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project risk mgmt • bcr • health & safety • rmis • claims admin • esg • tprm • compliance • policy mgmt • internal audit • erm

EMPOWERMENT



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RISK UNDER
ONE **ROOF**

Confidential

Westinghouse Moves the Needle with a Portfolio View of Project Risk

Eduardo Gamez, Ph.D.

VP Governance, Risk + Opportunity



Erik Klug

Senior Portfolio Risk Analyst



Sitting is the New Smoking

Is increased sitting dangerous to your health?



- The average American is *sedentary*:

- Hours sitting = 9.3
- Hours sleeping = 7.7

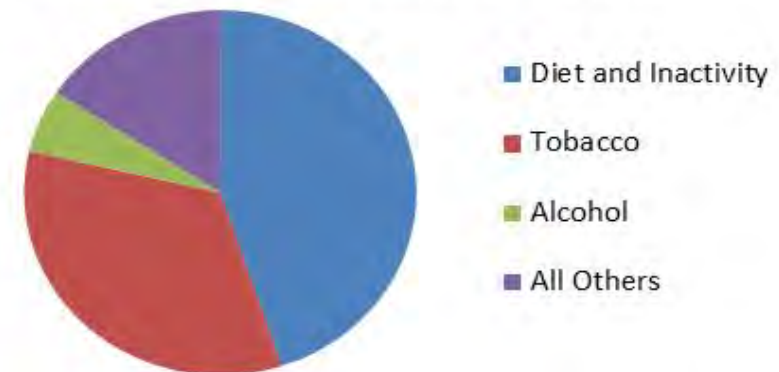
Total **17** hr/day

- Inactivity rate is GROWING
- Has INCREASED 8% since 1980

Consequences of inactivity:

- Decreased mental health
- Higher risk of death from heart disease and other causes
- Higher risk of being disabled

Leading Contributors to Premature Death





The only thing that helps is reducing the time that you sit each day!

RISK UNDER ONE ROOF

HOW SITTING WRECKS YOUR BODY

As Soon As You Sit:

- ⚡ Electrical activity in the leg muscles **shuts off**
- 🔥 Calorie burning drops to **1 per minute**
- 🍷 Enzymes that help break down fat drop **90%**

After 2 Hours:

- 📉 Good cholesterol drops **20%**

After 24 Hours:

- 💉 Insulin effectiveness drops **24%** and risk of diabetes rises

People with **sitting jobs** have **twice the rate** of cardiovascular disease as people with standing jobs.

SITTING INCREASES RISK OF DEATH UP TO 40%

Sitting 6+ hours per day makes you up to **40% likelier** to die within 15 years than someone who sits less than 3. Even if you exercise.

Average Physical Activity (Waking Hours):

- 🟡 Sedentary
- 🟠 Low-Intensity Physical Activity (Walking, Standing)
- 🟢 Medium-Vigorous Physical Activity (Running, Sports)

Studies show that only reducing sitting time helps. **It's clear that sitting is killing us: but how?**

Mortality rates are NOT effected by exercise!

Agenda

- Introductions
- Westinghouse Nuclear Portfolio
- Our Journey in Project Risk Management
- Decision point
- Key Success Factors
- Additional Uses - Change & Claims Management
- Link to the Enterprise
- Sample Dashboards

Eduardo Gamez, Ph.D.

Vice President of Governance, Risk + Opportunities

- Dr. Gamez is an executive leader and published author in the subject of Risk Management for Major Capital Programs. Dr. Gamez is accountable for the development and operation of the enterprise risk system, beginning at the offer/proposal phase and designed to contribute to the competitiveness of the organization by retaining a healthy risk and reward balance.
- Prior to Westinghouse, Dr. Gamez spent 14 years on engineering consulting of risk management and 9 years in project management for civil infrastructure and capital projects.
- Dr. Gamez served as an adjunct faculty of the Graduate School of Engineering in Northeastern University and frequently lectures at Columbia University, Wentworth Institute of Technology and George Washington University.
- He holds a Doctorate degree from the School of Engineering at Northeastern University and a Chief Risk Officer certification from Carnegie Mellon University.



