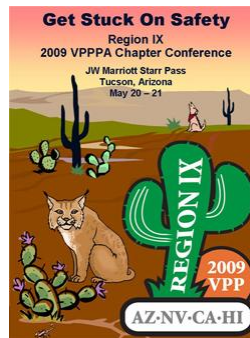
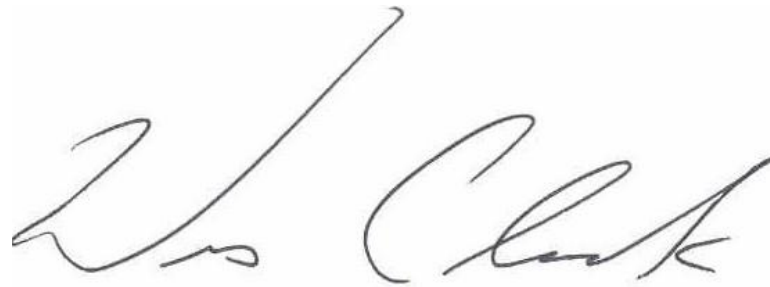


Safety Performance Improvement Indexing Implementation

Region IX VPPPA Chapter Conference
May 20, 2009 - May 21, 2009



**“Nothing is more important in the
Salt Group than health and safety...
not production, not sales, not
profit.”**

A handwritten signature in black ink, appearing to read "Bob Clark". The signature is written in a cursive style with a large, sweeping initial "B" and a long, thin vertical stroke extending upwards from the top of the "B".

Using SPII to manage and track the VPP program elements and enhance injury prevention.



