

Monsanto Chemical Company
Texas City, Texas

cc: General Oper. Supv.

January 8, 1962

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SUBJECT: Texas City Safety Index ~~4~~

Analysis and knowledge are requirements to determine a basis for change or improvement. This necessitates measurement. Additionally, measurement is necessary in order to determine the effect of change. It is well recognized that in the field of safety there does not exist many good devices for measurement. We have studied a safety index method which has been in use at Springfield for several years. Springfield believes the device is successful and supervision generally like it. It has been proposed that we modify this index and try it out here at Texas City. The objective of establishing the index is to provide a measuring device for each general operating supervisor in order that he may have a measure of how well he is doing overall, and which of several categories is doing better or doing worse in order that he may tailor his approach and program accordingly.

The Plant Manager's Safety Board on August 14, 1961, approved the institution of a manufacturing safety performance index method and specified that the index be evaluated in use during 1962. The results of the index go only to the general operating supervisors and become a tool for their use alone.

The proposed index is divided into three categories - injury, inspection, and incident. Because we must depend upon the generation of data from first line supervision and any index to be really effective must be factual and useful to the first line supervisor, the Board has specified that the results will be collected by the Safety Department and reported to the general operating supervisor. At the close of 1962, the general operating supervisors will advise the Board as to the effectiveness and utility of such an index. If this index proves to be useful to supervision, it will also be of value in the safety program on a permanent basis. If it does not have a tangible value to the supervisor, it will be discontinued. We need a measuring mechanism and want to give this a fair trial, but will not retain it unless it proves itself to be desirable to supervision.

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This index will be used in the following units:

Material Handling	Methanol
Utilities	Polyethylene 41
Ethylene	Polyethylene 42
Styrene	Shops
VCM	Stores
AN	Pilot Plant & RPU
Oxygen-Acetylene	<i>Central Lab</i> <i>PE Lab</i>

The index is a composite of three types of measurement.

- A. Injury - based on minor and serious injury data already available. The total value of this category will be worth 40% of total score.
- B. Inspection- based on multiple spot inspections in the "units" covering safety and housekeeping items (inspection form attached). These multiple five minute inspections will be made by safety inspectors on random basis. This category will be worth 20% of total score.
- C. Incident - based on fire and spills, requiring an alarm and near-misses. The near-miss is defined as an equipment failure or human error which did or could logically cause:
1. Significant hazard and/or injury to personnel.
 2. Emergency shutdown of unit or portion of the unit.
 3. Significant equipment damage.
 4. Fire or spill handled without outside assistance.

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The general operating supervisor will determine whether the incident is a near-miss and report by simplified form (sample attached). Copies of this form are available from the Safety Department. This category will be 40%.

Since maintenance field supervision is responsible for the safety of craftsmen in the areas, the scene of the injury or incident will be used to assign the points.

Experience using the data obtained during the fourth quarter of 1961 will serve as the datum line for each "unit." Since this datum line will be 100 for all units, the units will not be comparable and only changes will be indicated. This is purposely done to eliminate comparison between units. In 1962, results of each category and the total will be supplied monthly to the general operating supervisors of the "Units" and only the results for his unit will be relayed to him.

The general operating supervisor is responsible for obtaining information regarding "Incidents" and transmitting this information to the Safety Department. The Safety Department is responsible for obtaining the rating data regarding "Injury" and "Inspection," calculating the individual ratings, and transmitting results of the Index measurement monthly to the general operating supervisor. At the end of the trial period, the safety director will consult with the general operating supervisors and report to the Board on the effectiveness of the Index making appropriate recommendations for continued use.


J. M. Chamberlin

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Attach.

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INDEX INSPECTION FORM

AREA	TIME:	DATE:
1. Clean & Orderly Area		
2. Hoses Racked		
3. Equipment Leakage		
4. Guards in Place		
5. Safety Equipment Used		
6. Safety Equipment Unobstructed		
7. Proper Use of Tools, Ladders		
8. Permits Properly Prepared		
9. Equipment Identification		
10. Attitude Factors		
TOTALS		RATING:

DEFINITION OF TERMS: (Each item is 10 points; deduct one/infraction)

1. Clean & Orderly Area: General Housekeeping Inspection. Rags, bottles, paper should be absent. Ladders should be racked. Bicycles racked. Control Room, Locker Room, and Kitchen clean. Not necessarily freshly painted but clean, not greasy. General impression.
2. Hose Racked: Hoses of the steam, air, water type are to be kept racked. The stringing of hose may be necessary, but only temporarily. Hoses not in use should be racked.
3. Equipment Leakage: Leaks or drips from equipment where repair or attention does not appear to be adequate or timely. Be especially aware of flanges, pump-seals and packing steam leaks, etc.
4. Guards in Place: This applies to mechanical guards (pump coupling guards, fly-wheel guards), thermal guards (hot lines and equipment insulation) and work guards (barricades, floor openings, overhead work).
5. Safety Equipment Used. Glasses, hats and goggles in required areas. Gloves and aprons for sampling. Going through an area without safety equipment. Welding screens used. Fire extinguisher or gas mask at site of job. Face shields for grinding, lighting furnaces.

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Index Inspection Form cont'd. . . .
Definition of Terms -

6. Safety Equipment Unobstructed. Fire extinguishers, eyebaths, safety showers and gas mask boxes are free and accessible. A latch or a valve that won't work is an obstruction. Aisles and stairways blocked.
7. Proper Use of Tools, Ladders. Proper use of hand tools. Proper position and use of ladders. Proper use of handlines. No throwing of tools. Proper climbing.
8. Permits Prepared Properly. Old permits removed. New permits properly made out, signed and hung in proper place.
9. Equipment Identification. Safety equipment clearly marked. Equipment numbers on the equipment. Hose station lines clearly identified. Color coding proper and complete.
10. Attitude Factor. Kitchen refrigerator, sink, and stove clean. Locker rooms and commode - sink area clean. Unsafe climbing. Going up and down stairs not using handrails. Throwing tools. Horseplay. Running.

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