Erik Klug

Senior Portfolio Risk Analyst

- Senior Portfolio Risk Analyst in the Westinghouse Enterprise PMO Risk Management Department, and is based out of the Westinghouse Pittsburgh, Pennsylvania headquarters.
- Erik is the lead administrator of the Riskonnect ARM software and Portfolio Risk Manager for the Asia Business Unit. In addition, he leads the development of data analytics and dashboard development globally for risk.
- Prior to joining Westinghouse in 2017, he spent 28 years in various positions at GE including; Finance Project Controller, IT SAP Implementation Manager, and various Large Project Cost, Schedule, and Risk Management leadership positions.



Who is **Westinghouse**

Westinghouse is the world's leading supplier of safe, innovative nuclear technology. While our daily work entails providing nuclear energy technologies, products and services to utilities around the world, our mission is focused on a much broader goal: using the power of intellect, collaboration and innovation to build on the legacy of our founder, George Westinghouse, and to create a cleaner, safer and sustainable carbon-free future for generations to follow.

Today's Westinghouse brand benefits our customer — and our customers' customers — and is committed to a **carbon-free future.**

About Westinghouse

Approximately

12,000

Employees

Locations in

21

Countries

Comprised of

4

Business Units

OPERATING PLANT SERVICES

NUCLEAR FUEL

ENERGY SYSTEMS

ENVIRONMENTAL SERVICES

More Than

70

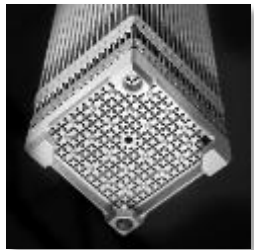
Facilities

Our Technology
Generates Nearly

50%

Of the World's
Nuclear Power

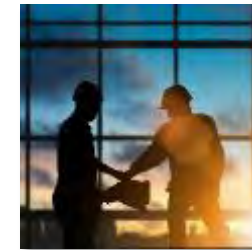
Global Products & Services Portfolio Snapshot



Nuclear Fuel



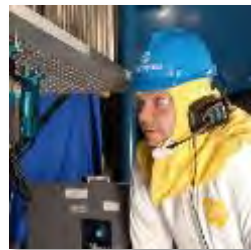
**Instrumentation
& Control**



Staffing Services



**Components &
Manufacturing**



**Field Services
and Plant
Modifications**



New Plants



**Engineering
Services**



**Decontamination &
Decommissioning
Solutions**



**Project and
Engineering
Services**

2,500 projects at any given time

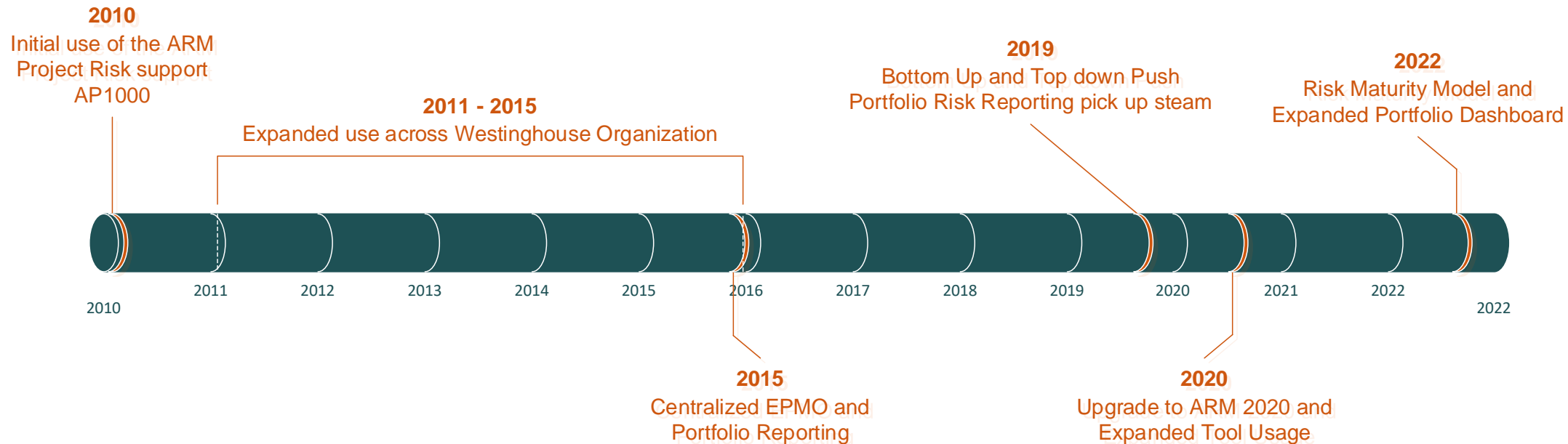


Decision point

- Bottom-up approach versus Top-Down
- Qualitative versus quantitative
- Maturity of the organization
- Clearly define the ultimate goal (future desired state)

