



2024

Pressure Control Systems Technical Training Catalog



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General Information

Course Language

The standard spoken language in all our courses is English.

Course Delivery Models

Classroom Model

- Lectures are conducted in person at the JFK Learning Center.
- Learners can only attend in person.
- All attendees participate in self-guided and/or group learning activities.
- All attendees participate in practical, hands-on exercises (e.g., assembly, disassembly, etc.) when applicable.
- All attendees will receive a certificate of attendance.

Virtual Model

- Learners can only attend remotely.
- Lectures are conducted remotely via Microsoft Teams.
- Learners participate in self-guided activities (e.g., tracing schematic circuits, reviewing documentation, etc.).
- All attendees will receive a certificate of attendance.

JFK Learning Center

Hours of Operation

Classes are conducted from 8:00AM to 5:00PM Central Standard Time (CST).

Classrooms

Our classrooms are fully equipped with modern technology to ensure the best technical understanding for the course participants. We have projectors in each classroom and use whiteboards to illustrate equipment and to show animations, pictures, and videos. Lunch and refreshments are included in the classroom tuition rate. Travel and accommodation expenses are not included in our prices.

Dress Code

Learning Center Classroom

To maintain a professional atmosphere and adhere to the safety standards, personnel attending classes will be required to wear long pants and shirts with short or long sleeves. Shorts, tank-tops, sandals, flip-flops, or any open-toed shoes are not allowed at our training facilities.

Technical Training Lab

Where specified in this catalog, attendees are required to provide steel-toe boots and work clothes.

We provide eye and hand protection for training performed in our shop area and Training Systems Lab.

For enrollment and information email: nolan.habegger@hmhw.com.



Enrollment Terms and Conditions

Registration

Participants must sign up for the course at least three (3) weeks prior to the course start date. HMH reserves the right to cancel a course if less than six (6) participants have signed up two (2) weeks prior to the course start date.

Tuition and Billing

- Purchase order is required before enrollment will be confirmed.
- The tuition rates in this catalog only apply to standard courses delivered at the JFK Learning Center.
- All rig/customer-specific courses have a five (5) student minimum tuition charge.
- Rig/customer-specific versions of some courses can be developed and delivered at additional cost.
- Off-site training delivery will include instructor travel and accommodation expenses plus 15%.

Cancellation

Cancellation by buyer less than two (2) weeks before scheduled course date will be charged one hundred percent (100%) of the fee.



Standard Tuition Rates

All amounts are listed in U.S. dollars (USD).

	Course Offerings	Maximum Students	Classroom		See Catalog Page
			Class Days	Tuition (USD per person)	
Fundamentals	Introduction to Capital Drilling Equipment	12	2	\$1,790	18
	Introduction to Fluid Symbols	12	2	\$1,790	19
	GEN2 MUX Control System Fundamentals	12	3	\$2,680	20
	SeaONYX Control System Fundamentals	12	3	\$2,680	21
Electronics/Software	GEN2 MUX Control System Electronics	8	5	\$4,990	22
	GEN2 MUX Control System Troubleshooting	8	4	\$5,040	23
	SeaONYX Control System Electronics	8	3	\$3,000	24
	SeaONYX Control System Software Operator	10	1	\$1,260	25
	SeaLytics Real-Time Data Monitoring	8	1	\$1,260	26
	SeaLytics Data Monitoring Operator	10	1	\$1,260	27
	SeaPrime Control Pod Electronics	8	2	\$2,000	28
	Ground Fault Troubleshooting	8	1	\$1,260	29
Hydraulics and Mechanical	GEN2 MUX Control System Hydraulics	10	5	\$4,990	30
	GEN2 Subsea Pod Maintenance	8	4	\$5,040	31
	Annular BOP Maintenance	8	1	\$1,260	32
	Ram BOP Maintenance (January to March)	8	1	\$1,260	33
	Ram BOP Maintenance (starts April 2024)	2	2	\$2,520	
	Wellhead Connector Maintenance	8	1	\$1,260	34
	Diverter Maintenance	10	½	\$650	35
	Riser Equipment Maintenance	10	1	\$1,260	36
	Land BOP Maintenance	8	3	\$3,780	37
	SeaPrime Subsea Pod Hydraulics	10	2	\$2,000	38
	SeaPrime Subsea Pod Maintenance	10	3	\$3,000	39