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Salt Group History



Morton's First Chicago Office



Great Lakes Bulk Vessel



Salt Warehouse Circa 1900

Salt Processes



Solar Salt Harvesting



Rock Salt Mining

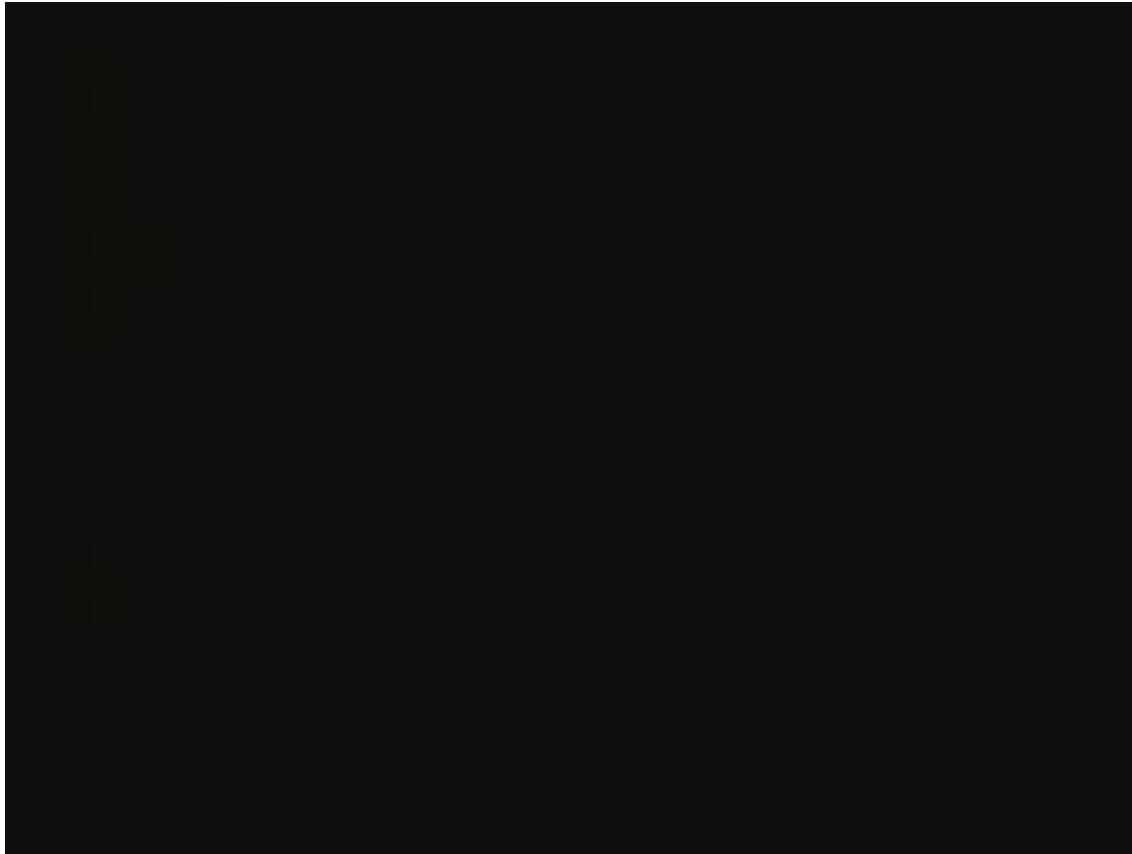


Rittman Vacuum Pans

Safe Products and Services



Windsor Video



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Continuous Miner



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Inagua Conservation



What is Safety Performance Improvement Indexing?

Safety Performance Improvement Indexing is a technique for measuring*, tracking and graphically displaying safety performance.



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* A weighted sum of safety indicators.



In Safety we have to make serious cultural shifts...



to take us from a dependent to the interdependent state on our Safety Journey.



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This includes paying attention to office workplaces as well as ...



... performing all work safely



-Viktor-

Photo by Vincent Laforet / The New York Times



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... even in salt facilities



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Where did this technique come from?

It is a quality control technique that Kodak and others converted for use in EHS.

For further information, go on the search engine

<http://www.google.com>

And enter the phrase “performance indexing”



What will it help an organization accomplish?

- Focus on proactive and preventative measures
- Track several measures
- Establish attainable goals
- Show improvement on a single graph



Is it going to take the place of current safety systems/measures?

No, it is meant to be used as part of a comprehensive improvement plan. Traditional LTI, Severity and OII rates still need to be used to measure safety performance.



Why is this technique important and what will be used to measure potential or ongoing problems?

- **Leading indicators.....unsafe behaviors**
- Lagging indicators.....OII, unsafe acts, worn equipment
- **Behavior indicators.....commitment to employee safety, culture (perception survey)**