Westinghouse elected a quantitative bottom-up approach

Our journey in Project Risk Management



The portfolio view was the catalyst to move from 35% coverage to 85%



Key success factors

- People – Training, training, training
- Processes – embedded in the way we operate, RBS
- Tool(s) – easy entry points, standard questionnaires for elicitation
- Visibility – focus on the layers and their different needs

Focus on the benefit to the user, not only the enterprise



Leverage the tools + supplement as needed

- ARM express
- Import features
- Monte Carlo impact analysis (portfolios)
- Robot automation
- VC reports
- Power BI

Keep an open line for feedback from the business (1st line of defense)



Additional uses (creativity)

- Evolution from Risk + Opportunities to **Change Management**
- Adapting the tool to fit the change management process
- Development of workflows
- Versatility of reports
- Power BI
- Tie to the Monthly Project Status Reviews

The process and the tool needs to satisfy a need



Link to the enterprise

- Data governance + Data architecture
- Integration with operational + financial reports
- Visibility to corporate leadership
- Support BU Presidents to speak about their portfolio risks
- Create a link to corporate strategy

It is a cultural change and everyone needs to be onboard



Future Growth Areas

- Maturity Model Analytics
- Direct Integration to Project Portfolio Tool
- Mature the model for Schedule Risk Analysis
- SME team provided enhanced training
- Portfolio scoring model for Questionnaires

Sample Views

MPSR Dashboard

Quickly provides

- Project based Risk listing
- Visualization of Quality of risks in register
- Funding Levels comparison to Probability Curves


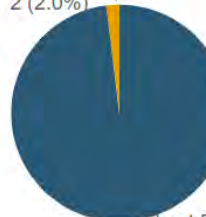
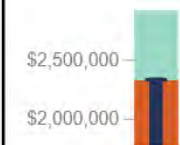






Project Risk & Opportunity Overview



Data Date:
08/31/2022

Count or Risk Types	Risks Past Due Review	MR Funding Bounds	CR Funding Bounds	ARM Value Curve to SAP Funding Value (Target No Opps)	
 <p>Risk 102 (10...)</p>	 <p>Last Review >... 2 (2.0%) Last Review ... 100 (98...)</p>	 <p>2% of ETC (+/- .5% bounds)</p>	 <p>P-60 - P-90 Target Bounds</p>	 <p>Sum Risk CR Total - USD-P by Data Date</p>	
Total Risk Count 10	Past Due / No Review Count 2	SAP MR Funding \$2, ?	SAP CR Funding \$54	P Value Current Range % 75% - 80%	P Value Target Range % 75% - 80%

