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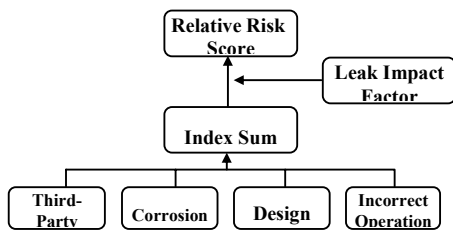
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(CEI)

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(W.K. Muhlbauer, 2004)

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(ERPG-

- 3)

(AIHA)

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E P t (DI)

(CI) - ( ) - ( )

: ( ) MOP %

$$\Delta H = \frac{a}{g} \times \Delta V \quad ( )$$

g a ΔH  
ΔV

[ ]

$$a = 12 \times \frac{\sqrt{\frac{K}{\rho}}}{\sqrt{1 + \left(\frac{K}{E}\right) \times \left(\frac{D}{E}\right) \times C_1}} \quad ( )$$

D ρ k  
C<sub>1</sub> E

Corrosion Type	Corrosion Description		Index Score
Atmospheric Corrosion 10%	Atmospheric Exposures		0-5
	Atmospheric Type		0-2
	Atmospheric Coating		0-3
Internal Corrosion 20%	Product Corrosivity		0-10
	Internal Protection		0-10
Subsurface Corrosion 70%	Subsurface Environment	Soil Corrosivity	0-15
		Mechanical Corrosion	0-5
	Cathodic Protection	Effectiveness	0-15
		Interference Potential	0-10
	Coating	Fitness	0-10
		Condition	0-15

(TPDI)

$$t_m = \frac{PD}{2S} \quad ( )$$

D P t<sub>m</sub>  
S

$$t = D \times \sqrt[3]{\frac{6 \times P}{E}} \quad ( )$$

(IOI)

(LIF)

$$LIF = PH \times L \times D \times R$$

(CEI)

D L PH

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R

ERPG-3

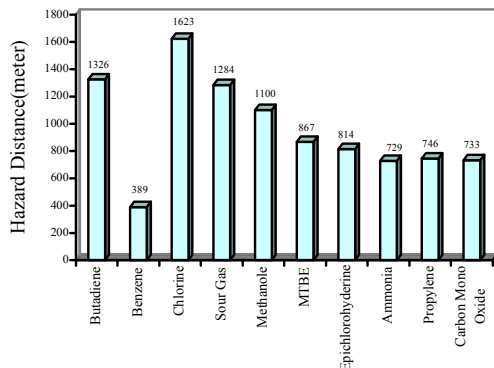
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Content of pipelines

(DOT)

(NOAA)

(ESI)

(RR)

ERPG-3

.CEI.

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(TPDI)

$$RRS = \frac{IS}{LIF}$$

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IS RRS

LIF DI CI, IOI, TPDI

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(DI)

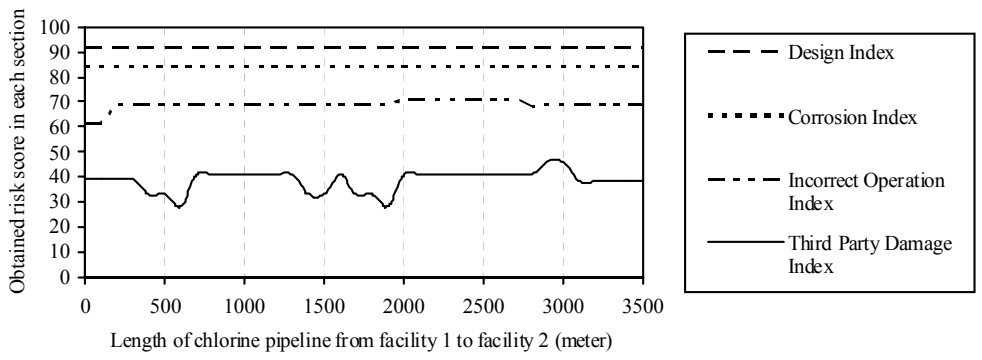
(CI)

(IS)

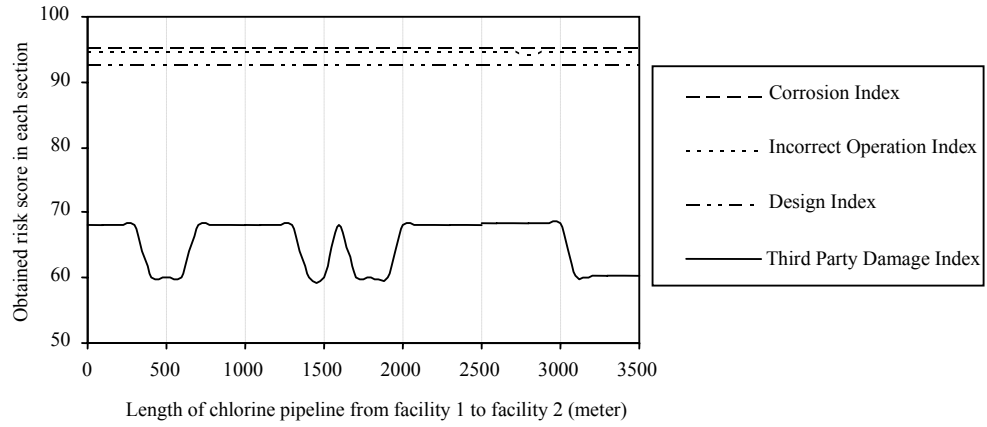
(IOI)

