

Bernstein Materials Blast: Who Would Profit from The Trump Wall?

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By Phil Roseberg, Nick Timpson and Alexandra Schlegel

Donald Trump wants to build a 40ft high concrete wall along the border between the US and Mexico.

If elected as US President later this year, and if Trump follows through on his plan, The Trump Wall will represent a major construction project requiring millions of cubic metres of concrete. The wall would likely have a meaningful impact on US (or Mexican) cement and aggregates demand, with significant multi-year benefits for the companies supplying these materials.

In this Blast we discuss exactly what The Trump Wall could look like, estimate the quantities of building materials required, and suggest which companies are best located to take advantage of the opportunity.

WHAT ABOUT THE EXISTING BORDER, ISN'T THERE A WALL ALREADY?

The United States has 1,989 miles of border with Mexico.

The Government began building border fencing in 1990 near San Diego. Following the 9/11 attacks and the passing of the secure fence act in 2006, spending on border fencing and related infrastructure increased significantly. Overall, more than \$7 billion has been spent to build almost 653 miles of border fencing.

The fence itself varies from one part of the border to another, from 18ft tall steel "primary fencing" is used in many urban areas (Exhibit 1), to less substantial "vehicle fencing" in lower-risk areas.

Natural barriers exist along significant stretches of the border (e.g. the Rio Grande river), avoiding the need for fencing, while building in other areas can be complicated and costly. In the sand dunes in Southern California, for example, a "floating fence" had to be built to allow for the natural movements of the dunes (Exhibit 2).

EXHIBIT 1: 18ft tall primary fencing is already used along the US-Mexico border in many urban areas.



Source: Department of Homeland Security

"THE TRUMP WALL"

"I would build a great wall, and nobody builds walls better than me, believe me, and I'll build them very inexpensively. I will build a great, great wall on our southern border. And I will have Mexico pay for that wall. Mark my words," Donald Trump said in his



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presidential announcement speech.

Since this announcement, Trump has stuck with his promise, regularly referencing the wall in interviews. Indeed, the wall is at the top of the list of Trump's "positions" on his campaign website.

EXHIBIT 2: Border fence along the sand dunes in California



Source: Department of Homeland Security

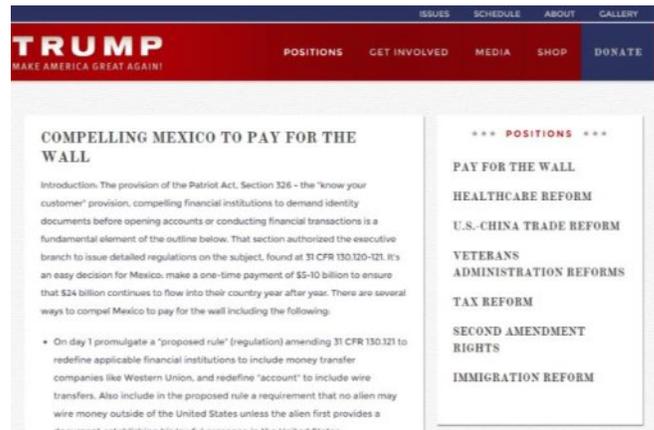
Trump argues that the existing border protection is inadequate at preventing illegal immigration into the US from Mexico. He even intends to compel Mexico into paying for the wall's construction by threatening to restrict the flow of remittances into Mexico:

"It's an easy decision for Mexico: make a one-time payment of \$5-10 billion to ensure that \$24 billion continues to flow into their country year after year."

Trump's estimates that the wall can be built for around \$10 billion have been widely disputed. The cost to build the 'easiest' sections of the existing fence were between \$2.8-3.9 million per mile according to the US Government Accountability Office.

However, given that these figures exclude labour costs, land acquisition costs and relate to construction in accessible areas with favourable construction conditions, the cost of Trump's Wall is widely expected to be greater than \$15 billion and perhaps as much as \$25 billion.

EXHIBIT 3: The Trump Wall features prominently on his campaign website.



