

# Don't Be Remiss, Use EMIS

(Environmental Management Information System)



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Greg Guimond & Ian Carstensen  
Corporate Environmental Services  
Tucson Electric Power



- Introduction
- What is EMIS?
- EMIS Functionality
- Types of EMIS Solutions
- TEP's EMIS Journey
- Lessons Learned / Keys to Success





Heard of EMIS?

Currently Implement an EMIS?

Responsible for EMIS Governance?

Just killing time until the PFAS Panel at lunch?

# Introduction

- Environmental Engineers – TEP Corporate Environmental Services
- Responsible for Multi-Media Compliance Programs
- 35 years combined in Environmental Field
  - Consultant and Industry

## Varied EMIS Experience / Responsibilities:

- System design and configuration
- User Acceptance Testing
- System Implementation / Users
- System Governance / Administrators

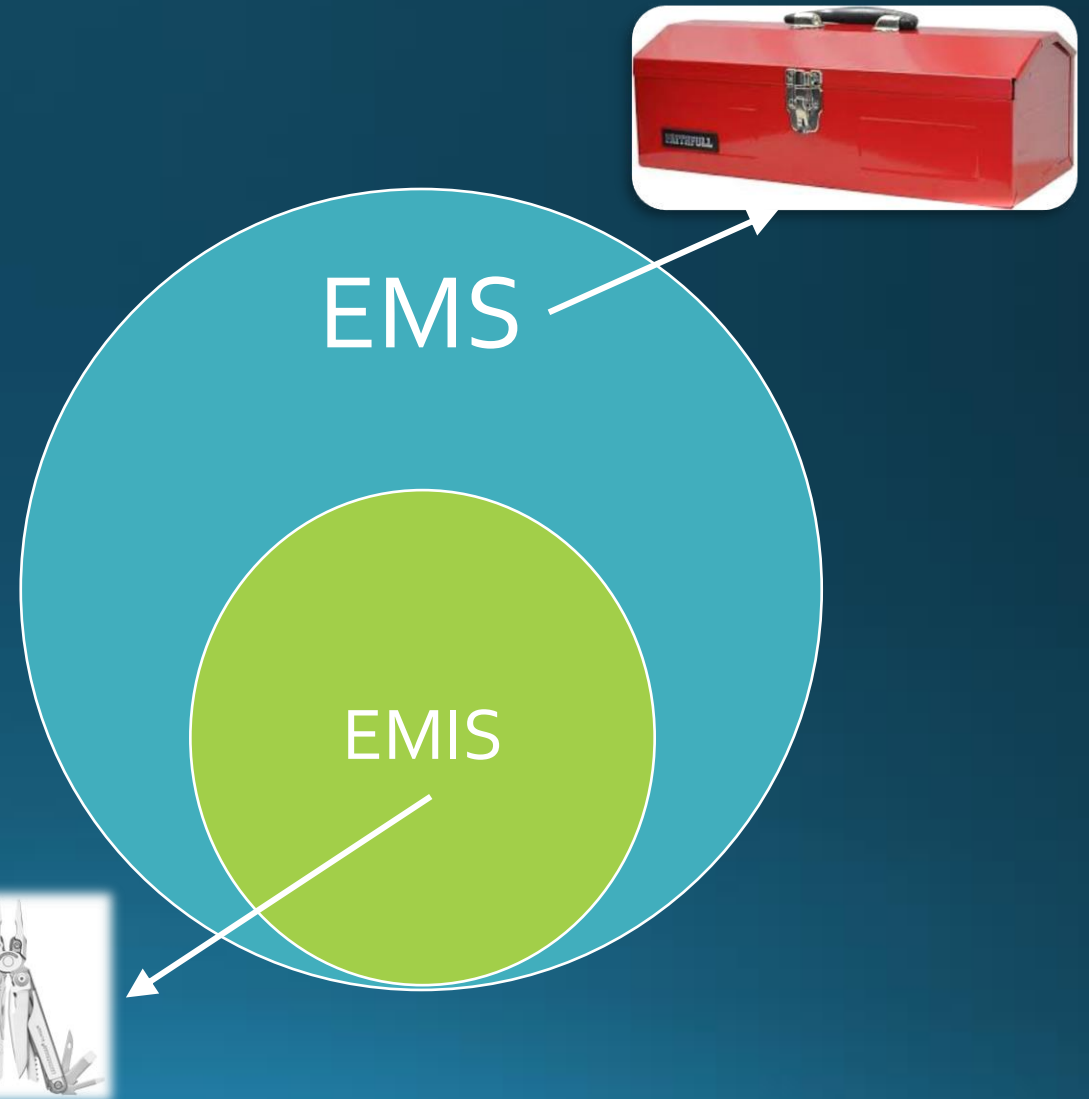


# What is EMIS?

## EMS vs EMIS

### Environmental Management System

- Policies
- Procedures
- Records / Documents
- Data
- Audit / Assessment



# EMIS Functionality

## Information Management

### *Traditionally: Multiple Methods*

- Compliance Calendar – Outlook, Excel, Word table
