

Using Observation Data During Refuel Outages A Case Study

Proving the value of observations to reduce incidents

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...the **background and the approach**

Preparing for Outage Observations

- **How we prepared:**
 - Extraction of historical data....
 - Roll up from past outages; NCR's, NAS and Site Observations
 - Pre plan safety and HU messages based upon historical data and schedule

Safety & HU Observation Program

- **How we evaluate data**
 - Used observations (primarily) along with NCR's and NAS observations
 - Team Approach
 - Safety rep involved
 - HU team involved
 - Management approval

Extraction & Analysis of Data

- Performed daily AND weekly roll-ups
- Bucket the observations
 - Buckets and Sub-buckets = programs, specific categories – e.g. PPE / Glove use
- Analyze buckets/data for trends or high risk behaviors, conditions.
- Develop focus item for the next shift
 - **What is the message to the workers?**

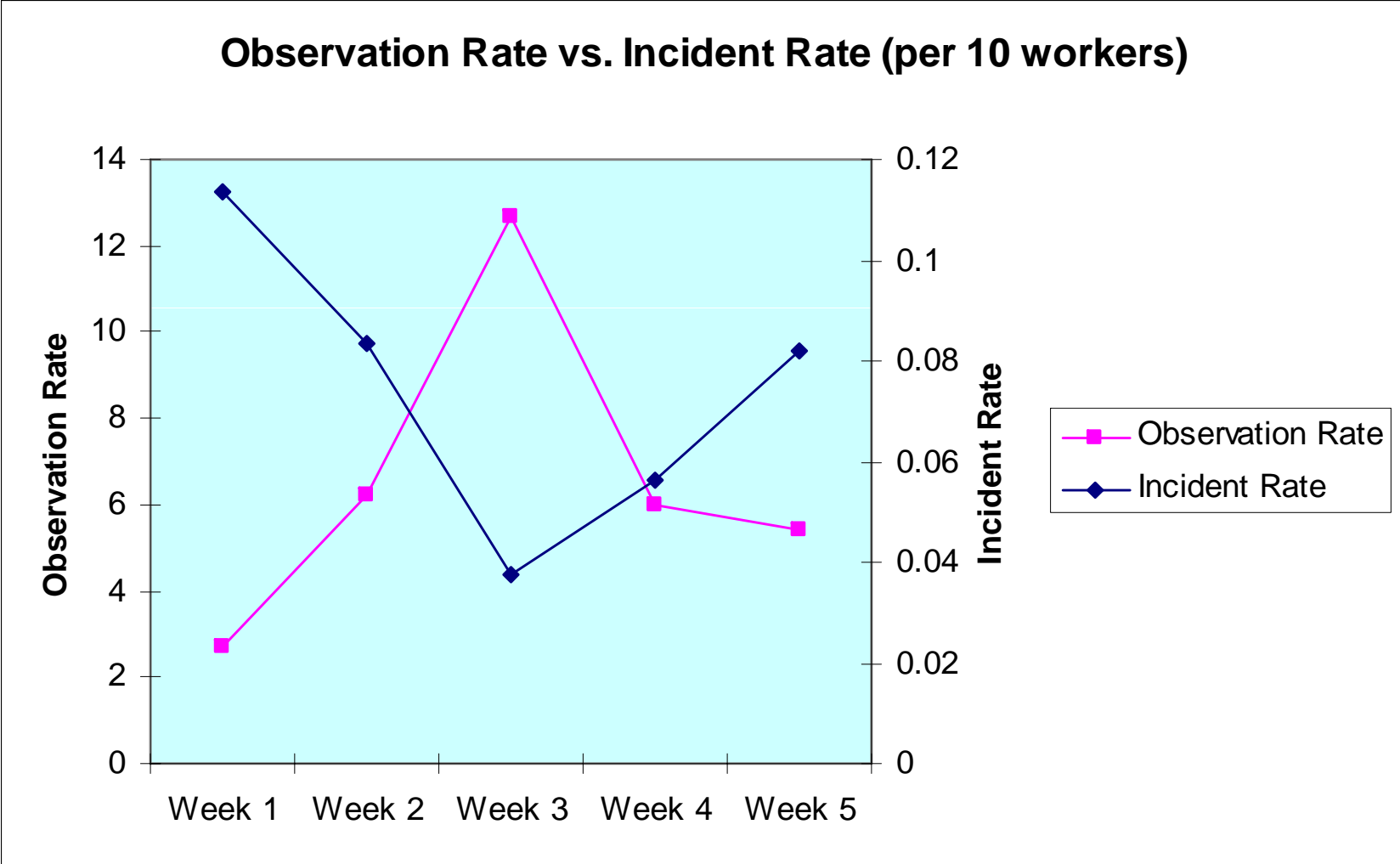
OBSERVATION Rate
vs.
INCIDENT Rate

Observations - Quality or Quantity?

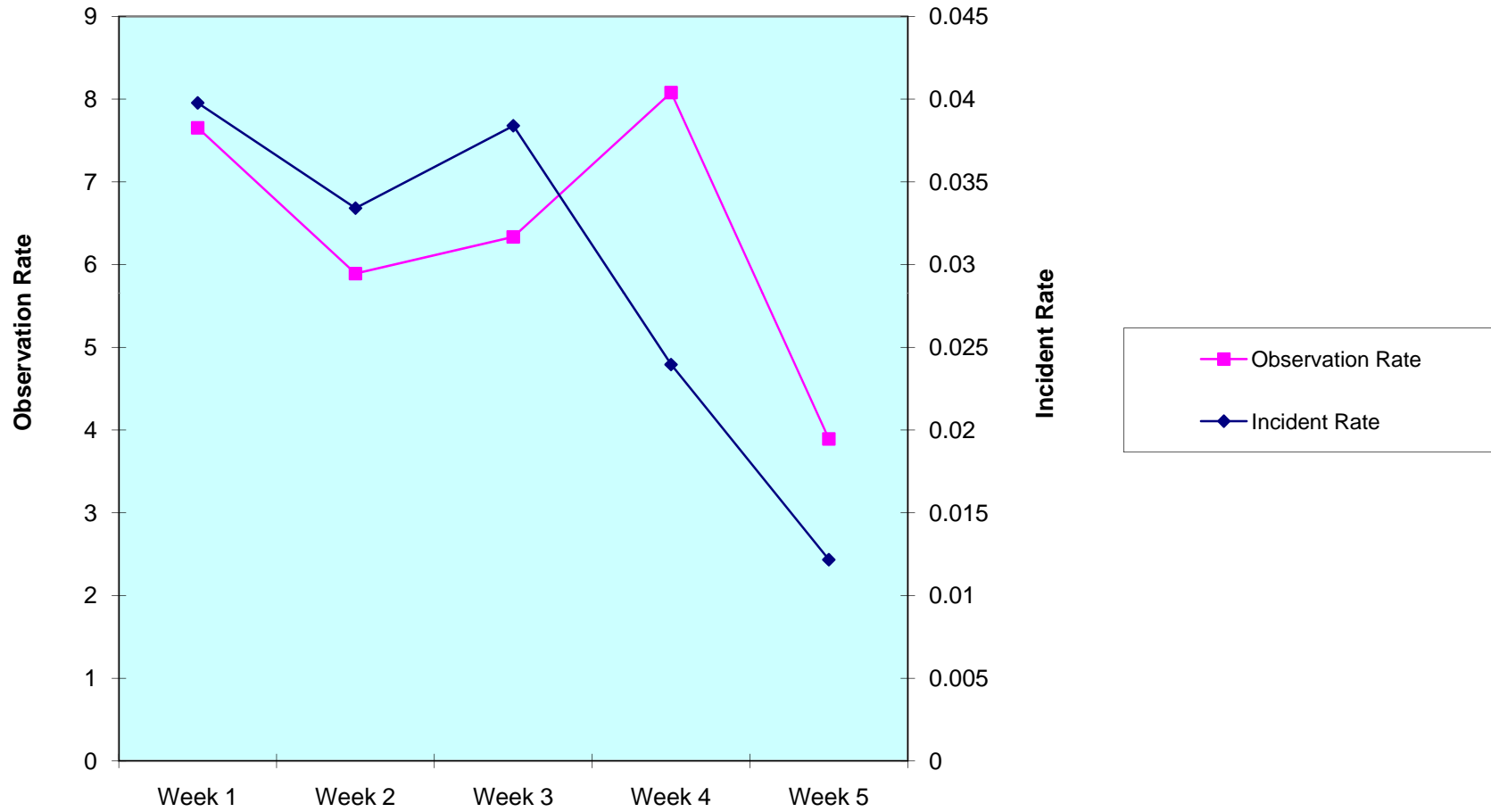
More is better.....

