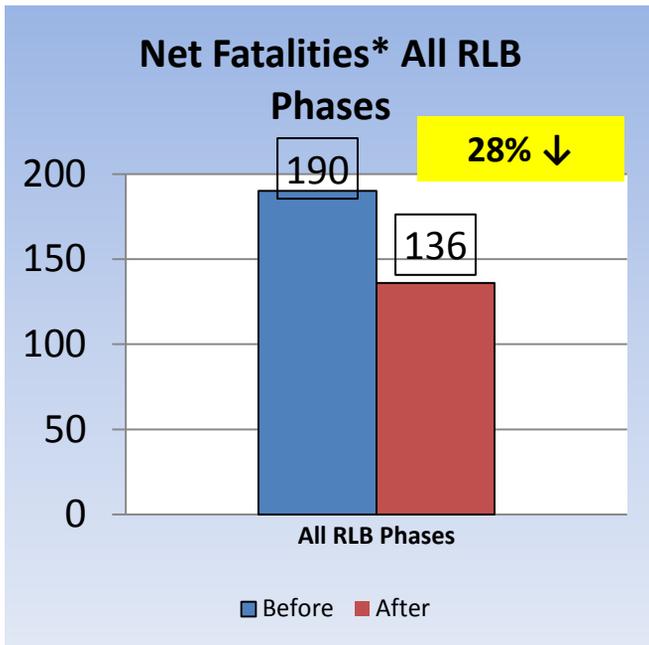


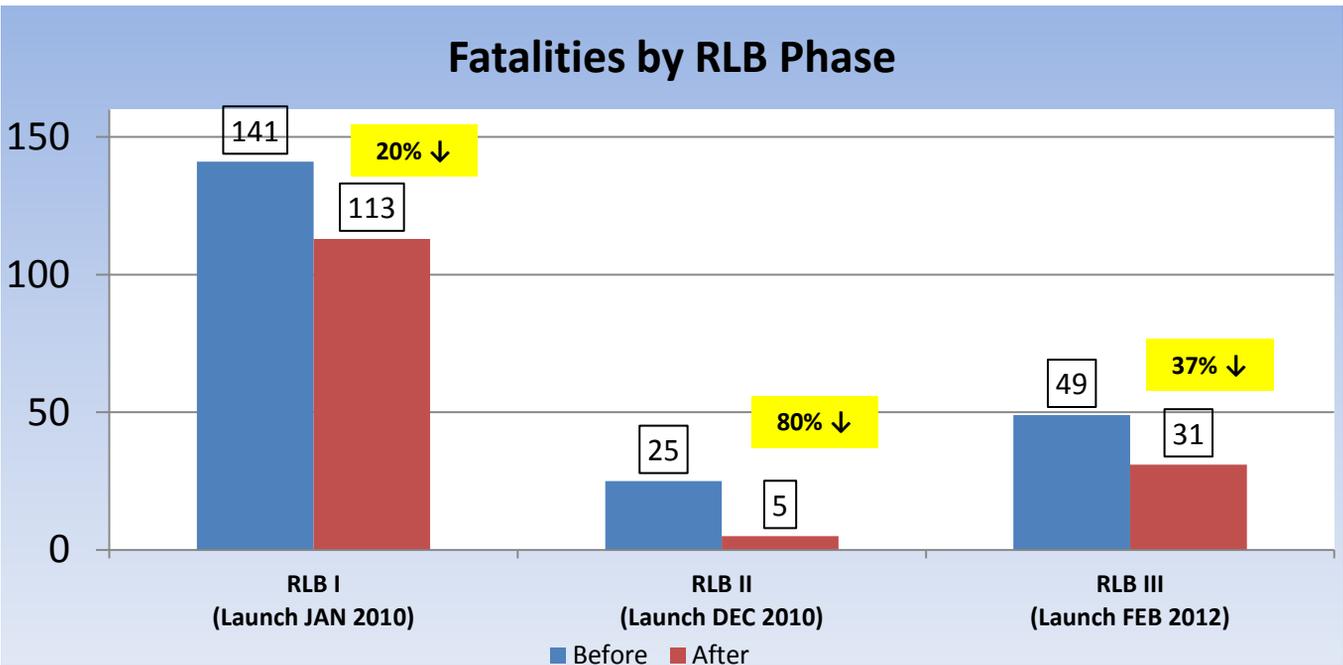
# Rules to Live By Safety Initiative

## Fatalities Before & After Implementation

(Data as of 9/30/16)



The RLB initiative, launched in 2010, aims to prevent mining deaths by focusing on the most commonly cited standards that have caused or contributed to fatal accidents in the mining industry. RLB categorized fatalities declined 28% after implementation (comparing same time periods).