Source: Screenshot from www.donandjtrump.com

CONSTRUCTION CHALLENGES

The border presents huge topographical challenges to construction. It runs through remote desert in Arizona, over rugged mountains in New Mexico and, for two thirds of its length, along rivers. The region also includes protected wildlife refuges, Indian territory and ranches whose owners are unlikely to willingly agree to sell their land to the federal government.

Allowances must be made for flooding, since the border crosses numerous floodplains.

The construction of a more substantial wall than exists at present would also likely require roads to be built for access: not a simple undertaking in desert and mountainous areas.

These difficulties were illustrated during the construction of the existing fence which was beset by delays, surging costs and disputes with private land owners.

7 MILLION CUBIC METRES OF CONCRETE AND 2.4 MILLION TONNES OF CEMENT

So what would The Trump Wall look like? Needless to say, significant quantities of building materials will be required.

Concrete is by far the best material to meet Trump's goal of building an imposing and effective barrier, while also offering the most cost-effective solution.

EXHIBIT 4: Sections of the Israeli West Bank barrier are constructed from precast concrete panels almost 30ft high.



Source: Wiki Commons

Given the high temperatures at the US border, it would not be effective to pour the concrete directly into place at the border. Instead, it is likely that precast panels will be used. These are set in factories under cooler conditions and can then be transported to the border. The panels will be supported by steel pillars.

Precast concrete is widely used in construction, including for roads, walls and pipes.

We would expect that the Trump Wall will follow a similar design to the 420 mile Israeli West Bank barrier, large parts of which were built using precast concrete panels (Exhibits 4 & 5). Concrete was chosen as the lowest cost material capable of providing the durability required. We believe that concrete will be used for The Trump Wall for the same reasons.

EXHIBIT 5: Precast concrete panels will be used to construct The Trump Wall



Source: US FHWA

Based on Trump's statements about the dimensions of the Wall, and our own assumptions, we have estimated the quantities of concrete (and cement) required to complete construction.

Based on our research, our base case for the Wall is a length of 1000 miles, at 40ft high (with an additional 7ft below ground, sufficient to deter rudimentary tunnelling) and a thickness of 10 inches.

We also assume that a 5ft wide and 1ft deep concrete strip foundation is required along the entire length.

Based on these parameters, The Trump Wall would require a total of 7.1 million m³ of concrete at a cost of over \$700m at current prices. Assuming a standard cement content, this volume of concrete would require around 2.4 million tonnes of cement at a cost of around \$240m.

Concrete costs would therefore account for about 5% of a total project cost of \$15bn, which includes 2% of total cost for cement.

Since there is some disagreement about the necessary height of the wall, we present a sensitivity of our calculation at various heights in Exhibit 6.

EXHIBIT 6: At 40ft high, The Trump Wall would require a total of 7.1 million m³ of concrete

Wall Height	Above Ground (ft)	20	30	40	50	60
	Below Ground (ft)	7	7	7	8	9
Concrete	Volume (million cubic metres)	4.61	5.86	7.11	8.48	9.85
	Tonnage (million tonnes)	11.1	14.1	17.1	20.3	23.6
	Cost (million \$)	461	586	711	848	985
Cement	Volume (million cubic metres)	0.7	0.9	1.1	1.3	1.5
	Tonnage (million tonnes)	1.6	2.0	2.4	2.9	3.3
	Cost (million \$)	156	198	240	286	332
	%Pt Increase in 2018E US Cement Demand	0.7%	0.9%	1.1%	1.4%	1.6%

Source: Bernstein estimates & analysis

CONSTRUCTION OF THE WALL COULD ADD OVER 1 PERCENTAGE POINT TO US CEMENT DEMAND

Estimates for how long construction of The Trump Wall would take vary widely, from 1 to 10 years.

We have assumed that planning and land acquisition would take 1-2 years with a further 2 years for construction itself. This means that the impact on demand for materials would occur from 2018 at the earliest.

Our analysis suggests that, at 40ft high, The Trump Wall would add over 1 percentage point to cement demand in both 2018 and 2019, a significant increase in market growing at 4-5% p.a.