January 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	1	2	3	4	5	6
	US HOLIDAY					
7	8	9	10	11	12	13
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS		SEALYTICS		SEALYTICS OPERATOR	
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
14	15	16	17	18	19	20
	US HOLIDAY	ANNULAR BOP MAINTENANCE	RAM BOP MAINTENANCE	WELLHEAD CONNECTOR MAINTENANTCE	DIVERTER MAINTENANCE	
		GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING				
21	22	23	24	25	26	27
28	29	30	31			
	SEAONYX CONTROL SYSTEM FUNDAMENTALS					

February 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				Feb 1	2	3
				SEAONYX OPERATOR		
4	5	8	7	8	9	10
11	12	13	14	15	16	17
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
18	19	20	21	22	23	24
	US HOLIDAY					
25	26	27	28	29		
	SEAONYX CONTROL SYSTEM FUNDAMENALS			SEAONYX OPERATOR		

March 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
					US HOLIDAY	
31						

April 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Mar 31	1	2	3	4	5	6
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS			SEALYTICS	SEALYTICS OPERATOR	
7	8	9	10	11	12	13
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
	SEAPRIME POD HYDRAULICS		SEAPRIME POD MAINTENANCE			
14	15	16	17	18	19	20
	GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING					
21	22	23	24	25	26	27
	ANNULAR BOP MAINTENANCE	RAM BOP MAINTENANCE		WELLHEAD CONNECTOR MAINTENANCE	DIVERTER MAINTENANCE	
28	29	30	May 1	2	3	4
	SEAONYX CONTROL SYSTEM FUNDAMENTALS			SEAONYX OPERATOR		
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
	GEN2 MUX POD MAINTENANCE					

May 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Apr 28	29	30	May 1	2	3	4
	SEAONYX CONTROL SYSTEM FUNDAMENTALS			SEAONYX OPERATOR		
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
	GEN2 MUX POD MAINTENANCE					
5	6	7	8	9	10	11
12	13	14	15	16	17	18
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
19	20	21	22	23	24	25
	GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING					
26	27	28	29	30	31	
	US HOLIDAY					

June 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
						1
2	3	4	5	6	7	8
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS			SEALYTICS	SEALYTICS OPERATOR	
9	10	11	12	13	14	15
16	17	18	19	20	21	22
			US HOLIDAY			
23	24	25	26	27	28	29
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
30						

July 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JUN 30	Jul 1	2	3	4	5	6
				US HOLIDAY		
7	8	9	10	11	12	13
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
	SEAONYX CONTROL SYSTEM FUNDAMENTALS			SEAONYX OPERATOR		
14	15	16	17	18	19	20
	GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING					
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
	SEAPRIME POD HYDRAULICS		SEAPRIME POD MAINTENANCE			
21	22	23	24	25	26	27
	ANNULAR MAINTENANCE	RAM BOP MAINTENANCE		WELLHEAD CONNECTOR MAINTENANCE	DIVERTER MAINTENANCE	
28	29	30	31	AUG 1	2	3
	GEN2 MUX POD MAINTENANCE					
	SEAONYX CONTROL SYSTEM ELECTRONICS					

August 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
JUL 28	29	30	31	AUG 1	2	3
	GEN2 MUX POD MAINTENANCE					
				SEAPRIME POD ELECTRONICS		
4	5	6	7	8	9	10
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS			SEALYTICS	SEALYTICS OPERATOR	
11	12	13	14	15	16	17
	ANNULAR BOP MAINTENANCE	RAM BOP MAINTENANCE		WELLHEAD CONNECTOR MAINTENANCE	DIVERTER MAINTENANCE	
18	19	20	21	22	23	24
25	26	27	28	29	30	31
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					

September 2024



Pressure Control Systems Technical Training

MSUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
	US HOLIDAY					
8	9	10	11	12	13	14
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
	ANNULAR BOP MAINTENANCE	RAM BOP MAINTENANCE		WELLHEAD CONNECTOR MAINTENANCE	DIVERTER MAINTENANCE	
15	16	17	18	19	20	21
	GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING					
22	23	24	25	26	27	28
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
29	30					

