Impedance Loading (PJMVTSO03)	2	--	1.5	--	--	--	--	--	--	--	--	--	--	--	--
Synching Islands (PJMVTSO04)	2	2	1.5	2	--	--	--	--	Yes	--	Yes	Yes	--	--	--
Dynamic Reserves (PJMVTSO05)	2	2	1	2	--	--	--	--	Yes	--	--	--	--	--	--
Communications (PJMVTSO07)	1.5	1.5	--	1.5	--	--	--	--	--	--	--	--	--	--	--
Stability (PJMVTSO08)	2	2	--	2	--	--	--	--	--	--	--	--	--	--	--
Overview of Emergency Procedures (PJMVTSO09)	1.5	1.5	--	1.5	--	Yes	Yes	--	--	--	--	--	--	--	--
Reporting Transmission Outages via eDART (PJMVTSO10)	1.5	1.5	--	--	Yes	--	--	--	--	--	--	--	--	--	--
System Restoration (PJMVTSO14)	4	3.5	4	4	--	--	--	--	Yes	Yes	Yes	Yes	--	--	--
Balancing and Frequency Control (PJMVTSO15)	1	1	--	--	--	--	--	--	--	--	--	--	--	--	--
Governor Control and AGC (PJMVTSO16)	2	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Three-Phase Power Basics (PJMVTSO17)	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Transformer Theory Basics (PJMVTSO18)	1.5	--	--	--	--	--	--	--	--	--	--	--	--	--	--



## Task to Training Matrix - PJM Instructor-Led Training

Course Title (LMS Code)		CEH	Stand	Sim	EOP	Transmission Task Associations									Market Cert Hour
						Task 02	Task 07	Task 08	Task 10	Task 11	EOP-005 R8.2	EOP-005 R8.3	EOP-005 R8.4	EOP-005 R8.5	
Transmission ITP	Intro to PJM & Comm, Op Para 1 (T) (PJMTRN17A)	5	0.5	1	--	--	--	--	Yes	--	--	--	--	--	--
	Ops Parameters 2 & 3 (T) (PJMTRN17B)	6	2.5	1.5	6	--	--	--	--	--	--	--	--	--	--
	Ops Parameters 4 & 5 (T) (PJMTRN17C)	7	3	4	2.5	--	--	--	--	--	--	--	--	--	--
	Stability, BES & Outages (T) (PJMTRN17D)	5	--	0.5	--	Yes	--	--	--	--	--	--	--	--	--
	Emergency Procedures (T) (PJMTRN17E)	5	2	--	5	--	Yes	Yes	--	--	--	--	--	--	--
	System Restoration (T) (PJMTRN17F)	6	2.5	--	6	--	--	--	--	Yes	Yes	Yes	Yes	Yes	--
	System Restoration Simulation (T) (PJMTRN17G)	4	3.5	4	4	--	--	--	--	Yes	Yes	Yes	Yes	--	--
Generation ITP	Intro to PJM & Communications (G) (PJMGEN16A)	5.5	0.5	1	--	--	--	--	--	--	--	--	--	--	2.5
	PJM Markets & Real-Time Ops (G) (PJMGEN16B)	8	--	3	--	--	--	--	--	--	--	--	--	--	3.5
	Outage Scheduling (G) (PJMGEN16C)	2.5	0.5	0.5	--	--	--	--	--	--	--	--	--	--	2.5
	Emergency Procedures (G) (PJMGEN16D)	5.5	4	--	5	--	--	--	--	--	--	--	--	--	1
	System Restoration (G) (PJMGEN16E)	3	2	--	3	--	--	--	--	--	--	--	--	--	--
	System Restoration Simulation (G) (PJMGEN16F)	1.5	1.5	1.5	1.5	--	--	--	--	--	--	--	--	--	--
Electrical Theory (PJMFUNET2)		17.5	--	4	--	--	--	--	--	--	--	--	--	--	--
Power System Elements (PJMFUNPS2)		14	--	1	--	--	--	--	--	--	--	--	--	--	--
Market Optimization Workshop (PJMMKTOPT)		20	--	8	--	--	--	--	--	--	--	--	--	--	20
System Restoration Workshop (PJMSRW131)		10	6	4	10	--	--	--	--	Yes	Yes	Yes	Yes	Yes	--
Day Ahead & Real-Time Market Simulation (PJMSIMDRT)		3	--	3	--	--	--	--	--	--	--	--	--	--	3
Ops-X Simulations (PJMSIMOPX)		4	4	4	4	Yes	Yes	--	--	--	--	--	--	--	--
Protective Relaying Simulations (PJMSIMPRS)		1	--	1	--	--	--	--	--	--	--	--	--	--	--