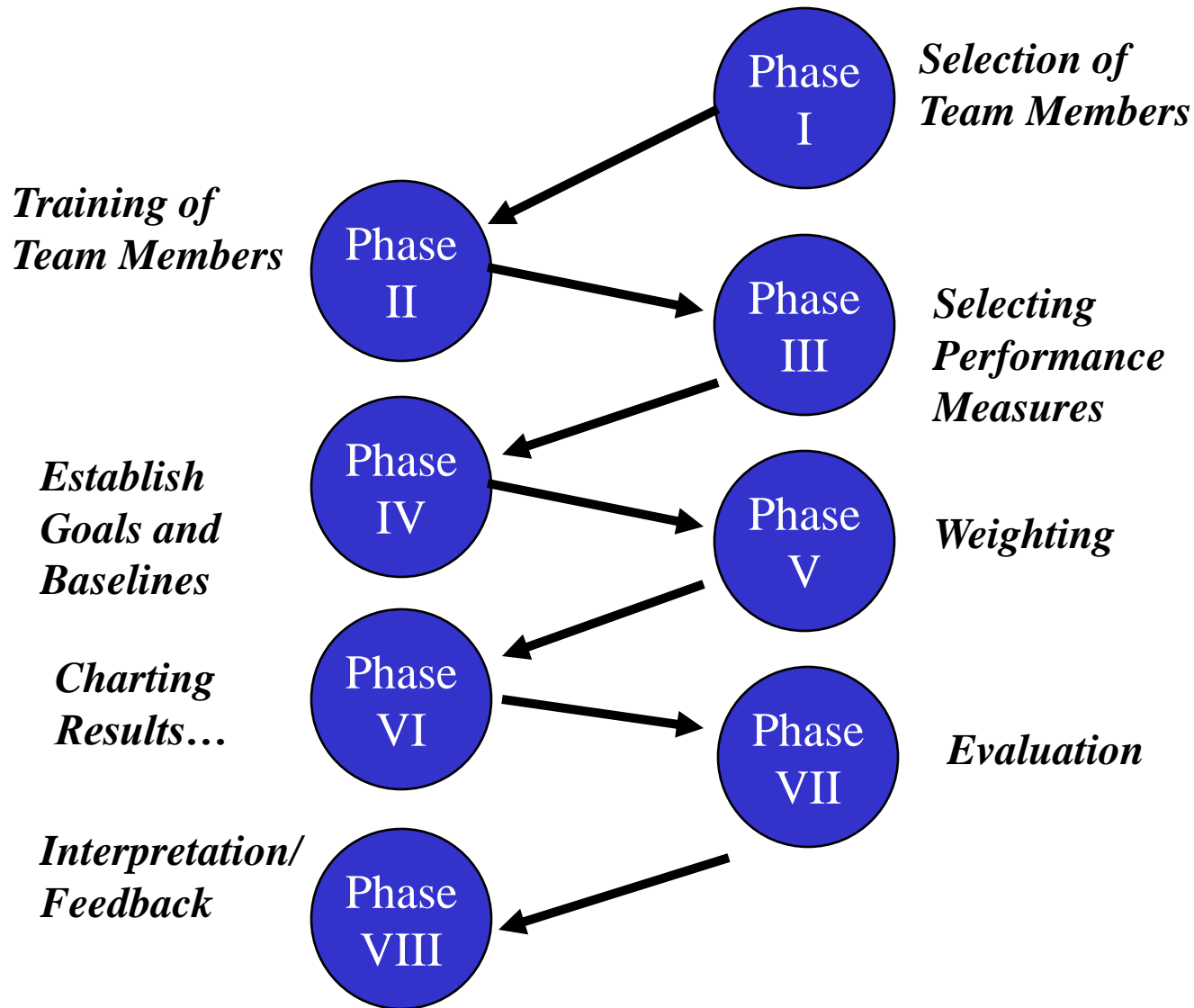


How to get started?

There are eight phases used in implementing SPI that we will discuss in detail today. The technique begins with selecting a team of skilled employees and ends with an evaluation of safety performance.



Safety Performance Indexing Model



Phase I – Selection of Team Members



Select team of safety professionals. This team is usually comprised of management and hourly employees (5-6) familiar with safety and health issues. They are recognized as champions of safety by their peers.



Phase II – Training of Team Members

Train team members; they must have a full understanding of the process, goals and objectives of Safety Performance Improvement Indexing.

Phase
I

Phase
II



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Phase III – Selecting Performance Measures

Teams will be responsible for selecting several safety activities to measure. This can consist of lagging, leading or behavioral metrics. Usually 5-7 safety activities work best.

Phase
I

Phase
II

Phase
III



Phase III (cont'd) – Selecting Performance Measure

Examples include:

- **Safety observations – leading.**
- **Off-the-job injuries – lagging.**
- **Inspections – leading.**
- **Perception surveys – behavior.**

Phase
I

Phase
II

Phase
III



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Phase IV – Establish Baselines and Interim and Stretch Goals

After the team determines the measures, baselines for each one must be established with reasonable interim and stretch goals.

<u>Measure</u>	<u>Baseline</u>	<u>Interim Goal</u>	<u>Stretch Goal</u>
Safety Observation	What are we doing now?	Where we want to be.	Where we could be.

Phase I

Phase II

Phase III

Phase IV



Phase V – Weighting Activities (Priority)

After the measures have been selected and goals have been set, a value must be affixed to each measure—this is known as weighting. In other words, how important is this particular measure for improving safety performance? NOTE: The sum of all selected measures cannot exceed 100.

Phase
I

Phase
II

Phase
III

Phase
IV

Phase
V



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Phase VI - Charting results.....

After the Phase IV and V are completed for all the measures your team has selected, they have to be charted. (Sample of computer spreadsheet.)