(IOI)

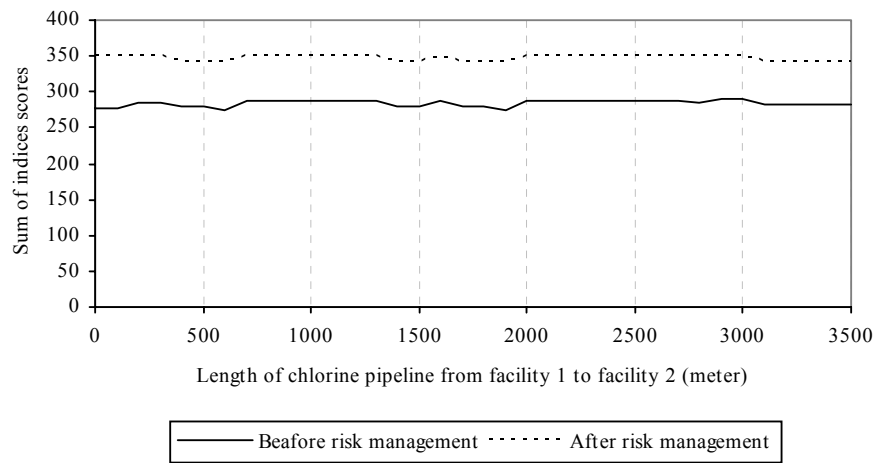
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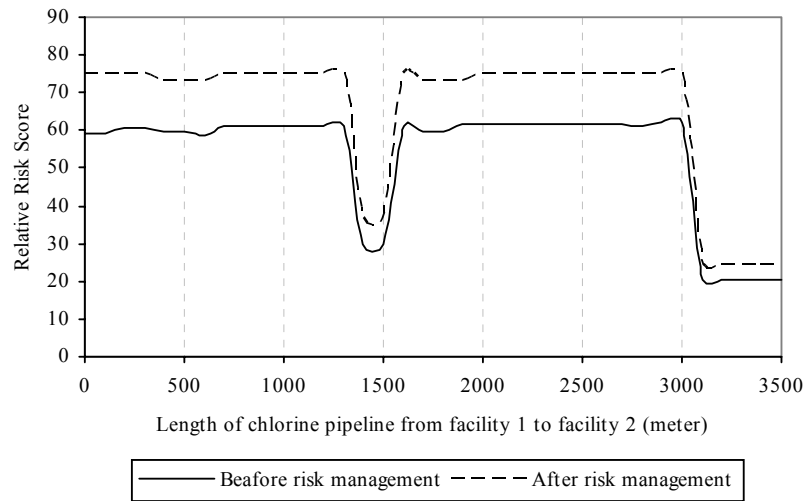
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Lock- Out

(RBI)

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DI CI, IOI ,TPDI

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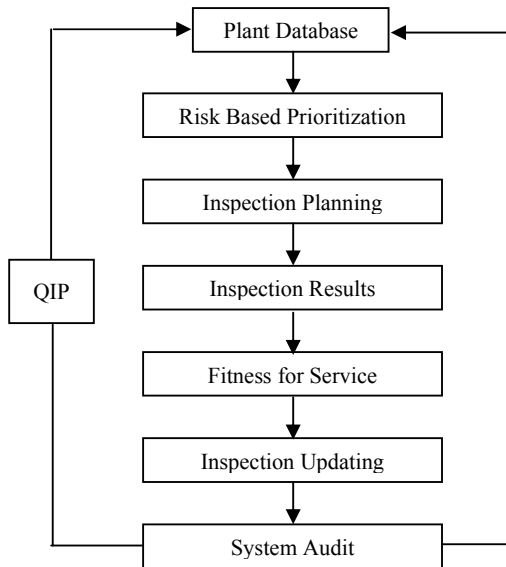
(API)

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| 1 -Rupture   | 2 -The Office of Pipeline Safety             |
| 3 -Relative Risk Models  | 4 -Chemical Exposure Index                   |
| 5 -Sonic Gas Flow Rate Equation  | 6 -Fraction Flashed                          |
| 7 -Emergency Response Planning Guideline (ERPG3):                        | 8 -American Industrial Hygienist Association |
| 9 -Design Index  | 10 -Maximum Operating Pressure               |
| 11 -Corrosion Index  | 12 -Third Party Damage Index                 |
| 13 -Incorrect Operation Index  | 14 -Leak Impact Factor                       |
| 15 -National Fire Protection Association                                 |  |
| 16 -Comprehensive Environmental Response, Compensation and Liability Act |  |
| 17 -Department of Transportation   | 18 -Environmental Sensitivity Index          |
| 19 -National Oceanic and Atmospheric Administration                      | 20 -Relative Risk                            |
| 21 -Index Sum  | 22 -Supervisory Control and Data Acquisition |
| 23 -Housekeeping   | 24 -Risk-Based Inspection                    |
| 25 -Quality Improvement Process  | 26 -American Petroleum Institute             |