- Recent findings relative to observation programs –
 - **Increased participation** – The number of observations tended to correlate more consistently with injury reductions than did other metrics like percent safe, number of at-risks, etc.
- The next slide contains info from R14. Consider that historically, the third week of an outage had been the worst for incidents – note the change.

R14 Observations vs. Incidents



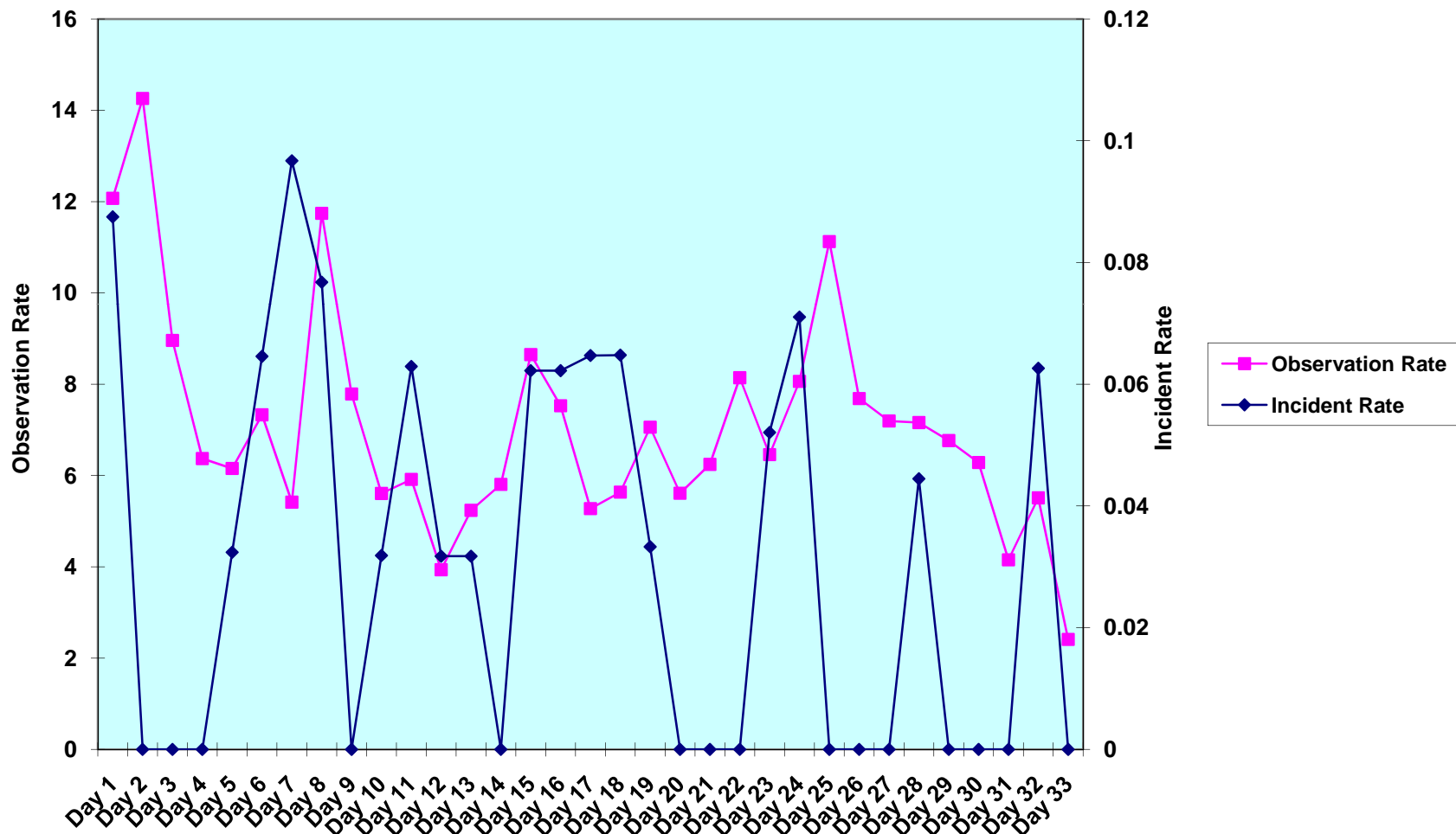
R15 Observation Rate vs. Incident Rate (per 10 workers)



Interesting.....