Month _____	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; background-color: red; padding: 2px; color: white;">Baseline</div> <div style="border: 1px solid black; background-color: yellow; padding: 2px; color: black;">Interim Goal</div> <div style="border: 1px solid black; background-color: green; padding: 2px; color: white;">Stretch Goal</div> </div>			LEVEL								Value	Level	Weight	Score
Indication / Activity*	0	1	2	3	4	5	6	7	8	9	10				
<i>Ex: # Safety Observations Completed</i>	<25	25	33	40	47	54	61	69	85	100	115	33	2	30	60
															0
															0
															0
															0
															0
															0
															0
															0
	Area of Concern			Room for Improvement				Good Work!				TOTAL WEIGHT	0		
													Safety Performance Index	0	

(Round to lowest level)

Phase VII – Evaluation

Safety Performance Improvement Index

Month: _____	Baseline			Interim Goal				Stretch Goal							
	Level														
Progress Measures	0	1	2	3	4	5	6	7	8	9	10	Value	Level	Weight	Score
# Safety Observations Completed	<25	25	33	40	47	<u>54</u>	61	69	85	100	115	59	5	25	125
# Housekeeping Inspections Completed	<5	5	8	11	15	19	23	<u>27</u>	31	35	40	28	7	20	140
# Job Hazard Analyses Completed	<5	5	15	25	35	45	55	<u>65</u>	70	75	80	68	7	15	105
% Employee Training Completed	<10	10	15	20	35	50	<u>65</u>	82	90	98	107	70	6	10	60
% EHS Action Items Closed	<30	30	40	50	57	64	72	80	87	94	100	68	5	15	75

Total Score is: 125 + 140 + 105 + 60 + 75 + 75 = 580

Phase VIII – Interpretation/Feedback

Here is how the Performance Index Score can be interpreted:

- If the OII rate is high and the safe performance index is high, re-evaluate performance measures selected.
- If the OII rate is low and the safety performance index is high, continue with process to achieve interim, and eventually, stretch goals.
- If the OII rate is high and safety performance index is low, focus on improvement measures that will lead to an increase in the safety performance index score.
- If the OII rate is low and the safety performance index is low, re-evaluate performance measures selected.

Phase
I

Phase
II

Phase
III

Phase
IV

Phase
V

Phase
VI

Phase
VII

Phase
VIII



Phase VIII (cont'd) - Interpretation/Feedback

Project improvement plans may need to be established for each activity/ metric to improve performance and achieve stretch goals.

Phase
I

Phase
II

Phase
III

Phase
IV

Phase
V

Phase
VI

Phase
VII

Phase
VIII



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Phase VIII (cont'd) – Interpretation/Feedback