October 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
		1	2	3	4	5
6	7	8	9	10	11	12
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS			SEALYTICS	SEALYTICS OPERATOR	
13	14	15	16	17	18	19
	SEAPRIME POD HYDRAULICS		SEAPRIME POD MAINTENANCE			
20	21	22	23	24	25	26
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
27	28	29	30	31		

November 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
					1	2
3	4	5	6	7	8	9
	SEAONYX CONTROL SYSTEM FUNDAMENTALS			SEAONYX OPERATOR		
	ANNULAR BOP MAINTENANCE	RAM BOP MAINTENANCE		WELLHEAD CONNECTOR MAINTENANCE	DIVERTER MAINTENANCE	
10	11	12	13	14	15	16
	US HOLIDAY					
17	18	19	20	21	22	23
	SEAONYX CONTROL SYSTEM ELECTRONICS			SEAPRIME POD ELECTRONICS		
	GEN2 MUX CONTROL SYSTEM HYDRAULICS					
24	25	26	27	28	29	30
				US HOLIDAY	US HOLIDAY	

December 2024



Pressure Control Systems Technical Training

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
	GEN2 MUX POD MAINTENANCE					
8	9	10	11	12	13	14
	GEN2 MUX CONTROL SYSTEM FUNDAMENTALS		SEALYTICS		SEALYTICS OPERATOR	
	GEN2 MUX CONTROL SYSTEM ELECTRONICS					
15	16	17	18	19	20	21
	GEN2 MUX CONTROL SYSTEM TROUBLESHOOTING					
22	23	24	25	26	27	28
		US HOLIDAY	US HOLIDAY			
29	30	31	32	33	34	35



Fundamentals/Basic Courses

Introduction to Capital Drilling Equipment

This course provides participants a foundational understanding of the equipment and operation of the Capital Drilling Equipment (CDE) product line and its operation.

Course Goal

This course aims to increase the theoretical understanding of the purpose and general operation of the CDE product line.

Course Topics

- HSSE
- Functional description of the equipment
- Equipment identification
- Operational description of the equipment

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the CDE product line.
- Identify the individual equipment in the CDE product line.
- Describe the equipment's purpose and operation in drilling and well control operation.
- Describe the overall operation of the CDE product line.

Target Group

Personnel who have direct or indirect roles in drilling systems and are unfamiliar with the CDE product line.

Prerequisite Skill and Knowledge

No prior skill or knowledge is required.

Course Capacity

Maximum number of participants is 12.

Course Duration

2 Days Classroom



Introduction to Fluid Symbols

This course provides a foundational understanding of the ANSI and ISO symbols used in our hydraulic schematic drawings.

Course Goal

This course aims to increase the theoretical understanding of hydraulic symbols standards, symbol identification, and schematic interpretation.

Course Topics

- HSSE
- Standards for hydraulic symbols
- Hydraulic symbol identification
- Hydraulic schematic interpretation

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the types of lines and shapes used on hydraulic schematics.
- Identify the hydraulic components represented by the symbols covered in the course content.
- Interpret hydraulic schematic drawings.
- Describe basic hydraulic circuit operation based on schematic interpretation.

Target Group

Personnel who are unfamiliar with the interpretation of hydraulic symbols and schematics.

Prerequisite Skill and Knowledge

No prior skill or knowledge is required.

Course Capacity

Maximum number of participants is 12.

Course Duration

2 Days Classroom



GEN2 MUX Control System Fundamentals

This course provides a fundamental understanding of the individual components of the GEN2 MUX BOP Control System, their purpose in the system, their individual operation, and the operation of the overall system.

Course Goal

This course aims to increase the theoretical understanding of the purpose and general operation of the MUX BOP Control System.

Course Topics

- HSSE
- Functional description of the system
- System component identification
- Operational description of the system

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the MUX BOP Stack.
- Describe the purpose of the MUX BOP Control System.
- Identify the individual equipment in the MUX BOP Control System and BOP Stack.
- Describe the equipment's purpose and operation in the MUX BOP Control System.
- Describe the overall operation of the MUX BOP Control System

Target Group

Personnel unfamiliar with the GEN2 MUX BOP control system or assigned to a rig where a MUX control system is installed.

Prerequisite Skill and Knowledge

No prior skill or knowledge is required.

Course Capacity

Maximum number of participants is 12.