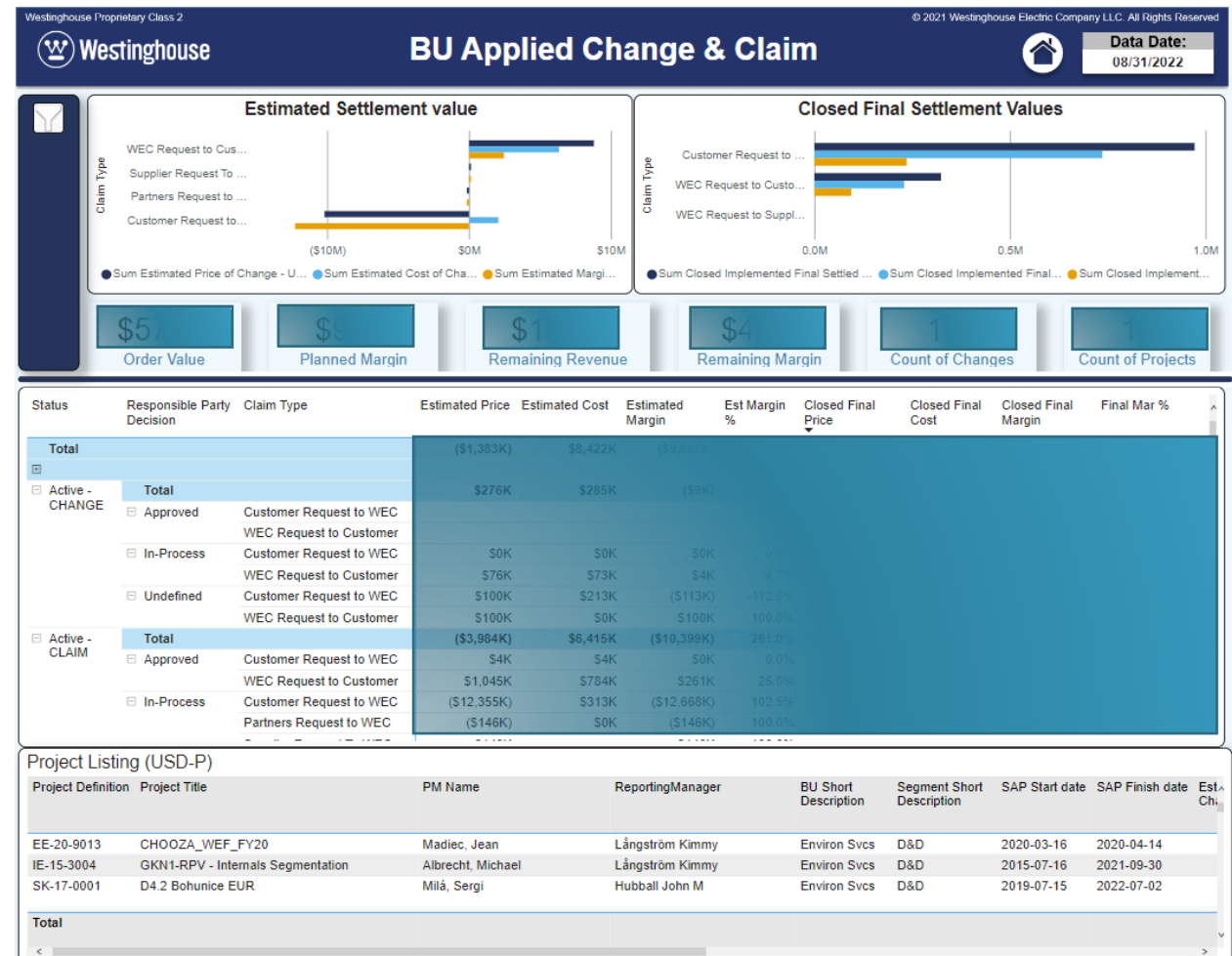
Target USD-P

Risk ID	Risk Title	Last Review Date	Impact Period Start	Impact Period End	Plan Strategy	Plan Title	Probability - Target	ML Target Impact	Expected Risk Mitigation
28604	PMS [HYS-3]: Liquidated damages as a result of late delivery of equipment for Haiyang 3 (Detail Risk)	2022-02-16	2019-07-31	2024-12-31	Threat - Mitigate	MITIGATE: Monitor schedule and document commercial position to avoid paying LDs for customer originated delays occurring	30		
29553	PMS [AFG-1]: Liquidated damages as a result of late delivery of equipment for LUFENG 1 (Detail Risk)	2022-08-15	2019-10-31	2024-12-31	Threat - Mitigate	MITIGATE: Perform deep dive review of P6 schedule	30	\$5,006,946	1,001,389
28608	PMS [HYS-4]: Liquidated damages as a result of late delivery of equipment for Haiyang 4 (Detail Risk)	2022-08-15	2020-05-31	2024-12-31	Threat - Mitigate	MITIGATE: Monitor schedule and document commercial position to avoid paying LDs for customer originated delays occurring	30	\$4,291,668	858,334

Change Management Portfolio Dashboard

Provide portfolio visibility to:

- Potential contractual changes
- Expected Revenue Cost & Margin
- Linkages to Operational Risks