- The information appears to show that we can use observations to drive down the numbers of incidents (with a lag time of ~24 hours)
- By preempting the occurrence of behaviors that history has shown us are most likely to happen, we can get ahead of this 24 hour lag and PREVENT the occurrence in the first place.

R15 Observation Rate vs. Incident Rate (per 10 workers)



Actions

- We have all this information,

SO WHAT????

Use the Information Gathered

- Use to determine if we are meeting expectations for number of observations..and
- Determine when and where more observations are needed. – **Management tool**
- Results....Getting the information to the folks who can really need it –

THE WORKERS



Safety, Human Performance, Radiation Protection

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SAFETY Y		Focus Areas: Situation Awareness							
2 Minute Drill G	Falling Object Protection G	Situation Awareness & Hazard Recognition R	Housekeeping G	Safety at Heights G	Signs and Barricades G	Lifting and Rigging G	Heat Stress G	Fire Protection G	

HUMAN PERFORMANCE G			Focus Areas: Procedure Use/Stop When Unsure			
Pre-Job Brief G	Procedure Use & Adherence Y	Self Checking G	Communication G	Work Order Placekeeping G	Questioning Attitude G	

RADIATION PROTECTION G				Focus Area: Radworker Practices/Contamination Control				
ALARA Y	Rad Boundaries G	Dosimetry G	Rad Worker Practices Y	PC Usage G	Monitoring G	RWP G	Surveys G	Decon G

R Unsatisfactory
 Y Opportunity for Improvement
 G Meets Expectations

Analysis Summary: Please focus on increasing observations Observations Last 24hr : 109

Safety – 3rd Week Focus: Have you read the Safely Speaking, Week 3 mid-week report?

Situational Awareness: Most of the first aids reported this week are directly related to hazard recognition in the plant. As conditions continue to change, it is important to maintain good situational awareness and engage in specific behaviors that will reduce injury.

HAZARD RECOGNITION

Use the Two Minute Drill: Assess the area as if for the first time and ask yourself: **What can I do different** to reduce the chance of myself or someone getting hurt?

RISK POTENTIAL: Look for things that you previously took for granted. Don't accept "good enough," look to continuously improve. Risk Potential does not mean "maybe someone will be hurt." It means, given enough time, they will.

- Look for changed conditions** – the work areas are changing constantly at this point in the outage.
- Protect Others** – look for hazards that your task may be creating for others. Flying particles, moving equipment, overhead loads, falling objects, you name it – take action to protect other workers.

•**Do Not Rush** – getting in a hurry can lead to shortcuts and getting someone hurt.

•**Use the Right Tool** – if you need a specific piece of equipment or tool to perform the task safely – then get it – use it. Also, make sure you have the right PPE.

Human Performance – 3rd Week Focus: 7 Days to Mode 4, Conditions are constantly changing!

- Work Preparation:** Identify error precursors by asking: What will cause an error in this task? Conditions are constantly changing, does the task need to be walked down? Is the right person assigned? Has a thorough pre-job brief been conducted, identifying controls, contingencies, compensatory actions, and stop work criteria?
- Work Performance:** Like safety, situational awareness is vital to human performance. Ask yourself: Is the work situation understood? Do the plant and equipment conditions match the task conditions? Another area is rigorous use of human performance tools: Do you maintain positive control on your actions? How will they impact safety and reliability? Finally, are you looking out for others? How are you promoting open communication?

•**Work Feedback:** Are you performing post job critiques addressing task specific conditions, procedures, resources, coordination, lessons learned?

Communication of data

- Daily status sheet used at all pre-work meetings – safety reps “helped”
- Shared with ALL groups, **especially with the workers in the field** – a succinct message as to what is expected of them

Questions??

Comments??