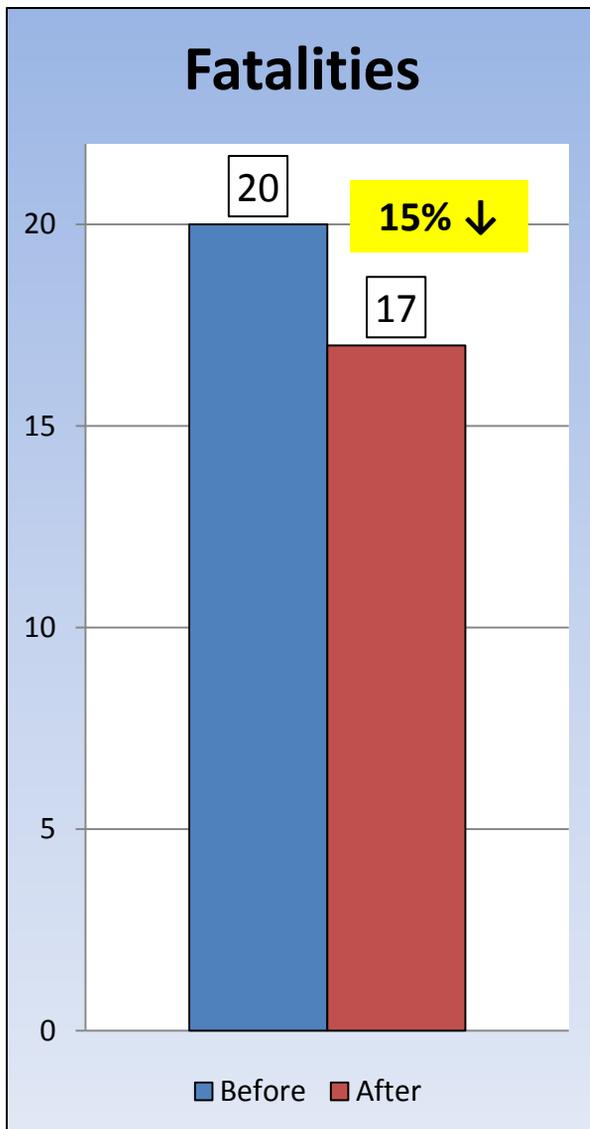


ANALYSIS TIMEFRAME		
RLB Phase	Before	After
I	4/1/2003 to 12/31/2009 (6 yrs., 9 mos.)	1/1/2010 to 9/30/2016 (6 yrs., 9 mos.)
II	2/1/2005 to 11/30/2010 (5 yrs., 10 mos.)	12/1/2010 to 9/30/2016 (5 yrs., 10 mos.)
III	6/1/2007 to 1/31/2012 (4 yrs., 8 mos.)	2/1/2012 to 9/30/2016 (4 yrs., 8 mos.)

\*Please note that summing the fatalities associated with each individual RLB phase will not provide an accurate figure on overall fatalities. There can be overlap amongst the RLB phases, and often times, violations from multiple RLB phases are associated with a fatality.

For more info: <https://www.msha.gov/news-media/special-initiatives/2015/09/23/rules-live-prevent-fatalities>