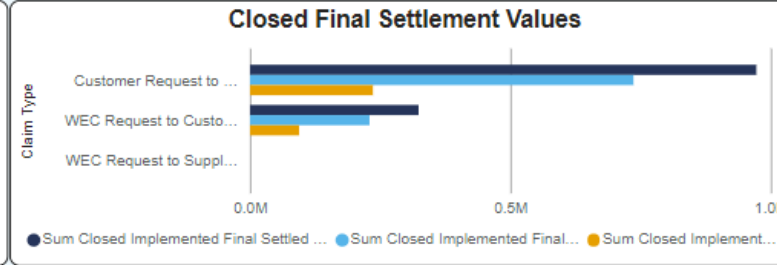
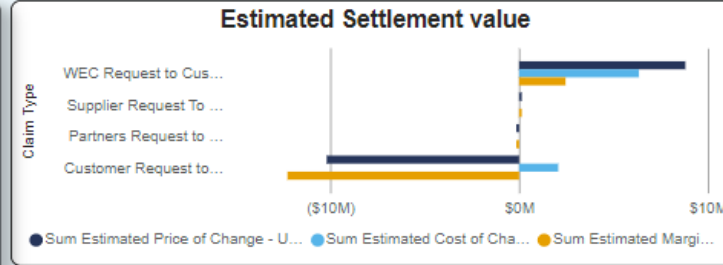




BU Applied Change & Claim



Data Date:
08/31/2022



\$5	\$9	\$1	\$4	1	1
Order Value	Planned Margin	Remaining Revenue	Remaining Margin	Count of Changes	Count of Projects

Status	Responsible Party Decision	Claim Type	Estimated Price	Estimated Cost	Estimated Margin	Est Margin %	Closed Final Price	Closed Final Cost	Closed Final Margin	Final Mar %
Total			(\$1,383K)	\$8,422K	(\$9,805K)	-100.0%				
Active - CHANGE			\$276K	\$285K	(\$9K)	-3.3%				
	Approved	Customer Request to WEC								
		WEC Request to Customer								
	In-Process	Customer Request to WEC	\$0K	\$0K	\$0K	0.0%				
		WEC Request to Customer	\$76K	\$73K	\$4K	4.7%				
	Undefined	Customer Request to WEC	\$100K	\$213K	(\$113K)	-112.6%				
		WEC Request to Customer	\$100K	\$0K	\$100K	100.0%				
Active - CLAIM			(\$3,984K)	\$6,415K	(\$10,399K)	-261.0%				
	Approved	Customer Request to WEC	\$4K	\$4K	\$0K	0.0%				
		WEC Request to Customer	\$1,045K	\$784K	\$261K	25.0%				
	In-Process	Customer Request to WEC	(\$12,355K)	\$313K	(\$12,668K)	-102.5%				
		Partners Request to WEC	(\$146K)	\$0K	(\$146K)	-100.0%				

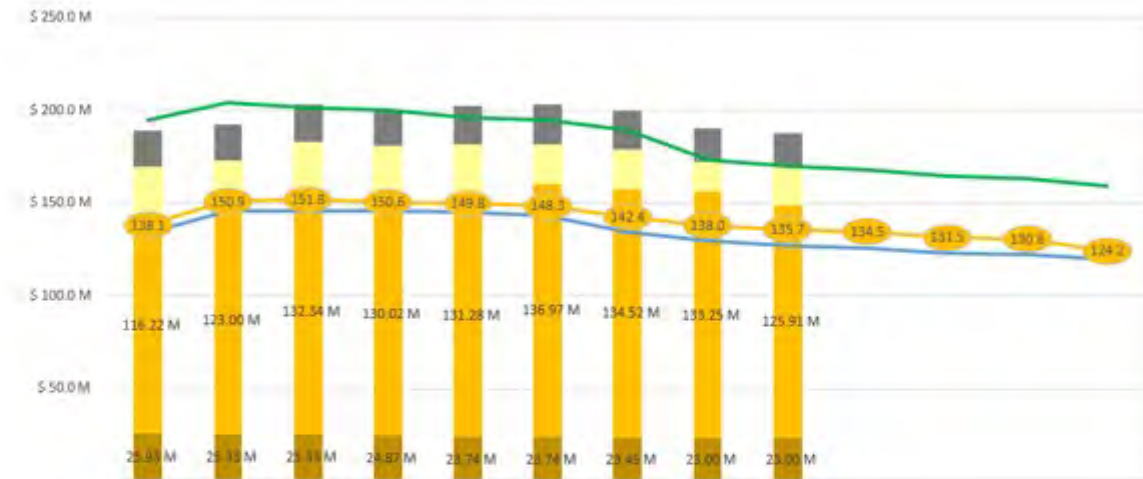
Project Listing (USD-P)