LOCAL MATERIALS COMPANIES STAND TO BENEFIT

It is not economically feasible to transport heavy building materials over large distances (>200 miles). As such, it is the companies with production facilities closest to the border that stand to gain the most as suppliers to The Trump Wall project.

We mapped the cement, concrete and aggregates facilities within a 200 mile corridor of the border, on both the US and Mexican sides. If Mexico does have to pay for The Wall, we believe they would be unlikely to use US-based suppliers (if possible), and vice versa.

Exhibits 7 & 8 clearly show which companies are best located to capitalise on Wall-based demand.

On the US side, we found that CalPortland and Cemex have a strong local presence in cement, ready-mix (RMX) and aggregates, while Martin Marietta and Vulcan have significant aggregate operations in the area.

In Mexico, Cemex and GCC are well positioned in cement, aggregates and ready-mix.

The precast concrete market is more fragmented. However, we note that both CRH's Oldcastle and Heidelberg's Forterra have facilities close to the border.

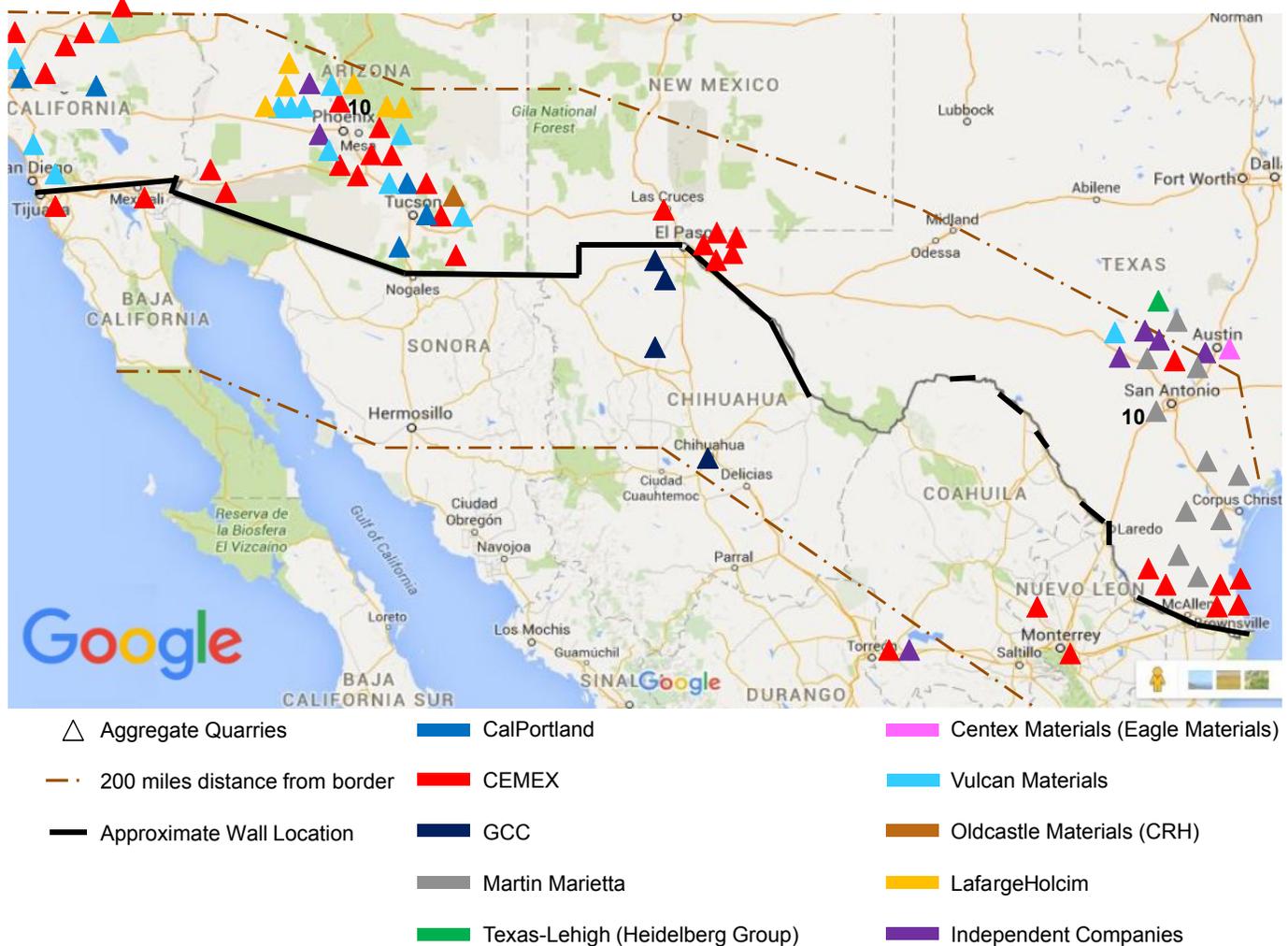
EXHIBIT 7: CalPortland and Cemex are best located to benefit from increased cement and RMX demand from The Trump Wall. On the Mexican side, Cemex and GCC are best located.