# Exam Rule Fatalities Before & After Implementation (Data as of 9/30/16)



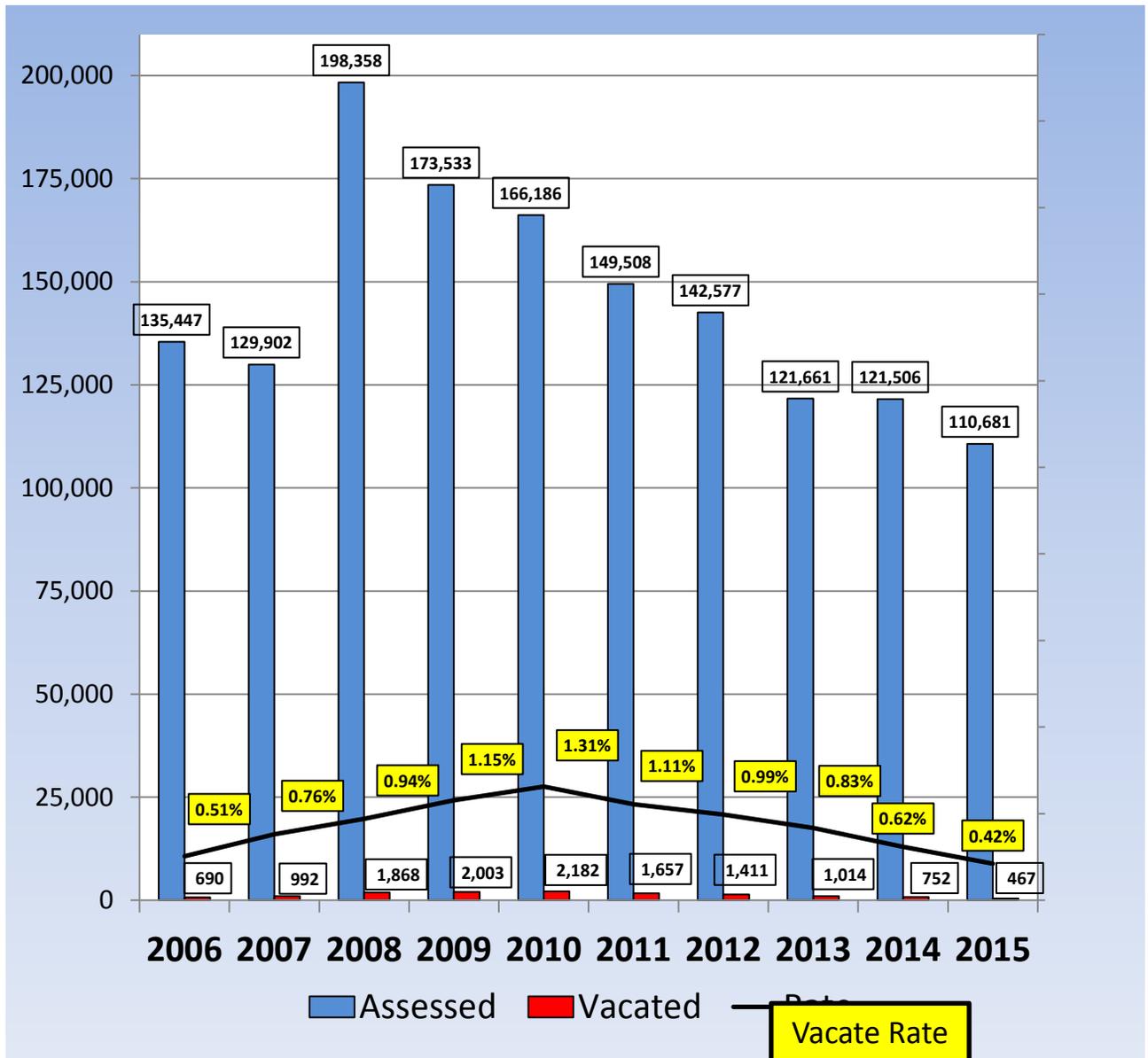
The underground coal mine examination rule, issued in 2012, focuses attention on nine specific standards during mine operator required examinations for hazards commonly cited by MSHA that pose the greatest risk to miners. Exam Rule categorized fatalities declined 15% after implementation.

ANALYSIS TIMEFRAME	
Before	After
6/12/2008 to 8/5/2012 (4.2 yrs.)	8/6/2012 to 9/30/2016 (4.2 yrs.)
<b>NOTE:</b> Analysis excludes fatalities from the Upper Big Branch Mining Disaster.	

For more info: <http://arlweb.msha.gov/drs/Part75ExamRule-calculator.asp>

# Citations & Orders (C/Os) Assessed and Vacated\*, with Vacate Rates\*\* (CY 2006 – 2015)

The vacate rate (ratio of violations vacated and no longer valid) has consistently remained at or near 1%.



\*A vacated C/O is charged to the year in which it was assessed.

