**“*Water Block Sight Glass Cameras*”**

# **TABLE OF CONTENTS**

[**II.** **TABLE OF CONTENTS** 2](#_Toc173835499)

[**III.** **REVISION LOG** 3](#_Toc173835500)

[**IV.** **PROCEDURE STATUS** 3](#_Toc173835501)

[**V.** **REFERENCES** 3](#_Toc173835502)

[**VI.** **PURPOSE** 3](#_Toc173835503)

[**VII.** **SCOPE** 3](#_Toc173835504)

[**VIII.** **PERSONNEL TRAINING AND QUALIFICATION** 3](#_Toc173835505)

[**IX.** **APPARATUS AND EQUIPMENT** 3](#_Toc173835506)

[**X.** **PROCEDURE** 4](#_Toc173835507)

# **REVISION LOG**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Revision: 1.0** | | **Effective Date:** | | |
| **Section** | **Justification** | | | **Changes** |
|  |  | | |  |
| **Impact of above change(s) on other documents:** | | |  | |

# **PURPOSE**

This task will allow operators to easily obtain measurements from indicators behind sight glasses in the water block.

# **SCOPE**

This task applies to the sight glasses, with indicators, in the water block, that are desired to be monitored by engineering.

# **DELIVERABLES**

## **Image and or Video**

1. Clear focus with as little glare as possible,
2. Indicates are able to be read.
3. Ability to save file.
4. Video is optional.

## **Remote Access**

1. Use of Ethernet or USB to Ethernet.
2. Be able to access camera remotely.
3. Be able to view on Trendsafe PCs.

## **Camera**

1. Autofocus.
2. Room Temperature Rating.
3. Ability to handle temporary, possible heat.
4. Lighting Source.
   1. Built in preferred.
   2. Companion lighting source optional.
5. Connection
   1. Ethernet preferred.
   2. USB to Ethernet Optional.

## **Setup**

1. No holes thru monitor area.
2. Use of Instrument Network.
3. Use of mount to hold camera at proper sight glass.

## **Ease of Use**

1. Clear, easy instructions for operators.

# **PHASES**

## **Phase IA: Verification of Digi**

1. Description:

Use available hardware to confirm possibility for use of simple webcam.

1. Hardware:
   1. NexiGo-Webcam N960E
   2. Digi Anywhere USB 2 Plus – 2x USB 3.1 over Ethernet 10/100
   3. Laptop
2. Procedure:
   1. Connect Webcam to Digi thru USB Cable.
   2. Connect the Digi to Laptop via Ethernet Cable.
   3. Install Camera Software on Laptop.
   4. Verify image can be seen.
3. Success:
   1. Able to view clear, non-laggy video image from webcam thru the ethernet connection.
   2. Ability to save images on Laptop.
   3. Optional ability to save video on Laptop.

## **Phase IB: Verification of Current Webcams on Water Block**

1. Precondition:
   1. Successful criteria obtained on Phase IA.
2. Description:

Use Webcams on the water block with Digi and view the video on Laptop.

1. Hardware:
   1. Water block Webcam
   2. Digi Anywhere USB 2 Plus – 2x USB 3.1 over Ethernet 10/100
   3. Laptop
2. Procedure:
   1. Connect Webcam to Digi thru USB Cable.
   2. Connect the Digi to Laptop via Ethernet Cable.
   3. Verify image can be seen.
3. Success:
   1. Able to view clear, non-laggy video image from webcam thru the ethernet connection.
      1. Acceptable level of glare from the sight glass.
   2. Ability to save images on Laptop.
   3. Optional ability to save video on Laptop.

## **Phase IC: Connection of Water Block Webcam to Instrument Network**

1. Precondition:
   1. Successful criteria obtained on Phase IB
2. Description:

Connect the existing water block webcam to the instrument network.

1. Hardware:
   1. Water block Webcam
   2. Digi Anywhere USB 2 Plus – 2x USB 3.1 over Ethernet 10/100
   3. Laptop
2. Procedure:
   1. Connect Webcam to Digi thru USB Cable.
   2. Connect the Digi to the instrument network via Ethernet Cable.
   3. Verify image can be seen.
3. Success:
   1. Able to view clear, non-laggy video image from webcam thru the ethernet connection.
   2. Ability to save images on Laptop.
   3. Optional ability to save video on Laptop.

## **Phase ID: Installation of Webcam software on Trendsafe PC**

1. Precondition:
   1. Successful criteria obtained on Phase IC
2. Description:

Installation of Webcam software on Trendsafe PC.

1. Hardware:
   1. Water block Webcam
   2. Digi Anywhere USB 2 Plus – 2x USB 3.1 over Ethernet 10/100
   3. Laptop
2. Procedure:
   1. Connect Webcam to Digi thru USB Cable.
   2. Connect the Digi to the instrument network via Ethernet Cable.
   3. Verify image can be seen.
3. Success:
   1. Able to view clear, non-laggy video image from webcam thru the ethernet connection.
   2. Ability to save images on Laptop.
   3. Optional ability to save video on Laptop.