- Task Management – Outlook, Excel, Word tables
- Environmental Data – Excel, Access, Word tables
- Reporting – Excel, Word, pdf
- Document Management – MS File Explorer, document management system
- Incident Management – flow charts / phone / email
- Key performance indicators – Excel charts, PowerPoint



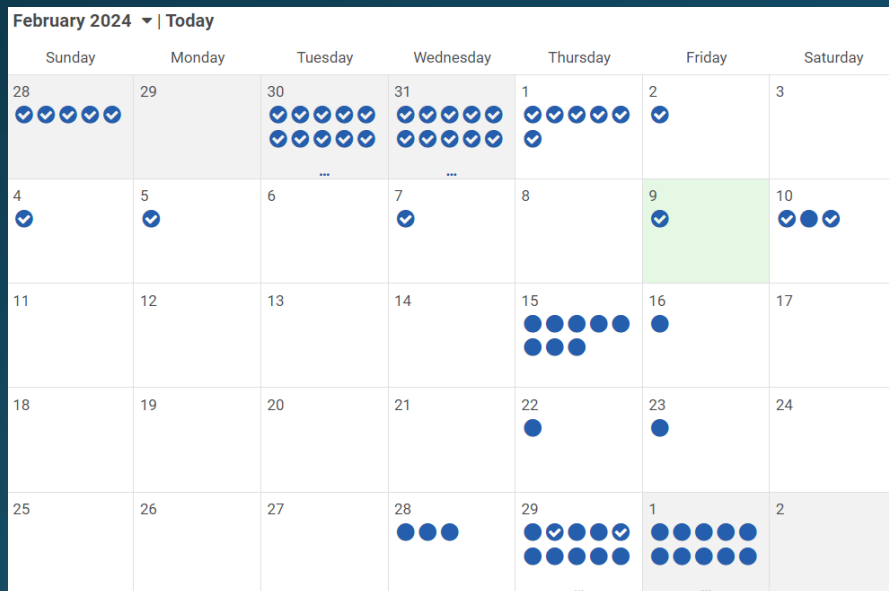
## EMIS



# EMIS Functionality

## Compliance Calendar / Task Manager

- Assign to individuals or user groups
- Description / Instructions
- Link to permit conditions / citations / documents
- Notification schedule / Escalations



## Data Management

- Individual data points or bulk upload
- Manual or automated
- Custom forms / apps

Monthly Meter Readings Review

Panel Objects: Select... Date Range: 08/01/2022 - 07/31/2023 Interval: 1 Month

Show all data

Date	55-217043 (IGS #3B)	55-221895 (IGS #8B)	55-223016 (IGS #9BS)	55-223017 (IGS #9I)
08/31/2022	766.0267	1303.823	914.3002	447.2
09/30/2022	766.0267	1321.359	930.233	449.7
10/31/2022	779.0198	1340.18	947.1658	458.
11/30/2022	783.5779	1356.246	955.3968	458.5