Project Definition	Project Title	PM Name	ReportingManager	BU Short Description	Segment Short Description	SAP Start date	SAP Finish date	Est. Chi.
EE-20-9013	CHOOZA_WEF_FY20	Madiec, Jean	Långström Kimmy	Environ Svcs	D&D	2020-03-16	2020-04-14	
IE-15-3004	GKN1-RPV - Internals Segmentation	Albrecht, Michael	Långström Kimmy	Environ Svcs	D&D	2015-07-16	2021-09-30	
SK-17-0001	D4.2 Bohunice EUR	Milá, Sergi	Hubball John M	Environ Svcs	D&D	2019-07-15	2022-07-02	
Total								

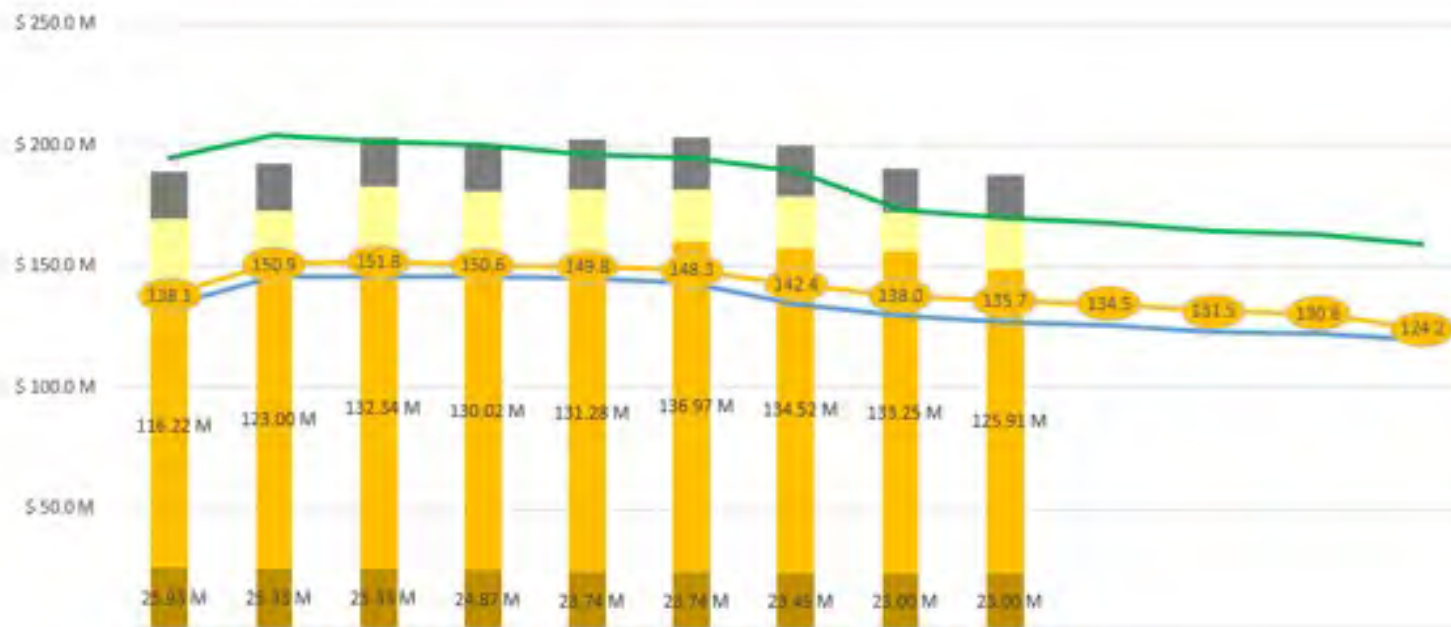
Monthly Operating Report - Portfolio Risk Curve

Portfolio Burndown provides an expectation:

- Release Risk funding
- Funding Coverage of Portfolio
- Mitigations to Go



	Dec 2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAP Mgmt Reserve	\$ 18.0 M	\$ 19.6 M	\$ 20.1 M	\$ 19.7 M	\$ 20.5 M	\$ 21.2 M	\$ 20.8 M	\$ 18.1 M	\$ 17.5 M				
_Actual SAP Reserves (Pr) WITHOUT RR	\$ 17.8 M	\$ 24.5 M	\$ 25.4 M	\$ 25.8 M	\$ 25.7 M	\$ 31.1 M	\$ 31.2 M	\$ 35.8 M	\$ 31.3 M				
_Actual SAP Reserves - (Pr) w/RR-IN-Measure	\$ 118.2 M	\$ 123.0 M	\$ 132.3 M	\$ 130.0 M	\$ 131.3 M	\$ 133.0 M	\$ 134.5 M	\$ 135.2 M	\$ 125.9 M				
_NON-SAP CR Reserves	\$ 25.0 M	\$ 25.1 M	\$ 25.1 M	\$ 28.9 M	\$ 28.7 M	\$ 28.7 M	\$ 29.4 M	\$ 25.0 M	\$ 25.0 M				
Risk Exposure (Post-Mitig.) + Opport.	\$ 138.3 M	\$ 150.9 M	\$ 151.8 M	\$ 150.6 M	\$ 149.8 M	\$ 148.3 M	\$ 142.4 M	\$ 138.0 M	\$ 135.7 M				
Risk Exposure (Post-Mitigation)	\$ 138.3 M	\$ 150.9 M	\$ 151.8 M	\$ 150.6 M	\$ 149.8 M	\$ 148.3 M	\$ 142.4 M	\$ 138.0 M	\$ 135.7 M				
Risk Exposure (Pre-Mitigation)	\$ 198.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M	\$ 205.0 M				
Over - (Under Funded)	\$ 60.0 M	\$ 54.1 M	\$ 53.2 M	\$ 54.4 M	\$ 64.2 M	\$ 71.7 M	\$ 70.6 M	\$ 69.8 M	\$ 69.3 M				



\$ (50.0 M)

	Dec 2021	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
SAP Mgmt Reserve	\$ 18.0 M	\$ 19.6 M	\$ 20.1 M	\$ 19.7 M	\$ 20.5 M	\$ 21.2 M	\$ 20.8 M	\$ 18.1 M	\$ 17.5 M				
_Actual SAP Reserves (Prj WITHOUT RR)	\$ 97.8 M	\$ 104.4 M	\$ 105.4 M	\$ 105.0 M	\$ 105.7 M	\$ 111.1 M	\$ 111.6 M	\$ 115.4 M	\$ 111.6 M				
_Actual SAP Reserves - (Prj w/RR-IN-Measure)	\$ 118.2 M	\$ 123.9 M	\$ 133.9 M	\$ 130.9 M	\$ 131.3 M	\$ 137.9 M	\$ 134.5 M	\$ 133.2 M	\$ 125.9 M				
_NON-SAP CR Reserves	\$ 25.9 M	\$ 25.3 M	\$ 25.3 M	\$ 24.9 M	\$ 24.7 M	\$ 24.7 M	\$ 23.5 M	\$ 23.0 M	\$ 23.0 M				
Risk Exposure (Post-Mitig.) + Opport.	\$ 138.1 M	\$ 150.9 M	\$ 151.8 M	\$ 150.6 M	\$ 149.8 M	\$ 148.3 M	\$ 142.4 M	\$ 138.0 M	\$ 135.7 M				
Risk Exposure (Post-Mitigation)	\$ 138.1 M	\$ 150.9 M	\$ 151.8 M	\$ 150.6 M	\$ 149.8 M	\$ 148.3 M	\$ 142.4 M	\$ 138.0 M	\$ 135.7 M				
Risk Exposure (Pre-Mitigation)	\$ 193.1 M	\$ 205.2 M	\$ 203.1 M	\$ 200.5 M	\$ 198.5 M	\$ 196.8 M	\$ 188.8 M	\$ 175.0 M	\$ 168.7 M				
Over - (Under Funded)	\$ 54.9 M	\$ 54.3 M	\$ 51.3 M	\$ 50.0 M	\$ 48.7 M	\$ 48.5 M	\$ 46.3 M	\$ 37.0 M	\$ 33.0 M				

- SAP Mgmt Reserve
- _Actual SAP Reserves (Prj WITHOUT RR)
- _Actual SAP Reserves - (Prj w/RR-IN-Measure)
- _NON-SAP CR Reserves
- Risk Exposure (Post-Mitig.) + Opport.
- Risk Exposure (Post-Mitigation)
- Risk Exposure (Pre-Mitigation)
- Over - (Under Funded)

Questions?



project risk mgmt • bcr • health & safety • rmis • claims admin • esq • iprm • compliance • policy mgmt • internal audit • erm

DISCOVER

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