Note: Analysis focusses on large-scale companies, independent companies likely underrepresented

Source: Google maps, Company data, Bernstein analysis

EXHIBIT 8: In aggregates, Cemex, Martin Marietta, Vulcan and CalPortland stand to benefit the most on the US side, and Cemex and GCC on the Mexican side.



Note: Analysis focusses on large-scale companies, independent companies likely underrepresented

Source: Google maps, Company data, Bernstein analysis

CONCLUSION

As ludicrous as The Trump Wall project sounds (to us at least), it represents a huge opportunity for those companies involved in its construction.

If The Wall does go ahead, it will almost certainly be built from concrete. What is less clear at this stage is whether US- or Mexico-based suppliers will benefit. In fact, despite arguments concerning which government will pay for construction, the large quantities of materials required may necessitate procurement from both sides of the border.

Cemex appears best positioned regardless, with cement, RMX and aggregates facilities throughout the border region. Other companies who we would expect to benefit the most include CalPortland, GCC, Martin Marietta and Vulcan.

We are grateful to Daniel Casas Bofarull of Imperial College London for his contribution to this report

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U.S. CHEMICALS

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[Quick Take: Monsanto In Talks With BASF About A Possible Combination of Their Ag Business \(to Fend Off Bayer\)](#) (14/07/2016)

[Monsanto Expected to Earn Less Than \\$5 EPS through 2018](#) (13/07/2016)

[Margin Monthly: US Ethane and Naphtha Ethylene Cracking Margins Down Due to Higher Feedstock Costs](#)

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EUROPEAN METALS AND MINING

[Metals & Mining: The Bernstein "Big Brother" Bulk Barometer - Our Weekly Real Time Preview of Iron Ore Sales](#) (14/07/2016)

[Glencore: Best Positioned To Benefit From A Nickel Rally](#) (13/07/2016)

[The Week That Was in Metals & Mining](#) (11/07/2016)