# EMIS Functionality

## Inspection / Audit Records

- Inspection Checklists / Forms
- Audit Findings / Observations
- Paper to digital
- Mobile app capability

**Inspection Information**

Inspection Date  
2/9/2024

AZPDES Auth. No.  
AZMS80859

Inspection Start Time  
3:13 PM

During normal operating hours?  
 Yes  No

Routine Inspection  
1 of 4 2 of 4 3 of 4 4 of 4

## Reporting

- Customizable reports
- Multiple formats – pdf, Excel, etc.
- Can mimic agency forms

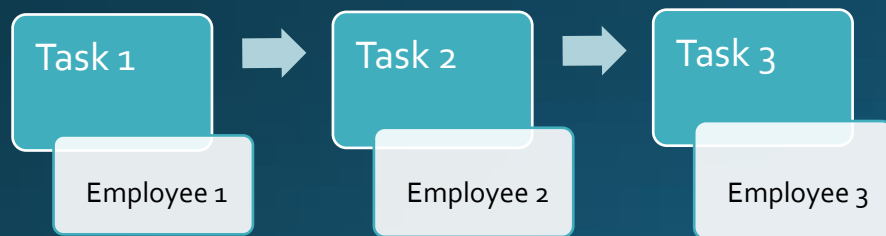
<b>PART I GROUNDWATER WITHDRAWN</b> From Box 11 Schedule A attached Complete this section only if you operate a non-exempt well. 1500.89      \$3.50      \$5,253.12 ACRE - FEET   X   Withdrawal Fee   =	<b>PART V LATE FEES</b> Complete if filing after March 31. Note: A portion of a month after March 31 is counted as a full month. 1) Enter number of months late _____ (Maximum of 6) 2) Calculate Late Report Fee (\$25.00 X number of months late)      \$0.00 3) Calculate Late Payment Fee (10% X number of months late X withdrawal fee calculated in Part I above)      \$0.00
<b>PART II WATER DELIVERED TO OTHER RIGHTS</b> From Box 24 Schedule D attached 2.4      ACRE-FEET	<b>PART VI WATER QUALITY</b> From WQARF Worksheet attached      \$3,181.89
<b>PART III WATER RECEIVED FROM OTHER SOURCES</b> Total from Schedule E attached _____ ACRE- FEET	<b>PART VII TOTAL FEES DUE</b> Add amounts from Parts I, V, and VI      \$8,435.00
<b>PART IV TOTAL WATER USED BY THIS RIGHT</b> Calculate as follows: Part I + Part III - Part II 1498.49      ACRE- FEET	