Monthly Plot of Index Score

Phase I

Phase II

Phase III

Phase IV

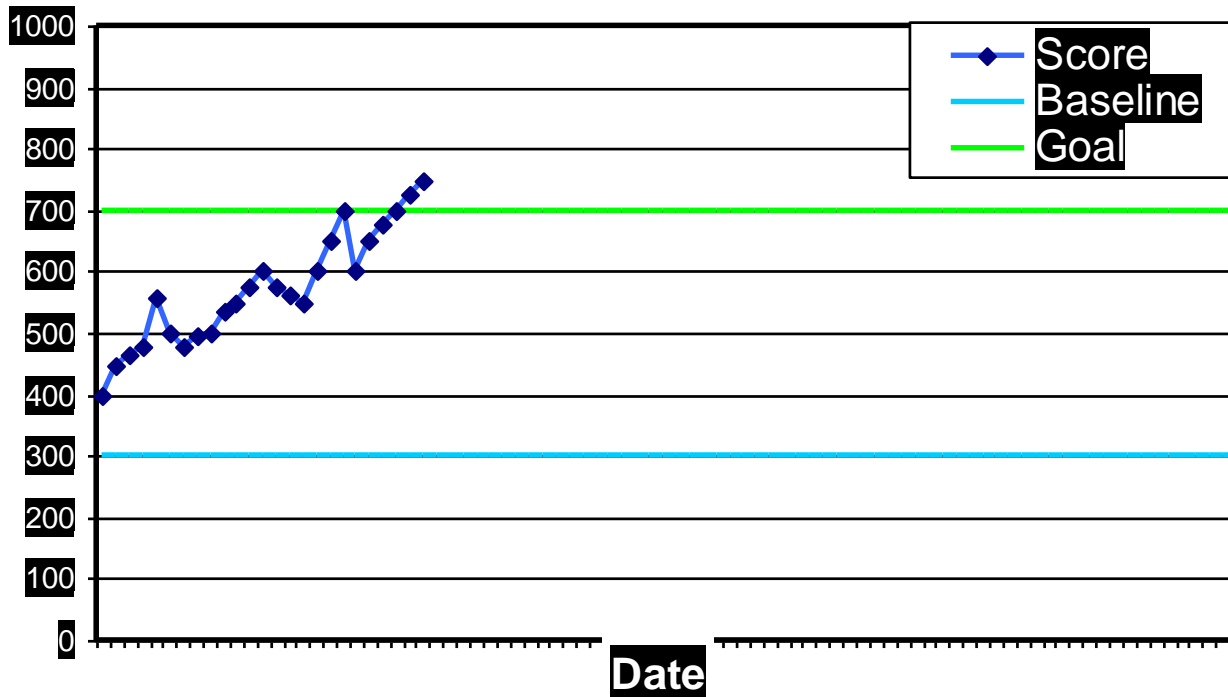
Phase V

Phase VI

Phase VII

Phase VIII

**Performance Index
Site XYZ**



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Safety Performance Improvement Indexing (SPII) Pilot Study Report Results



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Scope

- **15 Plants, 8 Businesses, 4 Regions**
- **January – April 2004**
- **QuickPlace Posting of Tools & Matrices**
- **Periodic Network Teleconferences**



Recommendations

- **Post Pilot Report, Site Matrices, Guidebook on Safety Journey Website**
- **Encourage Other Sites to Evaluate/Implement Consistent with Local Needs & Resources**
- **Establish a Network(s) to Help New Sites Start-up & Share Learnings**



Progress Measures

- **70 Measures Among 15 Sites**
 - **61 Activity-Based (e.g., Overdue Actions)**
 - **9 Results-Based (e.g., OII Rate)**
- **5-11 Measures Per Site**
- **Most Popular**
 - **Behavior Safety Samples Completed**
 - **Housekeeping Inspections Completed**
- **Unique**
 - **Mobile Equipment Exhaust Exceedances**
 - **EHS Training Sessions Led by FLLs**



Resource Requirements

- **Start-up Work Most Time Consuming**
- **Start-up Minimized by use of Existing Measures & Existing Data Bases**
- **Maintenance Not Reported as Excessively Burdensome (8-16 hours/month)**



Impact on Safety Culture/Systems

- **Pros**
 - **Impact Very Evident – No OIIs Since Start-up**
 - **When Activity Declines, You Know It, Don't Have to Wait for Someone to Get Hurt**
 - **Very Effective at Improving Focus, Discipline, Execution of Safety Activities**
 - **Encouraged Us to Think About Activities That Can Improve Safety**
 - **Safety Activities are Now Linked Directly to the Site Safety Incentive Program. There is Direct Involvement of Employees in Defining Programs, Goal Setting and the Way to implement.**



Impact on Safety Culture/Systems

- **Cons**

- **Too Early to Say if SPII Has an Impact**
- **Can Be Seen as “Grading” by Employees**
- **Correlation of Results- with Activity-Based Measures Challenging Due to Timing Issues**
- **Employee Ownership & Enthusiasm not Broad-Based**



Must Do's To Get Started

- **Test for Commitment Before Start-up**
- **Communicate SPII Process/Results to Employees & Engage Them in Process**
- **Keep Results Measure Out of Matrix**
- **Develop Robust Improvement Plans for SPII Activities**



Current

- All sites were required to implement SPII.
- We have seen overall improvement in OII trends.
- There appears to be a correlation with SPII scores and injuries.
- It has been institutionalize in our system.

Look at some examples.



Mines Seleine

Microsoft Excel - 2009 Seleine Safety Performance table.xls

Echier Edition Affichage Insertion Format Outils Données Fenêtre ?

Tapez une question

Arial 10

J16

1 SAFETY PERFORMANCE IMPROVEMENT INDEXING - MINES SELEINE

2

3 March

4 2009

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7

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10

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15

16

17

18

19

20

21

22

23

24

Summary Chart January February March April May June July August September October November