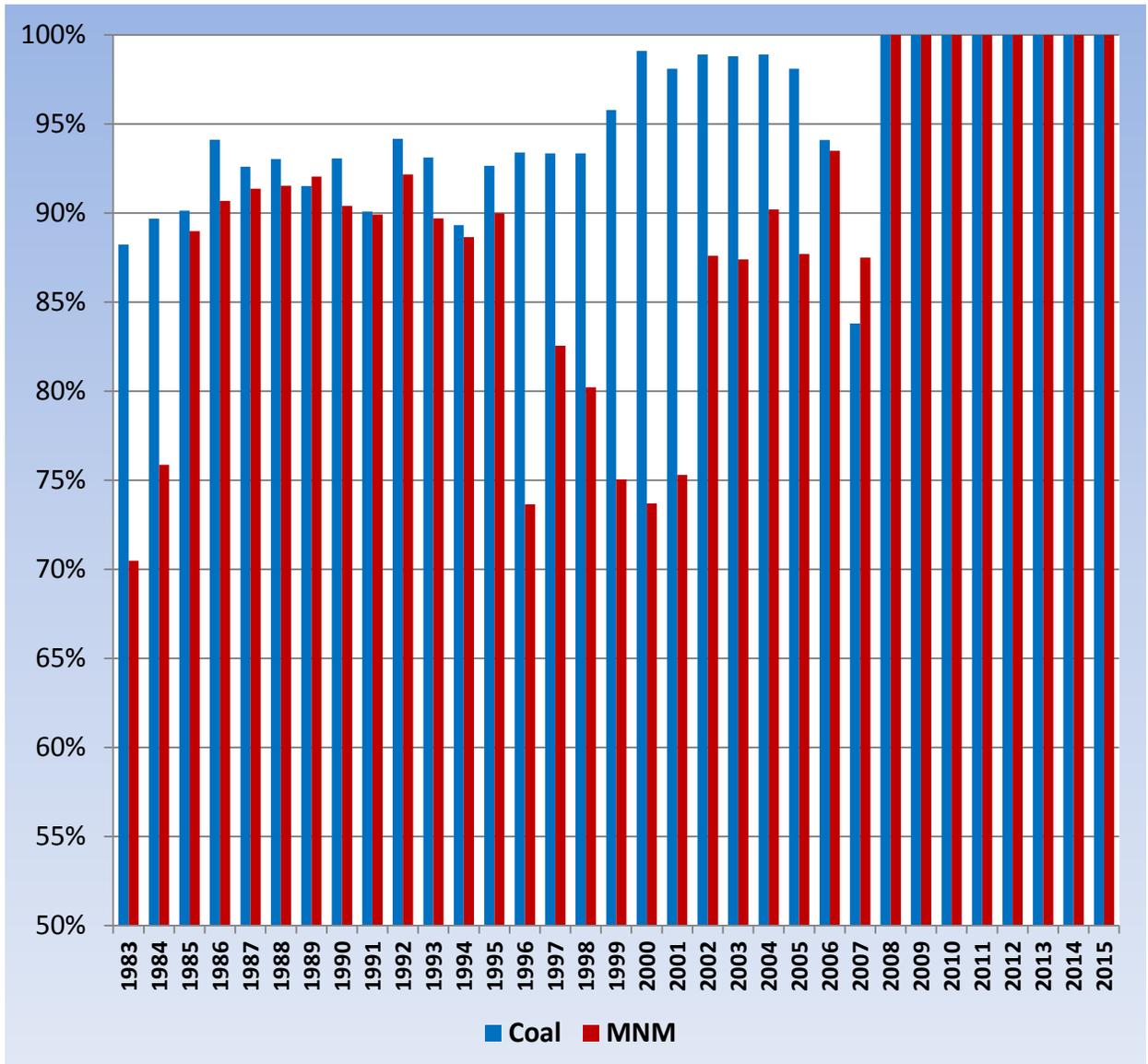
\*\*The vacate rate is calculated by dividing the C/Os vacated by the C/Os assessed.

NOTE: Vacate data prior to 2006 is not available in MSIS

For more info: <http://arlweb.msha.gov/PROGRAMS/assess/citationsandorders.asp>

# Percent of Mandated Inspections Completed CY 1983-2015

Legislation requires two annual inspections of every surface mine and four at every underground mine. Since 2008, 100% of the mandated inspections were completed by both Coal and Metal and Nonmetal.



