# Building a Risk Based Inspection Model for Offshore Wind Turbine Foundations

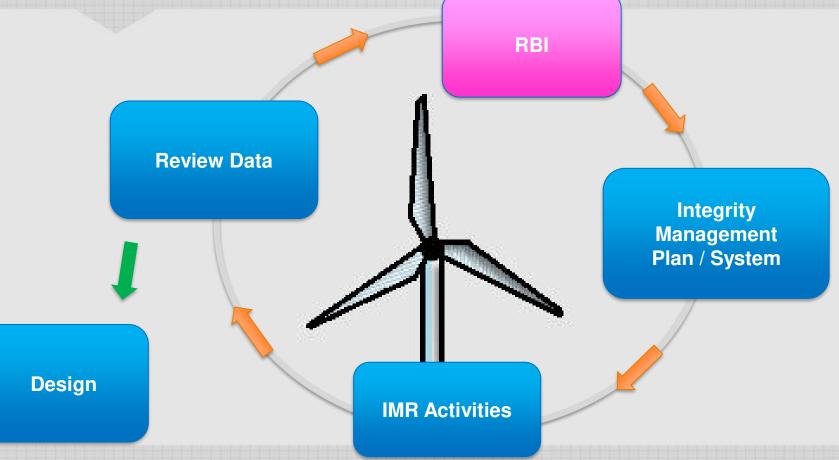
Nikki Gravestock 13 March 2019

# Agenda

By Andy Dingley, edit Muhammad - This file was derived from: Barrow Offshore wind turbines.jpg, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=24119638







### RBI





Created by Kekai Kotaki (http://www.topdesignmag.com/20-sunning-fantasy-drawings-that-illustrate-epic-battles/)

Slide 4

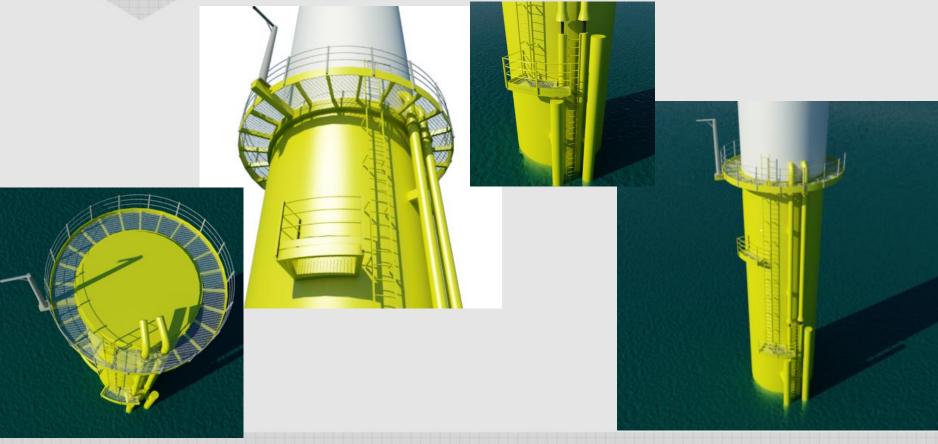
# **Developing the RBI Model**



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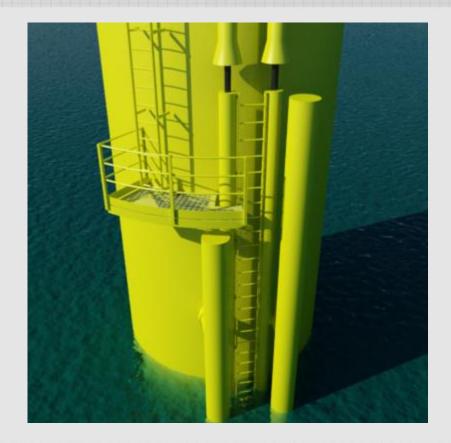
# Wind Turbine