Course Duration

3 Days Classroom



SeaONYX Control System Fundamentals

This course provides a fundamental understanding of the individual components of the SeaONYX BOP Control System, their purpose in the system, their individual operation, and the operation of the overall system.

Course Goal

This course aims to increase the theoretical understanding of the purpose and general operation of the SeaONYX BOP Control System.

Course Topics

- HSSE
- Functional description of the system
- System component identification
- Operational description of the system

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the BOP Stack.
- Describe the purpose of the SeaONYX BOP Control System.
- Identify the major components of the SeaONYX BOP Control System.
- Describe the equipment's purpose and operation in the SeaONYX BOP Control System.
- Describe the overall operation of the SeaONYX BOP Control System.

Target Group

Personnel new to the SeaONYX BOP Control System or assigned to a rig where a SeaONYX BOP Control System is installed.

Prerequisite Skill and Knowledge

No prior skill or knowledge is required.

Course Capacity

Maximum number of participants is 12.

Course Duration

3 Days Classroom



Electrical/Software Courses

GEN2 MUX Control System Electronics

This course provides an in-depth understanding of the operation and maintenance of the electric power and communication equipment of the GEN2 MUX BOP Control System.

Course Goal

This course aims to equip the learner with a detailed understanding of the theoretical operation of the MUX BOP Control System.

Course Topics

- HSSE
- MUX Control System Electrical Overview
- Electrical Symbols
- System Schematics:
- Subsea Electronics Module Electrical Safety
- Electrical Measurement Tools

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the flow of electric power through the surface and subsea equipment.
- Describe the electrical operation of the equipment.
- Describe the flow of electronic communication through the surface and subsea equipment.
- Trace individual electric power and communication circuits for troubleshooting purposes.

Target Group

Personnel responsible for troubleshooting and maintaining GEN2 MUX Control System and BOP stack electrical equipment

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of electrical power theory and electronic communications, and the components typically used in these systems, Attendees need to be familiar with the standard symbology used in electrical schematics. GEN2 MUX Control System Fundamentals is a recommended prerequisite.

Personal Protection Equipment

Eye protection is provided when required.

Course Capacity

Maximum number of participants is 8.

Course Duration

5 Days Classroom



GEN2 MUX Control System Troubleshooting

In this course, learners apply a systematic troubleshooting methodology to identify and isolate faults related to MUX Control System's electric power and communication sub-systems.

Course Goal

This course aims to provide practical, hands-on experience identifying and correcting faults in the MUX BOP Control systems electric power and communications sub-systems.

Course Topics

- HSSE
- System Components and Schematics Review
- Troubleshooting Methodology
- Hardware/HMI Identification
- Baseline System Operation
- System Power Fault Identification and Resolution Exercises
- System Communication Fault Identification and Resolution Exercises
- Ground Fault Troubleshooting and Resolution Exercises

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the normal operation of the MUX Control System.
- Identify power and communication fault conditions using software HMIs and hardware indications.
- Use interpretation of schematics and diagnostic testing of power and communication signals to isolate faults.
- Resolve faults to restore the system to normal operation.

Target Group

Personnel responsible for troubleshooting and maintaining the electronic equipment of the MUX BOP Control System.

Prerequisite Skill and Knowledge

Attendees need to be familiar with the standard symbology used in electrical schematics. Experience using basic electrical measurement tools (e.g., multi-meter) to troubleshoot electrical power and electronic communication systems is highly recommended.

GEN2 MUX Control System Fundamentals is a recommended prerequisite.

GEN2 MUX Control System Electronics is a required prerequisite.

Personal Protection Equipment

Eye protection is provided when required.

Course Capacity

Maximum number of participants is 8.

Course Duration

4 Days Classroom and Practical



SeaONYX Control System Electronics

This course provides an in-depth understanding of the operation and maintenance of the electric power and communication equipment of the SeaONYX BOP Control System.

Course Goal

This course aims to equip the learner with a detailed understanding of the theoretical operation of the SeaONYX BOP Control System.

Course Topics

- HSSE
- SeaONYX Control System Electrical Overview
- Scope of Supply Schematic
- Electrical Symbols
- System Interconnect Schematic
- System Cabling Block Diagram
- Electrical Safety
- Electrical Measurement Tools
- Power Distribution Schematics
- Surface Communication Equipment Schematics

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the flow of electric power through the surface and subsea equipment.
- Describe the electrical operation of the equipment.
- Describe the flow of electronic communication through the surface and subsea equipment.
- Trace individual electric power and communication circuits for troubleshooting purposes.