THE WEEK AHEAD

18 July – Rio Tinto Production Report

19 July – AkzoNobel Q2 results; BHP Billiton Production Report

20 July – Anglo American Production Report; South32 Production Report

21 July – Yara Q2 results; Vale Production Report

22 July – Syngenta Q2 results

EXHIBIT 9: **Key Commodities – Recent Price Moves**

			Historical			
			Current Price	Last Week	Last Month	Last Year
Commodity Prices						
<i>Energy</i>						
Brent Oil		\$/bbl	46	49	51	69
WTI Crude Oil		\$/bbl	45	47	50	63
Henry Hub Natural Gas Spot Price		\$/mmbtu	2.81	2.75	2.52	2.76
Thermal Coal	FOB Newcastle	\$/st	61.80	61.80	61.80	61.80
	FOB Richards Bay	\$/st	61.00	61.00	61.00	61.00
	FOB Colombia	\$/st	56.65	56.65	56.65	56.65
Coking Coal	FOB Rizhao China	RMB/mt	740	740	740	740
<i>Chemicals</i>						
Naphtha-Oil Spread	Asia	\$/bbl	0.2	-0.3	0.5	-0.9
Naphtha Cracker Margin	Asia	\$/mt	620	678	806	880
Urea	Prilled FOB Black Sea	\$/mt	194	193	204	294
Potash	Stan. FOB Vancouver	\$/mt	263	263	268	307
	Stan.CPT China/Russia border	\$/mt	255	255	255	303
<i>Agricultural Commodities</i>						
Corn		\$/bu	3.6	3.3	4.2	3.4
Soybean		\$/bu	11.2	11.0	11.6	9.4
Wheat		\$/bu	4.3	4.2	4.9	5.0
Rice		\$/cwt	10.5	10.6	11.3	9.7
<i>Metals</i>						
Aluminium		\$/mt	1,670	1,624	1,582	1,702
Copper		\$/mt	4,919	4,706	4,515	5,889
Gold		\$/Troy oz	1,235	1,235	1,235	1,235
Platinum		\$/Troy oz	1,237	1,237	1,237	1,237
Iron Ore	Fe 62% CIF	\$/mt	56	52	51	63
Nickel		\$/mt	10,308	9,939	8,840	13,093
Zinc		\$/mt	2,173	2,100	2,066	2,113
Steel	China HRC Steel	RMB/st	2,673	2,570	2,581	2,369
	China Rebar	RMB/st	2,616	2,501	2,376	2,326
	LME Steel Billet	\$/st	313	313	252	125
<i>Building Materials</i>						
Baltic Freight Index	BDIY Index	Index	726	694	609	642
Supramax Freight Index	BSI Index	Index	577	572	582	654

Note: *Handymax and Supramax are relevant shipping indexes for heavy building materials

Source: CRU, Bloomberg and Bernstein analysis

EXHIBIT 10: Key Macro Indicators - Recent Estimates

		YoY Growth					
		2012	2013	2014	2015	2016E	2017E
<i>Real GDP Forecast</i>							
Global	YoY %	2.2%	2.1%	2.5%	2.8%	3.2%	3.1%
US	YoY %	2.2%	1.9%	2.4%	2.4%	1.9%	2.3%
EU	YoY %	-0.5%	-0.4%	0.9%	1.5%	1.5%	1.4%
Japan	YoY %	1.9%	1.5%	0.0%	0.5%	0.5%	0.8%
China	YoY %	7.8%	7.7%	7.4%	6.9%	6.5%	6.3%
Brazil	YoY %	0.9%	2.3%	0.2%	-3.8%	-3.5%	1.0%
<i>Industrial Production</i>							
Global	YoY %	2.4%	2.3%	3.2%	2.0%	1.6%	1.7%
US	YoY %	2.8%	1.9%	2.9%	2.4%	0.3%	-0.6%
EU	YoY %	-2.2%	-0.3%	1.1%	2.1%	1.7%	1.7%
Japan	YoY %	0.2%	-0.6%	2.1%	-2.6%	-1.2%	-0.8%
China	YoY %	8.2%	7.9%	7.3%	6.3%	6.0%	5.5%
Brazil	YoY %	-2.7%	2.2%	-2.9%	-5.8%	-8.3%	-7.9%
		Latest Month	Previous Month	Last Year			
<i>PMIs</i>							
Global	Index	51.1	May	51.1	Apr	53.1	May
US	Index	53.2	May	51.3	Apr	53.1	May
Eurozone	Index	52.8	May	51.5	Apr	52.5	May
Japan	Index	48.1	May	47.7	Apr	50.1	May
China	Index	50.0	May	50.1	Apr	50.2	May
Brazil	Index	43.2	May	41.6	Apr	46.5	May
<i>Housing Starts</i>							
US	'000	1,164	Apr	1,113	Mar	1,213	Apr
France	'000	28.5	Apr	29.2	Mar	27.4	Apr