# EMIS Functionality

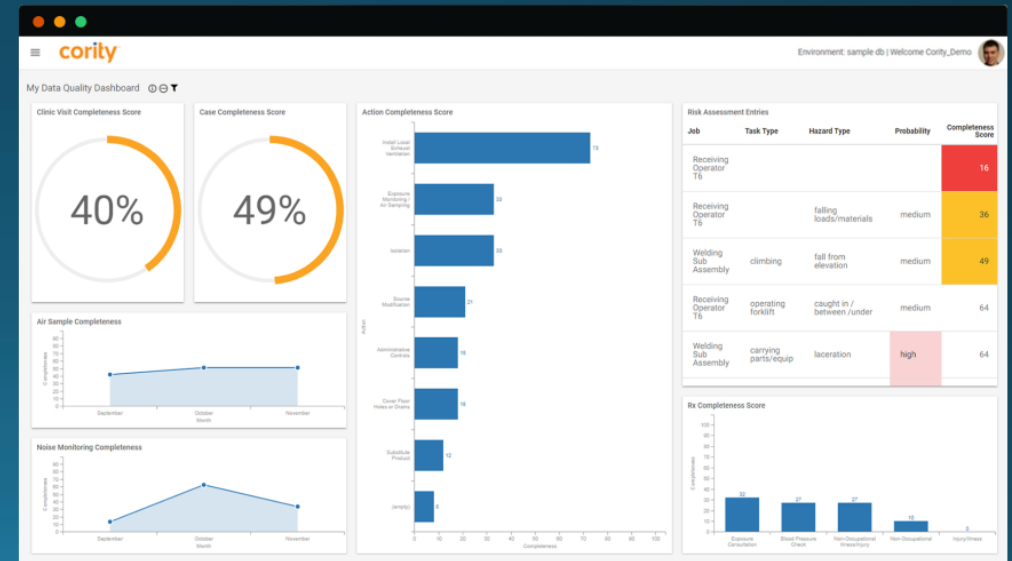
## Incident Management

- Create workflow
  - Assign series of sequential / dependent tasks
  - Notifications
  - Provide opportunity for review / final approval



## Dashboards

- Customize / Develop KPIs
  - Tables
  - Charts
  - Graphs



# Types of EMIS Solutions



- Software
  - Single computer or network