Target Group

Personnel responsible for troubleshooting and maintaining the electronic equipment of the SeaONYX BOP Control System.

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of electrical power theory and electronic communications, and the components typically used in these systems. Attendees need to be familiar with the standard symbology used in electrical schematics.

SeaONYX Control System Fundamentals is a recommended prerequisite.

Course Capacity

Maximum number of participants is 8.

Course Duration

3 Days Classroom



SeaONYX Software Operator

This course provides an in-depth understanding of the SeaONYX control system's software applications and operation.

Course Goal

This course aims to increase the theoretical understanding of the operation of the SeaONYX control system software.

Course Topics

- HSSE
- Functional description of the control system software
- Identification of the software operator screen controls
-
- Interpretation of software screen data and information

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the CDP operator screens.
- Describe the purpose of each screen and the data displayed.
- Perform troubleshooting and diagnostic tasks using CDP operator screens.

Target Group

Personnel responsible for troubleshooting and maintaining the BOP Control System and BOP stack electrical equipment OR utilizing the control system to control the BOP stack.

Prerequisite Skill and Knowledge

SeaONYX Control System Fundamentals is a recommended prerequisite.

Personal Protection Equipment

No personal protection equipment is required.

Course Capacity

Maximum number of participants is 10.

Course Duration

1 Day Classroom



SeaLytics Real-Time Data Monitoring

This course provides an in-depth understanding of the operation and maintenance of the SeaLytics Real-Time Data Monitoring System.

Course Goal

This course aims to increase the theoretical understanding of the operation of the SeaLytics Real-Time Data Monitoring System.

Course Topics

- HSSE
- SeaLytics System Overview
- SeaLytics System Components
- SeaLytics System Operation
- Common Tasks Performed Using SeaLytics

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the SeaLytics real-time data monitoring system.
- Identify the individual equipment in SeaLytics real-time data monitoring system.
- Describe the equipment's purpose and operation in the SeaLytics real-time data monitoring system.
- Describe the overall operation of the SeaLytics real-time data monitoring system.

Target Group

Personnel responsible for operating, troubleshooting, or maintaining the electronic equipment of the SeaLytics real-time data monitoring system.

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of electrical power theory and electronic communications, and the components typically used in these systems. Attendees need to be familiar with the standard symbology used in electrical schematics and have a basic understanding of the surface and subsea BOP control system operation.

Depending on the learner's job context, GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Eye protection is provided when required.

Course Capacity

Maximum number of participants is 10.

Course Duration

1 Day Classroom



SeaLytics Software Operator

This course provides an in-depth understanding of the SeaLytics real-time data monitoring system's software applications and operation.

Course Goal

This course aims to increase the theoretical understanding of the operation of the SeaLytics real-time data monitoring system software.

Course Topics

- HSSE
- Functional description of the control system software
- Identification of the software operator screens
- Interpretation of software screen data and information

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the SeaLytics operator screens.
- Describe the purpose of each screen and the data displayed.
- Perform typical operator tasks (e.g., trending, data transfer, troubleshooting, diagnostics)

Target Group

Personnel responsible for troubleshooting and maintaining the BOP Control System and BOP stack electrical equipment OR utilizing the control system to control the BOP stack.

Prerequisite Skill and Knowledge

SeaONYX Control System Fundamentals and SeaLytics Real-Time Data Monitoring are recommended prerequisites.

Personal Protection Equipment

No personal protection equipment is required.

Course Capacity

Maximum number of participants is 10.

Course Duration

1 Day Classroom



Ground Fault Troubleshooting

This course provides an in-depth understanding of how to identify and correct ground faults in the electric power equipment of the MUX BOP Control System.

NOTE: this course content is included in the GEN2 MUX Control System Troubleshooting class (see page 23).

Course Goal

This course aims to increase the theoretical understanding of the operation of the MUX BOP Control System.