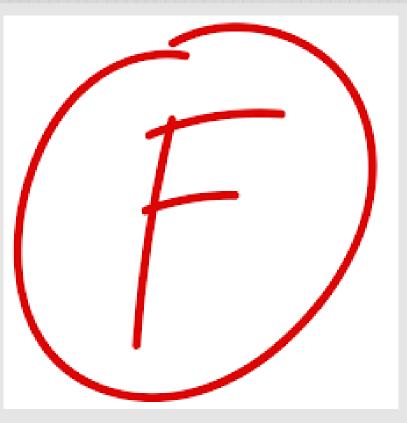
# **RBI Model – Define the System**





**Atteris** 

#### **RBI Model – Understand the Failures**

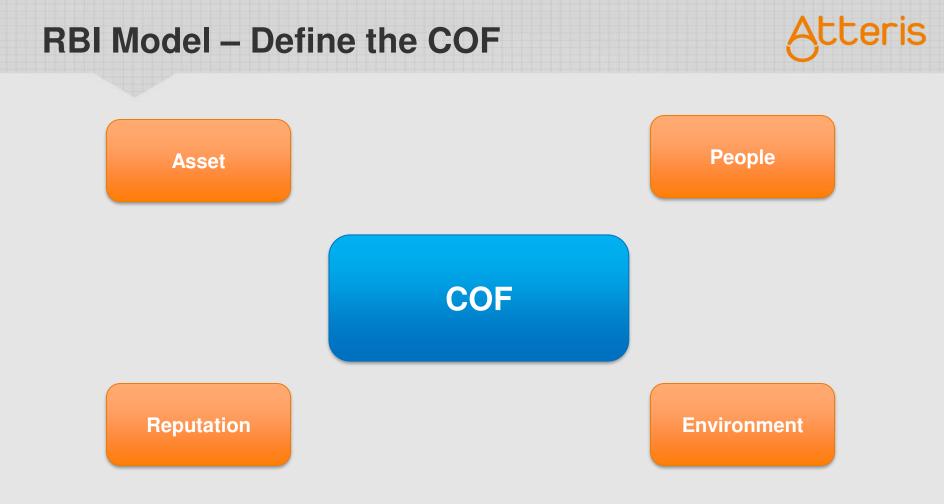


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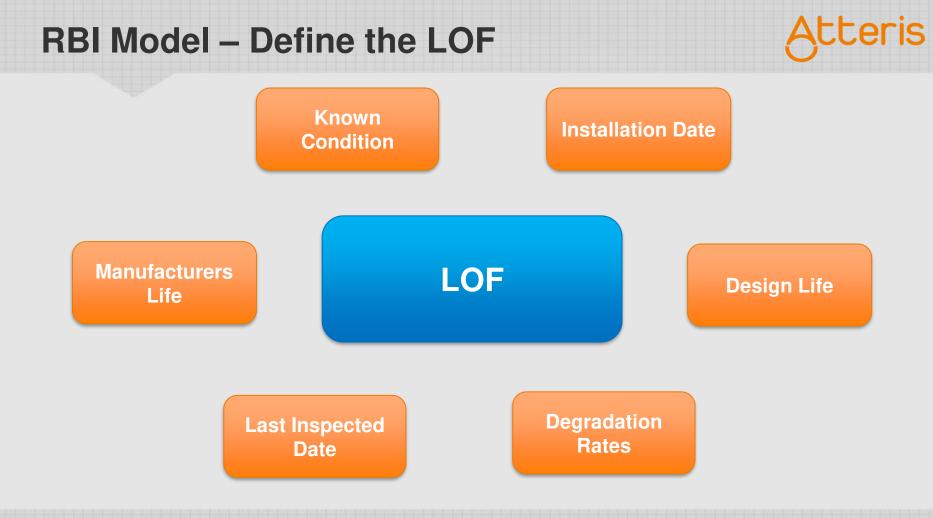
### **RBI Model – Determine the Mitigations**



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Slide 10



Slide 11

# **RBI Model – Risk Ranking**

#### • CoF and LoF together to get the risk score

	5	0.3	30	75	150	200	250	500
	4	0.25	25	50	75	100	125	250
Consequence	3	0.1	10	20	40	50	50	100
Consec	2	0.05	5	10	15	20	40	50
	1	0.01	1	2	3	4	5	10
	0	0	0	0	0	0	0	0
	Category	0.1	0.5	1	2	3	4	5
					Probability			

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# **RBI** Implementation

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1.25 1.2	5 1.25	1.25	1.25	1.25	1.25 1.	25 1.2	s 1.2	1.25	1.8	1.25	1.25	1.25	1.25	1.25	1.8	1.25	1.25	1.25	1.8	1.25	1.25	.25 1.	.23 1	.25 1.	8 1.3	8 1.3	5 1.2	5 1.2	1.25	1.25	1.25	1.25	1.85	1.25	1.25	1.25	81.	5 1.2	\$ 1.2	5 1.25	1.25	1.25	1.25	1.25	1.25 1	8 L	25 1.2	s 1.25	1.25	1.25	.25 1.	8 1.8	1.25	1.25	1.25 1	.25 1.	8 1.8	5 1.25	1.25	1.25	1.25 1	.25 1.	8 1.2	5 1.25	1.8	1.25	1.25 1	.25
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#### Challenges





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