Source: Global Insight, Bloomberg and Bernstein estimates

DISCLOSURE APPENDIX

TICKER TABLE

Ticker	Rating		13 Jul 2016 Closing Price	Target Price	TTM Rel. Perf.		EPS Reported			EV/EBITDA		
							2015A	2016E	2017E	2015A	2016E	2017E
BZU.IM	O	EUR	16.69	22.70	35.0%	EUR	0.61	1.16	1.59	8.90	7.66	6.56
BZUR.IM	O	EUR	9.08	13.97	17.9%	EUR	0.63	1.19	1.62	8.90	7.66	6.56
SGO.FP	O	EUR	35.84	47.00	(3.6)%	EUR	0.67	1.70	1.96	6.50	6.22	5.83
CRH.ID	M	EUR	26.62	25.60	11.1%	EUR	0.89	1.43	1.68	13.21	9.67	8.97
CRH.LN	M	GBP	2,228.00	1,930.38	29.3%	GBP	64.72	110.85	130.39	13.37	9.14	8.46
HEI.GR	O	EUR	71.50	89.00	8.8%	EUR	4.26	5.74	7.12	8.76	8.22	7.42
IT.IM	M	EUR	10.58	10.60	80.3%	EUR	(0.35)	0.12	0.30	11.39	10.40	9.12
LHN.VX	M	CHF	43.55	43.00	(25.7)%	CHF	(3.67)	1.95	2.79	8.50	8.89	8.31
LHN.FP	M	EUR	39.94	39.00	(27.8)%	EUR	(3.44)	1.78	2.54	8.32	8.94	8.38
SIK.VX	O	CHF	4,182.00	4,765.00	30.4%	CHF	181.37	206.39	237.89	12.56	11.36	10.02
MSDLE15			1,359.04				85.59	84.76	96.66	15.90	16.06	14.08

O - Outperform, M - Market-Perform, U - Underperform, N - Not Rated

VALUATION METHODOLOGY

For the **European Building Materials** sector, our preferred valuation methodology is an average of multiple analysis – specifically EV/forward EBITDA and Price/Forward EPS – and DCF. We have applied (NTM) to our multiple analysis because we believe that this captures the near-term trends we expect to see over our investment recommendation horizon (1 year). DCF takes into consideration projected future earnings growth and operating cash flows beyond the multiple's horizon.

We believe that evidence of a cyclic recovery for the cement companies within our coverage is building and expect earnings upside will start to be priced into stocks over the next twelve months. For this reason we apply an EV/forward EBITDA multiple equal to the 90th percentile of historical ranges for Heidelberg, Lafarge, Holcim, Saint-Gobain. We use the 80th percentile for CRH due to our belief that its bolt-on acquisition model is broken and that the company no longer deserves a premium to the sector. For Buzzi and Italcementi we apply multiples that are close to the top of their historical ranges. For Buzzi, we include the proportional EBITDA from significant Mexico JV in our valuation.

RISKS

The sector remains exposed to a slowdown in the global economy, setting back the cyclic recovery once again. Also cement has shown itself to be particularly sensitive to a sharp rise in energy costs like the one experienced in 2011 that caused a 1-2 year dip in margins. Finally, individual companies, although geographically diversified, remain exposed to deterioration in one market or region that could impact its results. There is also the risk some companies resume the value destructive acquisition spree of the last decade or fail to invest sufficient capex to keep up with growth in emerging markets.

We consider changes to currency exchange rates to be less of a risk as our coverage companies' businesses are mostly local in nature with sales and costs in local currency. The main currency exposure will come at consolidation. Note that we do not model the effect of a break-up of the Euro on our coverage group.

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12-Month Rating History as of 07/14/2016

Ticker	Rating Changes
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BZU.IM	O (RC) 06/03/14
BZUR.IM	O (RC) 06/03/14
CRH.ID	M (RC) 03/18/16 U (RC) 02/05/15
CRH.LN	M (RC) 03/18/16 U (RC) 02/05/15
HEI.GR	O (RC) 09/06/11
IT.IM	M (RC) 05/19/15
LHN.FP	M (IC) 10/07/15
LHN.VX	M (RC) 09/12/13
SGO.FP	O (RC) 10/17/11
SIK.VX	O (IC) 01/27/16

Rating Guide: O - Outperform, M - Market-Perform, U - Underperform, N - Not Rated

Rating Actions: IC - Initiated Coverage, DC - Dropped Coverage, RC - Rating Change

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