Course Topics

- MUX Control System Component and Schematic Review
- Ground Fault Fundamentals
- Ground Fault Alarms
- Ground Fault Types
- Ground Fault Monitors
- Ground Fault Identification and Resolution

Course Objectives

Upon completion of the course, participants will be able to:

- Explain a ground fault condition and its ramifications to system operation.
- Identify all individual ground fault alarms.
- Identify the type of circuitry of each alarm.
- Identify the scope of monitoring for each alarm circuit.
- Identify typical sources of ground fault conditions.
- Identify the proper document used for various ground fault troubleshooting procedures.

Target Group

Personnel responsible for troubleshooting and maintaining the electronic equipment of the MUX BOP Control System.

Prerequisite Skill and Knowledge

Attendees need to be familiar with the standard symbology used in electrical schematics and have a basic understanding of the surface and subsea BOP control system operation. Depending on the learner's job context, GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Eye protection is provided when required.

Course Capacity

Maximum number of participants is 8.

Course Duration

1 Day Classroom and Practical



SeaPrime Control Pod Electronics

This course provides an in-depth understanding of the operation and maintenance of the electric power and communication equipment of the SeaPrime BOP control pod.

Course Goal

This course aims to equip the learner with a detailed understanding of the theoretical operation of the SeaPrime BOP control pod.

Course Topics

- HSSE
- SeaPrime Control Pod Electrical Overview
- Electrical Symbols
- Electrical Safety
- Electrical Measurement Tools
- Pod Power and Communication Schematics

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the SeaPrime control pod.
- Identify the major components of the SeaPrime control pod.
- Describe the overall operation of the SeaPrime control pod.
- Describe the flow of electric power through the surface and subsea equipment.
- Describe the electrical operation of the equipment.
- Describe the flow of electronic communication through the surface and subsea equipment.
- Trace individual electric power and communication circuits for troubleshooting purposes.

Target Group

Personnel new to the SeaPrime control pod or responsible for troubleshooting and maintaining the electronic equipment of the SeaPrime control pod.

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of electrical power theory and electronic communications, and the components typically used in these systems. Attendees need to be familiar with the standard symbology used in electrical schematics.

Course Capacity

Maximum number of participants is 8.

Course Duration

2 Days Classroom



Hydraulics/Mechanical Courses

GEN2 MUX Control System Hydraulics

This course provides an in-depth understanding of the MUX BOP control system's surface and subsea hydraulic equipment operation.

Course Goal

This course aims to increase the theoretical understanding of the operation of the hydraulic circuits in the GEN2 MUX BOP Control System.

Course Topics

- HSSE
- Functional description of the hydraulics system
- Interpretation of hydraulic system schematics
- Operational description of the hydraulic circuits in the system

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the flow of hydraulic power through the surface and subsea equipment.
- Describe the hydraulic operation of the equipment.
- Describe the relationship between various hydraulic components and the control system software screens.
- Trace individual hydraulic circuits for troubleshooting purposes.

Target Group

Personnel responsible for troubleshooting and maintaining the GEN2 MUX Control System and BOP stack hydraulic equipment.

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of hydraulic power theory and the components typically used in hydraulic power systems. Attendees need to be familiar with the standard symbology used in hydraulic schematics and have a basic understanding of the surface and subsea BOP control system operation. GEN2 MUX Control System Fundamentals is a recommended prerequisite.

Course Capacity

Maximum number of participants is 10.

Course Duration

5 Days Classroom



GEN2 MUX Pod Maintenance

This course provides an in-depth understanding of the maintenance activities for the components of the GEN2 MUX Control Pod.

Course Goal

This course aims to increase the theoretical understanding of the operation of the MUX Control Pod equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- MUX Pod Operation and Component Overview
- MUX Pod Schematic Review
- Electro-Hydraulic and Lower Valve Control Units Components
- Pod Wedge Packers

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the components of the MUX Pod and their operation.
- Trace hydraulic flow and explain MUX Pod operation using the hydraulic schematic.
- Disassemble, visually inspect, and assemble a shear seal valve.
- Test the solenoid/shear seal valve operation.
- Disassemble, visually inspect, and assemble a SPM valve.
- Disassemble, visually inspect, and assemble a pod regulator.
- Replace the packer seals in the MUX Pod wedge.
- Test hydraulic pressure of the one atmosphere housing seals.

Target Group

Personnel responsible for troubleshooting and maintaining the GEN2 MUX BOP Control Pod

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMM.

