

# ST-50-R Basic SONARtrac® Installation and Commissioning Refresher Training Course Outline

**Course Objective:** This one-day course is designed for those who desire to refresh and enhance their experience and technical knowledge of the SONARtrac flow and entrained air/gas measurement technology (recommended to be taken every six months).

**Course Goals:** Attendees will enhance their working knowledge of SONARtrac process monitoring equipment, installation requirements and set-up. At the successful completion of the course, the attendees will have the tools and information required to install the system, configure the transmitter, download information from the transmitter via USB port.

## Requirements:

1. It is a course requirement that all attendees **read** the SONARtrac Installation Manual prior to the start of training. **CiDRA will provide SONARtrac Installation Manual prior to the start and training coordinator will distribute it to attendees.**
2. Students should not be interrupted during the training sessions.
3. The initial training session (ST-50-1) is necessary for all technicians who will be involved in the installation, removal and storage of CiDRA SONARtrac systems; additional sessions for one-day “refresher” courses recommended every six months for the ST-50-R training.

**Training Format:** This largely “hands on” training is best accomplished with groups of two students per training system. Ideal class size is typically four-six students (2 or 3 groups of 2 students) per trainer. Participants are encouraged to ask questions as they come up (do not wait until the end).

**Length:** A one-day, 10 hour-long training session is necessary in order to cover all topics.

**Training Site:** Training is typically held in a classroom environment (quiet area where people can concentrate and not be disturbed during training). See attached “TRAINING EQUIPMENT AND RESOURCES NEEDED” for additional training site requirements.

**Training Materials:** Training manuals and class materials are provided by CiDRA.

## CiDRA CONTACTS:

| Name & Department                                  | Phone        | Email  |
|--|--------------|--|
| Bob Markoja, Technical Training Manager            | 203-626-3399 | <a href="mailto:bmarkoja@cidra.com">bmarkoja@cidra.com</a>     |
| John Viega, Business Development (Oilsands)        | 203-626-3373 | <a href="mailto:jviega@cidra.com">jviega@cidra.com</a>         |
| Perry McKechnie, Operations Manager (Ft. McMurray) | 780-792-4440 | <a href="mailto:pmckecknie@cidra.com">pmckecknie@cidra.com</a> |
| Wendy Erickson, Manager Client Services            | 203-626-3421 | <a href="mailto:werickson@cidra.com">werickson@cidra.com</a>   |



CiDRA Oilsands Ltd.  
 1-877-CIDRA 77  
 Main Office: Wallingford, CT  
 203-265-0035  
 Sales: Calgary, AB 403-819-1855  
 Service: Fort McMurray, AB  
 780-792-4440 / 780-838-9836  
[www.cidra.com](http://www.cidra.com)

**CiDRA Oilsands Ltd. SONARtrac® Training Agenda**  
**Course: ST-50-R (One Day) Basic SONARtrac Installation Training Refresher Course**

| <b>Day 1:</b>    |   |
|------------------|---|
| <b>Morning</b>   | <p><b>Review Course Objectives, CiDRA Overview</b></p> <p><b>SONARtrac Sensor Head Installation Training</b><br/> <b>Module Goal:</b> Students will learn how to install the SONARtrac sensor assembly. They will learn how to select the best installation how to install sensor assembly using SONARtrac hardware on a training spool piece of pipe</p> <p><b>SONARtrac Transmitter Training</b><br/> <b>Module Goal:</b> Students will learn how to install and start up the SONARtrac transmitter assembly. Students will learn how to select the best installation site for the transmitter. They will also learn how to install the sensor head to transmitter cable assembly, power cable and output cables. Students will learn how to access and navigate the transmitter menus in order to configure the system as well as to perform system diagnostics and trouble shooting using the onboard transmitter capabilities.</p>   |
| <b>Afternoon</b> | <p><b>SONARtrac Sensor Head Removal and Storage Procedures</b><br/> <b>Module Goal:</b> Students will learn how to and be able to safely remove equipment from pipes and properly store it for later re-installation. This is extremely important for those applications that require removal for pipe rotation.</p> <p><b>SONARtrac Sensor Head Rework Procedures</b><br/> <b>Module Goal:</b> Students will learn how to properly rework and replace SONARtrac sensor head components. Students will replace the cover seals on the fiberglass enclosure and will learn how to replace the stainless steel cover flange gaskets. They will learn how to replace the pre-amplifier module unit found in the cover assembly.</p> <p><b>SONARtrac Stainless Steel Sensor Head Cover Installation Training</b><br/> <b>Module Goal:</b> Students will learn how to install stainless steel sensor head covers. Students will learn the differences between installation of fiberglass and stainless sensor head covers. They will perform an installation on a process pipe spool piece.</p> <p><b>SONARtrac HD-Series Sensor Installation Training</b><br/> <b>Module Goal:</b> Students will learn how to and be able to install the HD series of sensors.</p> <p><b>SONARtrac SONARstick (USB Memory Stick) Training</b><br/> <b>Module Goal:</b> Students will gain the knowledge to enable the use of the USB port and memory stick. Students will learn how to download data from the transmitter, install system configuration files, and how to re-program the transmitter using a memory stick.</p> <p><b>CiDRA Secure Website</b><br/> <b>Module Goal:</b> Students will learn how to and be able to upload and download data from the CiDRA Secure Website. They will also learn where to find the latest System Manuals, Technical Bulletins, Rework Procedures, etc. Students will be given access codes and passwords for use on the Secure Website. Assuming we have internet access, they will go on line and upload and download data and information.</p> |



**CiDRA Oilsands Ltd.**  
1-877-CIDRA 77  
Main Office: Wallingford, CT  
203-265-0035  
Sales: Calgary, AB 403-819-1855  
Service: Fort McMurray, AB  
780-792-4440 / 780-838-9836  
[www.cidra.com](http://www.cidra.com)

# Training Equipment and Resources Needed

**Purpose:** To document a list of resources required to support an ST-50-R training session.

**Assumptions:**

1. Up to 6 persons per training session / 2 trainees per group
2. 1 training session of 1-day duration each
3. One CiDRA Certified Trainer
4. Setup for training the day prior to first session.