# DRAFT Training Calendar

# 2024

## January

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

- 1/10 Communication
- 1/18 Transmission Line Protection
- 1/22-25 Transmission ITP - CTC
- 1/23 ARR/FTR Basics
- 1/24 ARR/FTR Advanced

## February

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29		

- 2/13 Load Management Registrations

## March

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

- SEMINAR**
- 3/5-8 Wk 1 - Pittsburgh, PA
  - 3/12-15 Wk 2 - Pittsburgh, PA
  - 3/12 DR Overview
  - 3/19-22 Wk 3 - Pittsburgh, PA
  - 3/25-26 Wk 4 - Session 1 - Virtual
  - 3/27-28 Wk 4 - Session 2 - Virtual

## April

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

- SEMINAR**
- 4/1-2 Wk 5 - Session 1 - Virtual
  - 4/3-4 Wk 5 - Session 2 - Virtual
  - 4/9-12 Wk 6 - CTC - Audubon, PA
  - 4/15 PJM 101 - CTC
  - 4/16-19 Wk 7 - CTC - Audubon, PA
  - 4/22-23 Wk 8 - Session 1 - Virtual
  - 4/24-25 Wk 8 - Session 2 - Virtual
  - 4/30-5/3 Wk 9 - CTC - Audubon, PA

## May

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

- SEMINAR**
- 4/30-5/3 Wk 9 - CTC - Audubon, PA
  - 5/7-10 Wk 10 - CTC - Audubon, PA
  - 5/14 Economic DR in Energy Mkts

## June

Su	Mo	Tu	We	Th	Fr	Sa
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

- 6/11 DR Economic Offers in MG
- 6/18 Stability
- 6/18 Load Mgmt Dispatch
- 6/24-27 Transmission ITP - CTC
- 6/25 Load Mgmt Settlements & Compliance
- 6/26-27 System Rest. Workshop - CTC

## July

Su	Mo	Tu	We	Th	Fr	Sa
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

- 7/9 Market Settlements 101 - CTC
- 7/10-12 Market Sett. Advanced - CTC
- 7/16-18 Power System Elements - CTC
- 7/25 Governor Control and AGC

## August

Su	Mo	Tu	We	Th	Fr	Sa
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

- 8/5-9 Generation ITP - CTC
- 8/15 Three-Phase Power Basics
- 8/20-22 Market Optimization Workshop - CTC
- 8/27 Transformer Theory Basics
- 8/27 PJM 101 - Richmond, VA
- 8/28 LMP/FTR - Richmond, VA

## September

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

- 9/9 PJM 101 - CTC
- 9/11 Load Serving Entity - CTC
- 9/17-19 Power System Elements - CTC
- 9/30-10/3 Transmission ITP - CTC

## October

Su	Mo	Tu	We	Th	Fr	Sa
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

- 9/30-10/3 Transmission ITP - CTC
- 10/8 Reporting Trn Outages via eDART
- 10/10 Dynamic Reserves
- 10/15 Demand Response Overview
- 10/29 Economic DR in Ancillary Services
- 10/30 Gen Energy Schedules & Param

## November

Su	Mo	Tu	We	Th	Fr	Sa
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

- 11/18 PJM 101 - CTC
- 11/19-21 Market Opt. Workshop - CTC

## December

Su	Mo	Tu	We	Th	Fr	Sa
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

- 12/4 Ancillary Services
- 12/10 Load Management Registrations
- 12/12 PAI Training

**LEGEND**

<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc; margin-right: 5px;"></span> Virtual Training</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #ccc; margin-right: 5px;"></span> In-Person Training</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #fff2cc; border: 1px solid #ccc; margin-right: 5px;"></span> Curriculum</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc; margin-right: 5px;"></span> Seminar</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #f4cccc; border: 1px solid #ccc; margin-right: 5px;"></span> Company Holiday</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: #d9ead3; border: 1px solid #ccc; margin-right: 5px;"></span> Non-PJM Holiday</li> </ul>
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