Course Capacity

Maximum number of participants is 8.

Course Duration

4 Days Classroom



Annular BOP Maintenance

This course provides an in-depth understanding of the operation and maintenance of the annular blowout prevention (BOP) equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the annular blowout prevention equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- Annular BOP Model Types
- Annular BOP Applications
- Annular BOP Maintenance Procedures
- Annular BOP Maintenance Practical Exercises

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the various model types of annular BOPs.
- Describe the purpose and function of each type of annular BOP.
- Identify the component part of the annular BOP.
- Calculate the appropriate accumulator pre-charge pressures for subsea annular BOP operation.
- Describe the ideal storage conditions for rubber goods.
- Describe the maintenance procedures for annular BOPs.
- Disassemble, visually inspect, and assemble a GX annular BOP.

Target Group

Personnel responsible for troubleshooting and maintaining annular blowout preventers (BOPs)

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMH.

Course Capacity

Maximum number of participants is 8.

Course Duration

1 Day Classroom and Practical



Ram BOP Maintenance

NOTE: This class will expand to a two-day course beginning in April 2024.

This course provides an in-depth understanding of the operation and maintenance of the compact Ram blowout prevention (BOP) equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the ram blowout prevention equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- Compact Ram BOP Body
- Compact Ram BOP Bonnets and Multiple Position Lock (MPL)
- Compact Ram BOP Blocks
- Compact Ram BOP Maintenance Procedures
- Compact Ram BOP Maintenance Practical Exercises

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the various models of Ram BOPs.
- Describe the purpose and function of the compact Ram BOP.
- Identify the component part of the compact Ram BOP.
- Describe the ideal storage conditions for rubber goods.
- Describe the maintenance procedures for compact Ram BOPs.
- Disassemble, visually inspect, and assemble a compact Ram BOP bonnet.
- Visually inspect a compact Ram BOP body.

The following objectives will be added to the two day class beginning in April 2024:

- Disassemble, visually inspect, and assemble a 3K and 5K multiple position lock (MPL).
- Remove, visually inspect, and install a compact Ram seal seat.
- Remove, visually inspect, and install a compact Ram wear plate.
- Remove, visually inspect, and install a compact Ram SSTV seal seat/wear plate.

Target Group

Personnel responsible for troubleshooting and maintaining Compact Ram blowout preventers.

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMH.

Course Capacity

Maximum number of participants is 8.

Course Duration

January to March – 1 Day Classroom and Practical
April to December – 2 Days Classroom and Practical



Wellhead Connector Maintenance

This course provides an in-depth understanding of the operation and maintenance of the H4 wellhead connector equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the H4 wellhead connector, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- H4 Wellhead Connector Operation
- H4 Wellhead Connector Maintenance Procedures
- H4 Wellhead Connector Maintenance Practical Exercises

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose and function of the H4 wellhead connector
- Identify the component parts of the H4 wellhead connector
- Describe the specification and application of each model of H4 wellhead connector
- Describe the ideal storage conditions for rubber goods.
- Describe the maintenance procedures for the H4 wellhead connector.
- Disassembly, visually inspect, and assemble a CxE H4 wellhead connector.

Target Group

Personnel responsible for troubleshooting and maintaining Wellhead Connectors.

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMH.

Course Capacity

Maximum number of participants is 8.

Course Duration

1 Day Classroom and Practical



Diverter Maintenance

This course provides an in-depth understanding of the operation and maintenance of the diverter equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the diverter equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- KFDS Diverters
- MSP Diverters
- Diverter Maintenance Procedures

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose and function of the diverter.
- Identify the component parts of each model of diverter.
- Describe the ideal storage conditions for rubber goods.
- Describe the maintenance procedures for KFDS diverters.
- Describe the maintenance procedures for MSP diverters.

Target Group

Personnel responsible for troubleshooting and maintaining diverters.

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMH.

Course Capacity

Maximum number of participants is 10.

Course Duration

½ Day Classroom



Riser System Maintenance

This course provides an in-depth understanding of the operation and maintenance of the riser system equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the MUX Control Pod equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- Riser System Overview
- Diverter
- Riser Running Equipment
- Flex Joints & Riser Adapter
- Riser Joints
- Gas Handler
- Telescopic Joint
- Tension Ring
- Rubber Goods

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the function and operation of the equipment.
- Identify the component parts of each piece of equipment.
- Describe the maintenance and inspection procedures for each piece of equipment
- Describe the hydraulic operation of the equipment.
- Describe the principle of storage and handling of rubber goods.