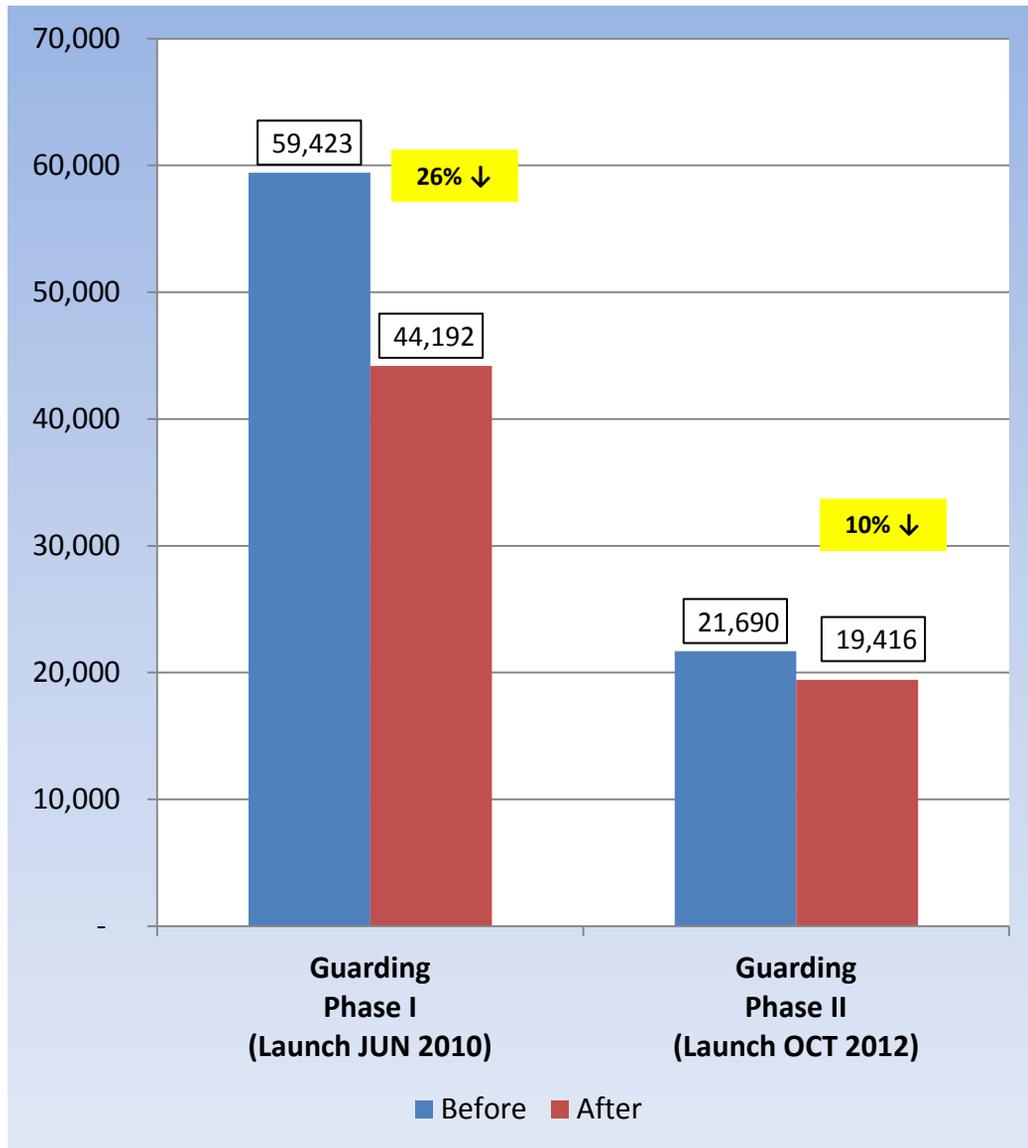
**NOTES:**

1. For MNM rates pertaining to years 2008 through 2015, there were a small number of attempted mandatory inspections that inspectors could not conduct because of the nature of intermittent MNM mining operations. Excluding these attempted inspections of intermittent operations, MNM conducted 100% of mandatory inspections at mines available for inspection for years 2008 through 2015.
2. Information for years 1983 through 1999, is estimated using MSIS data for mandatory inspections conducted in non-intermittent mining operations.
3. Inspection data prior to 1983 is not available in MSIS.

For more info: <http://arlweb.msha.gov/MSHAINFO/MSHAINF2.htm>

# Metal and Nonmetal Guarding Safety Initiatives Citations and Orders Issued Pre and Post Launch (Data as of 9/30/2016)

Since the launch of the MNM guarding safety initiatives on conveyor belts (2010) and machinery (2012), guarding citations and orders issued have decreased.



## ANALYSIS TIMEFRAME

Initiative	Before	After
Guarding I	2/1/2004 to 5/31/2010 (6 yrs., 3 mos.)	6/1/2010 to 9/30/2016 (6 yrs., 3 mos.)
Guarding II	10/1/2008 to 9/30/2012 (4 yrs.)	10/1/2012 to 9/30/2016 (4 yrs.)

For more info:

Guarding Phase I (2010): [http://arlweb.msha.gov/Accident\\_Prevention/equipmentguardingconveyorbelts2010.pdf](http://arlweb.msha.gov/Accident_Prevention/equipmentguardingconveyorbelts2010.pdf)

Guarding Phase II (2012): [http://arlweb.msha.gov/Accident\\_Prevention/guardingmachinerymnmmines.pdf](http://arlweb.msha.gov/Accident_Prevention/guardingmachinerymnmmines.pdf)