- Web-based (SaaS)
  - Multiple Users
  - Shared or owned servers

- Off-the-shelf / Out-of-the-box
  - Data / Information Entry only
  - No customization of functions
- Partially Configurable
  - Some customization of functions
- Fully Customized



# EMIS Solution Vendors



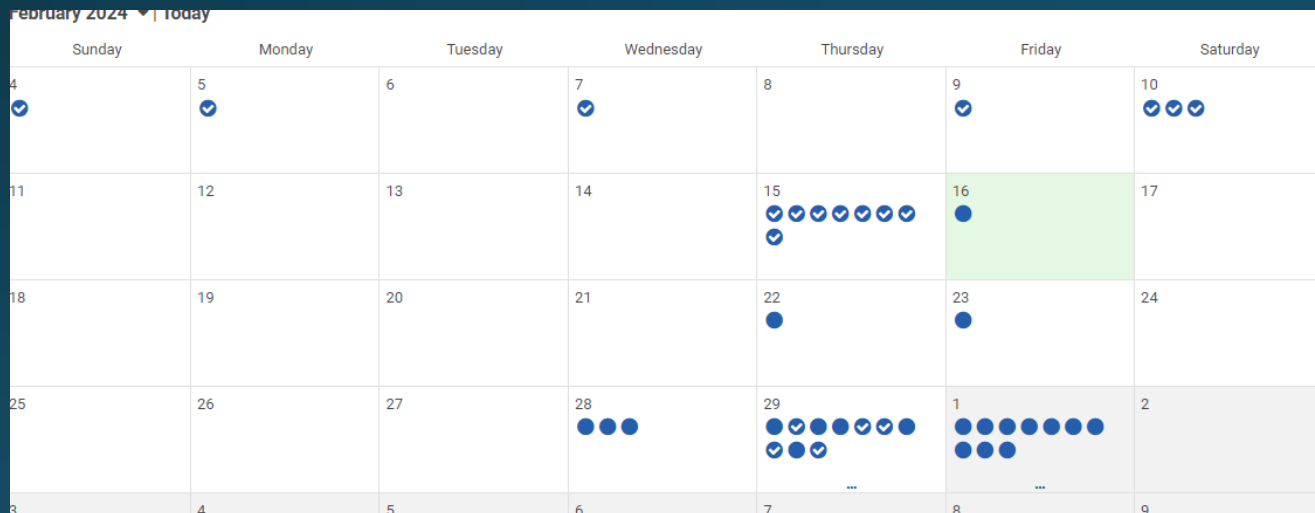
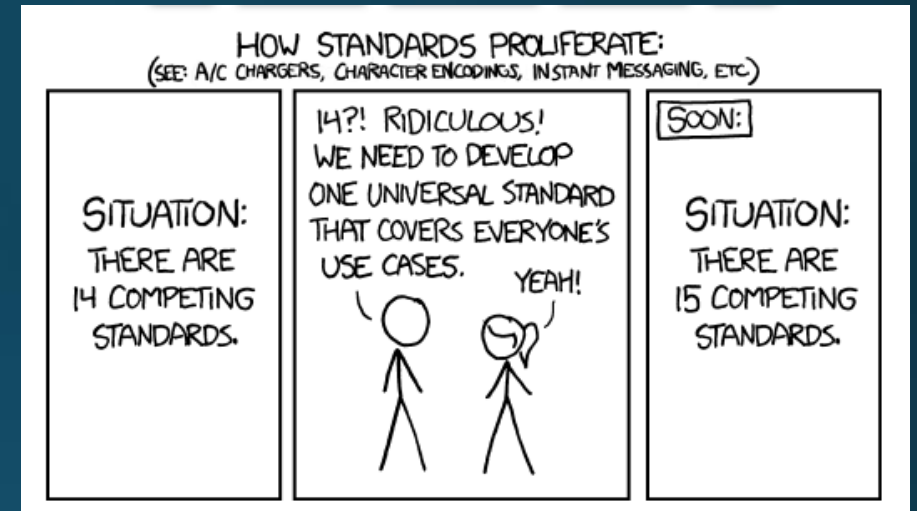
# TEP's EMIS Journey - Early Years