*Note: The \* items will be left with trainees*

| Item # | Description   | Quantity | Supplied By |          | Comments |
|--------|---|----------|-------------|----------|----------|
|        |   |          | CiDRA       | Customer |          |
| 1      | Training Room   |          |             |          |          |
| 2      | Tables ~3 ft X 6 ft long                                |          |             |          |          |
| 3      | Chairs (assuming 10 trainees per session)               |          |             |          |          |
| 4      | Electrical outlets and extension cords                  |          |             |          |          |
| 5      | Video projector   |          |             |          |          |
| 6      | Video screen  |          |             |          |          |
| 7      | Laptop computer   |          |             |          |          |
| 8      | * Training binders                                      |          |             |          |          |
| 9      | <i>SONARtrac</i> transmitter with USB                   |          |             |          |          |
| 10     | Sensor Bands and Covers 6 or 8 inch                     |          |             |          |          |
| 11     | Spool piece for sensors 6" or 8" x 36" long             |          |             |          |          |
| 12     | Tool kits as per manual                                 |          |             |          |          |
| 13     | Installation & Startup Manual                           |          |             |          |          |
| 14     | * USB Memory Sticks                                     |          |             |          |          |
| 15     | OPTIONAL Ethernet access for training (Secured Website) |          |             |          |          |
| 16     | 18" or larger sensor cover                              |          |             |          |          |
| 17     | Extra sets of boot gasket bands                         |          |             |          |          |
| 18     | 18" or larger spool piece for cover                     |          |             |          |          |
| 19     | 8-10 ft sensor head to transmitter cables               |          |             |          |          |
| 20     | * Paper pads  |          |             |          |          |
| 21     | * CiDRA pens  |          |             |          |          |
| 22     | * CiDRA coffee mugs                                     |          |             |          |          |
| 23     | *Training certificates                                  |          |             |          |          |
| 24     | Training evaluation forms                               |          |             |          |          |
| 25     | Morning coffee, donuts, lunch, drinks                   |          |             |          |          |
| 26     | Fiberglass cover gasket rework kits                     |          |             |          |          |
| 27     | Spool piece supports                                    |          |             |          |          |



**CiDRA Oilsands Ltd.**  
 1-877-CIDRA 77  
 Main Office: Wallingford, CT  
 203-265-0035  
 Sales: Calgary, AB 403-819-1855  
 Service: Fort McMurray, AB  
 780-792-4440 / 780-838-9836  
[www.cidra.com](http://www.cidra.com)

# ST-50-R Basic *SONARtrac*<sup>®</sup> Installation and Commissioning Refresher Training Course Outline

## SYNOPSIS:

ST-50-R Basic *SONARtrac* Installation and Commissioning Refresher Training Course: This one-day course is designed for those companies or clients who desire to refresh and enhance their experience and technical knowledge of the *SONARtrac* flow and entrained air/gas measurement technology (recommended to be taken every six months). More time is devoted to enhancing the students' "hands on" experience with the *SONARtrac* transmitter and sensor head.

Attendees receive the technical background and hands-on experience necessary to install, set-up, and configure the *SONARtrac* flow monitoring system in an intensive, one-day course.

## OBJECTIVES:

Students will learn the basics of and be able to gain proficiency to install and set up *SONARtrac* Process Flow and Entrained Air/Gas Monitoring systems. Those completing the course will become familiar with

- The *SONARtrac* family of process monitoring equipment;
- Installation requirements;
- Hardware, system installation and set-up;
- Removal of equipment from pipes and store properly for later installation (essential for applications that require removal for pipe rotation and removal);
- The differences between installation of fiberglass and stainless steel sensor head covers (and perform an installation on a process pipe spool piece);
- Installing and removing an HD series sensor band on a process pipe spool piece;
- Upload and download data using a *SONARstick*<sup>™</sup> USB memory stick.

## TOPICS INCLUDE:

- Sensor Head Installation Training;
- Sensor Head Removal & Storage Procedure;
- Transmitter Training;
- *SONARstick* (USB Memory Stick) Training;
- Secure Website Introduction.

## PREREQUISITES:

All attendees must **read** the *SONARtrac* Installation Manual prior to the start of training. To this end, **CiDRA will be providing, in advance, the *SONARtrac* Installation Manual.**

## LENGTH:

1 day (10 hours)

**FOR MORE INFORMATION (Costs and Scheduling)**, please contact Bob Markoja, Technical Training Manager, 203-626-3399 ([bmarkoja@cidra.com](mailto:bmarkoja@cidra.com)) or Wendy Erickson, Manager, Client Services & Support, 203-626-3421 ([werickson@cidra.com](mailto:werickson@cidra.com))



CiDRA Oilsands Ltd.  
1-877-CIDRA 77  
Main Office: Wallingford, CT  
203-265-0035  
Sales: Calgary, AB 403-819-1855  
Service: Fort McMurray, AB  
780-792-4440 / 780-838-9836  
[www.cidra.com](http://www.cidra.com)