Target Group

Personnel responsible for troubleshooting and maintaining the riser and associated equipment.

Prerequisite Skill and Knowledge

GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Course Capacity

Maximum number of participants is 10.

Course Duration

1 Day Classroom



Land BOP Maintenance

This course provides an in-depth understanding of the operation and maintenance of the land-based annular and ram blowout prevention (BOP) equipment.

Course Goal

This course aims to increase the theoretical understanding of the operation of the land-based blowout prevention equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- GK Annular BOP Maintenance
- GX Annular BOP Maintenance
- MSP Annular BOP Maintenance
- Sentry Ram BOP Maintenance
- Conventional Ram BOP Maintenance

Course Objectives

Upon completion of the course, participants will be able to:

- Identify the components of the equipment.
- Describe the operation of the equipment.
- Describe the seal pressure testing procedure for each piece of equipment.
- Disassemble, visually inspect, and assemble a GK annular BOP.
- Disassemble, visually inspect, and assemble a Sentry Ram..
- Disassemble, visually inspect, and assemble a Compact Ram bonnet..

Target Group

Personnel responsible for troubleshooting and maintaining annular and ram BOPs in land-based drilling applications

Prerequisite Skill and Knowledge

There are no prerequisites for this course.

Personal Protection Equipment

Work clothes and steel toe shoes are required to attend the classroom version of this course. Eye and hand protection are provided by HMMH.

Course Capacity

Maximum number of participants is 10.

Course Duration

3 Days Classroom



SeaPrime Pod Hydraulics

This course provides an in-depth understanding of the SeaPrime Control Pod hydraulic equipment operation.

Course Goal

This course aims to increase the theoretical understanding of the operation of the hydraulic circuits in the SeaPrime Control Pod.

Course Topics

- HSSE
- Functional description of the hydraulics system
- Interpretation of hydraulic system schematics
- Operational description of the hydraulic circuits in the system

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the purpose of the SeaPrime control pod.
- Identify the major components of the SeaPrime control pod.
- Describe the overall operation of the SeaPrime control pod.
- Describe the flow of hydraulic power through the SeaPrime control pod.
- Describe the hydraulic operation of the equipment.
- Trace individual hydraulic power circuits for troubleshooting purposes.

Target Group

Personnel responsible for troubleshooting and maintaining the SeaPrime Control Pod and BOP stack hydraulic equipment.

Prerequisite Skill and Knowledge

This course requires a fundamental understanding of hydraulic power theory and the components typically used in hydraulic power systems, Attendees need to be familiar with the standard symbology used in hydraulic schematics and have a basic understanding of the surface and subsea BOP control system operation. GEN2 MUX Control System Fundamentals and/or SeaONYX Control System Fundamentals are recommended prerequisites.

Course Capacity

Maximum number of participants is 10.

Course Duration

2 Days Classroom



SeaPrime Control Pod Maintenance

This course provides an in-depth understanding of the maintenance activities for the components of the SeaPrime Control Pod.

Course Goal

This course aims to increase the theoretical understanding of the operation of the SeaPrime Control Pod equipment, and to provide practical experience performing maintenance tasks on the equipment.

Course Topics

- HSSE
- Pod Operation and Component Overview
- Pod Schematic Review
- Pod Component Identification
- Pod Maintenance Procedures

Course Objectives

Upon completion of the course, participants will be able to:

- Describe the components of the SeaPrime Pod and their operation.
- Trace hydraulic flow and explain SeaPrime Pod operation using the hydraulic schematic.
- Review the maintenance procedures (e.g., disassembly, inspection, assembly, etc.) for pod components.

Target Group

Personnel responsible for troubleshooting and maintaining the SeaPrime Control Pod

Prerequisite Skill and Knowledge

SeaONYX Control System Fundamentals is a recommended prerequisite.

Personal Protection Equipment

Work clothes, eye protection, and steel toe shoes are required to participate in the practical activities of this course.

Course Capacity

Maximum number of participants is 10.

Course Duration

3 Days Classroom



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