- Early adoption of Enviance – 20+ years ago
  - Elegant solutions, but different uses by various business units
  - Made enterprise-wide adoption difficult



# TEP's EMIS Journey – 2020 Refresh

- Internal effort to centralize and standardize
- Started with Compliance Calendar
- Hired Outside Consultant
- Design Documents



# TEP's EMIS Journey - Standardization



Development of  
Procedure:  
Common Standards



Decentralized  
Administration:  
Increased buy-in and  
flexibility



Working groups and  
Leadership Engagement:  
Forum for communication  
and sharing ideas



Coordination with other  
internal stakeholders:  
Aligned with corporate  
standards, builds trust

# TEP's EMIS Journey – Recent Efforts

## Agency Activity Tracker

Workflow ID

Location\*

Facility:

Rio Rico Solar Yard

Date of Activity\*

2/16/2024

Activity Type 1/5 selected

Select:

Regulatory Agency

Content Area (media) 1/4 selected

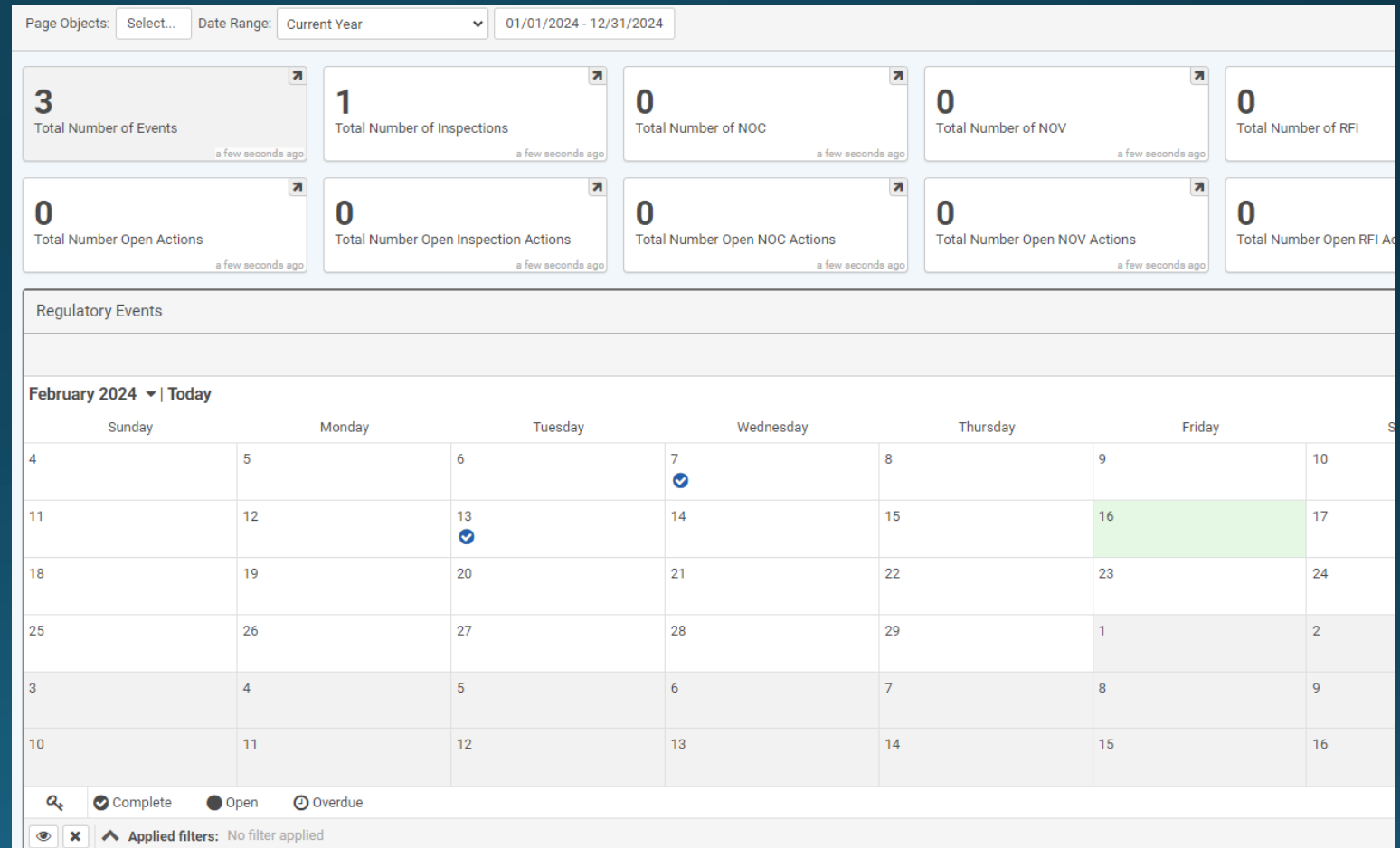
Select:

Program Area: Water 1/7 selected

Select:

# TEP's EMIS Journey – Recent Efforts

## Agency Activity Tracker





# TEP's EMIS Journey – Recent Efforts


## Custom Incident Forms

**Facility\***

Facility:

[Redacted] Facility

**Incident Date\***

2/16/2024 

**[Redacted] Site ID\***

-- Select --

**Site Description\***

-- Select --

**Distance to feature (ft)\***

**[Redacted] Group\***

-- Select --

**[Redacted] ID**

**[Redacted] ID**


**Probable Cause\***

-- Select --

**[Redacted] Condition\***

-- Select --

**Upload Photo(s)**

 Click Icon to Upload Document

**Observer\***

Carstensen, Ian

**Disposition\***

-- Select --

**Latitude\***

34.3023759

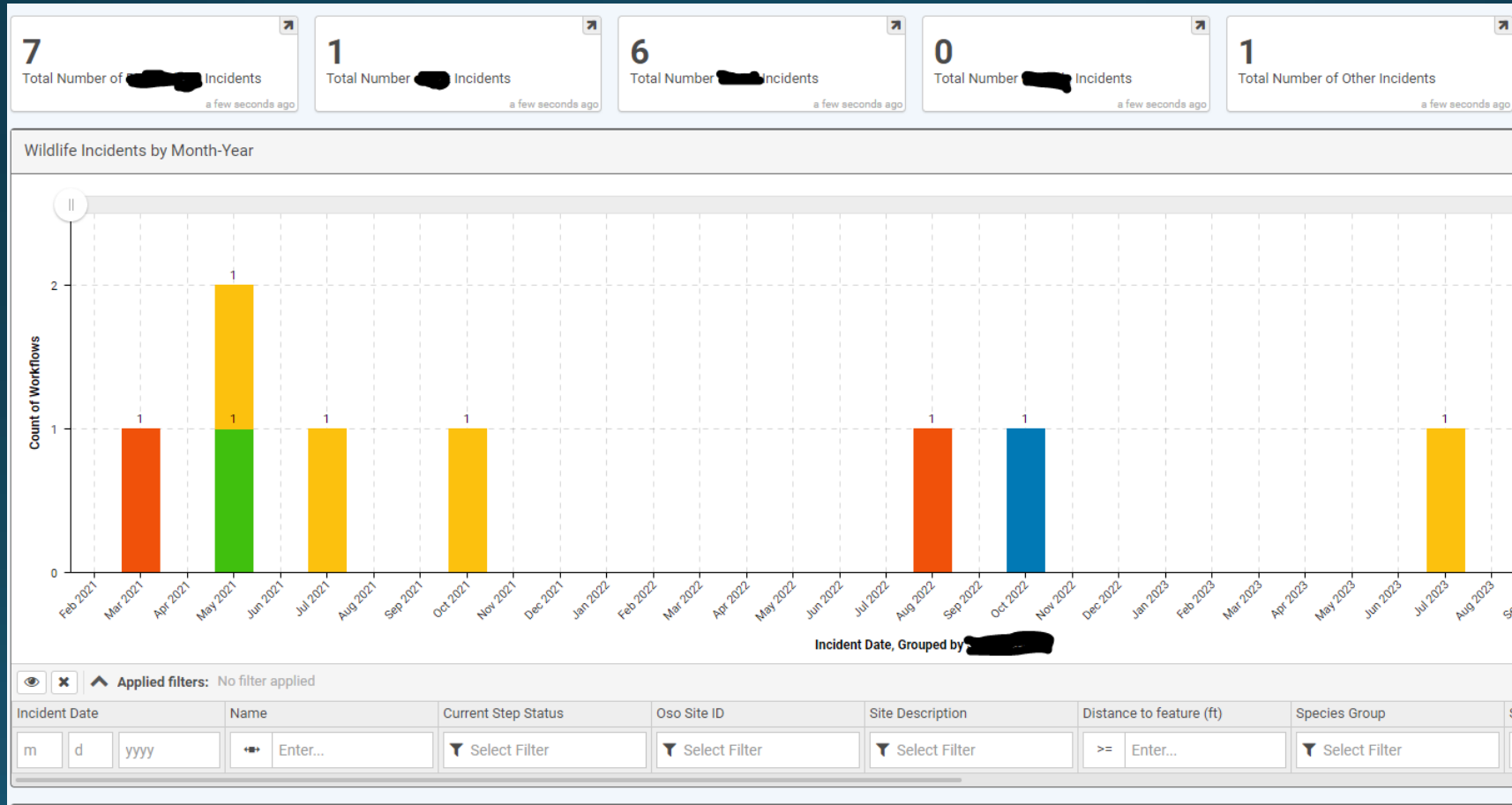
**Longitude\***

-118.3695699

**Notes**

# TEP's EMIS Journey – Recent Efforts

## Incident Tracker



# TEP's EMIS Journey – Future Plans

- Data Tracking Solutions
  - AEI, GHG, Water Use, Wastewater, Etc
  - Single Point of Entry
  - Customizable Reports
  - Value in the Process



# TEP's EMIS Journey – Future Plans

- Single Sign-On
- System Updates
- GIS Integration (potentially)



# Lessons Learned

- Have a plan to accomplish/manage projects and solutions
- Management and stakeholder Buy-In
- Document designs and processes



## Recommendations

USER ACCEPTANCE TESTING

TRAINING

SYSTEM GOVERNANCE

PLANNING AHEAD

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Thank you!