Dessin Formes automatiques

Prêt

NUM

Indication / Activity*	LEVEL											Value	Level	Weight	Score
	0	1	2	3	4	5	6	7	8	9	10				
Numbers of corrections done following BBS	1	2	3	5	6	7	8	10	12	14	15	29	10	25	250
Numbers of none compliances reported on the safe work card	10	20	30	50	60	70	80	100	120	140	150	186	10	15	150
Numbers of safety work orders completed during month	1	2	3	4	5	6	7	8	9	10	12	49	10	10	100
Numbers of near-miss reported	1	2	3	4	5	6	7	8	9	10	12	17	10	15	150
Numbers of corrections completed following near-miss reported.	1	2	3	4	5	6	7	8	9	10	12	15	10	15	150
Non compliance housekeeping reported on the safework card	120	110	100	90	80	70	60	50	40	30	20	21	9	10	90
*Meeting with last 24 months MAE	10	9	8	7	6	5	4	3	2	1	0	0	10	10	100
														100	
															Performance Index 990

50% Reduction in OIIs

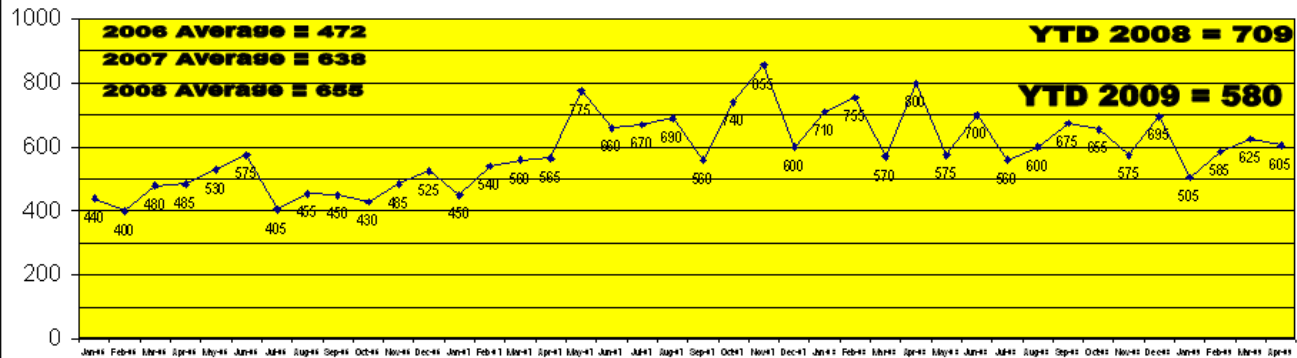


Pugwash

SAFETY PERFORMANCE IMPROVEMENT INDEXING 2009

Pugwash Mine and Refinery	0	1	2	3	4	5	6	7	8	9	10	Value	Level	Weight	Score	Value	Level	Weight	Score	Value	Level	Weight	Score	Value	Level	Weight	Score
Count of non-injury/near miss reported incidents (monthly)	1 <	2	3	4	5	6	7	8	9	10	11 >	6	5	25	125	3	8	25	200	6	5	25	125	3	2	25	50
Ratio of non-injury/near miss to injury/first aid incidents (12 month avg.)	0.5 <	1	1.5	2	2.5	3	3.5	4	4.5	5	5.5 >	5.06	3	10	30	4.76	8	10	80	4.053	7	10	70	3.13	5	10	50
Count of safety meetings presented by non-supervisory employees (monthly)	2 <	3	4	5	6	7	8	9	10	11	12	10	8	20	160	6	4	20	80	11	3	20	180	10	8	20	160
Percentage of incident report corrective actions closed (monthly)	0	10	20	30	40	50	60	70	80	90	100	14	1	20	20	55	5	20	100	63	6	20	120	100	10	20	200
Percentage of safety corrective actions closed	0	10	20	30	40	50	60	70	80	90	100	37.00	3	20	60	41	4	20	80	51	4	20	80	55	5	20	100
Count of off the job injuries as they pertain to lost time (monthly)	10 >	9	8	7	6	5	4	3	2	1	0	0	10	5	50	1	3	5	45	0	10	5	50	1	3	5	45
<div style="display: flex; justify-content: space-between;"> Area of Concern/Room for Improvement Good Work! </div>												Safety Index = 605				Safety Index = 685				Safety Index = 625				Safety Index = 605			
												JANUARY				FEBRUARY				MARCH				APRIL			

Pugwash Safety Journey Performance



Why Measure?

- **What Gets Measured Gets Done!**
- **What Gets Measured Gets Improved!**



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Tom Ryan



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Zero Is The Only Acceptable Outcome



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