Green = Comparable, Yellow = Additional Detail Needed, Red = Missing

Governance

BSA Framework				NIST Framework Initial Draft -- Equivalent Practices	BSA Recommendations
Governance Framework	Policies and Processes	Objectives: Integrate AI risk management into broader risk management functions. (p. 11)	🟩	Sec. 4.2.3 - Organizational Integration - "The AI RMF is not a checklist nor a compliance mechanism to be used in isolation. It should be integrated within the organization developing and using AI technologies and be incorporated into enterprise risk management; doing so ensures that AI will be treated along with other critical risks, yielding more integrated outcome and resuinging in organizational efficiencies."	
		Processes: Establish processes for identifying risks, assessing the materiality of those risks, and mitigating risks at each stage of the AI lifecycle. (p.11)	🟩	Govern ID 1 - Policies, processes, procedures and practices across the organization related to the development, testing, deployment, use and auditing of AI systems are in place, transparent, and implemented effectively.	
		Evaluation Mechanisms: Establish mechanisms, such as metrics and benchmarks, that the organization will use to evaluate whether policies and procedures are being carried out as specified. (p. 11)	🟥		**Recommendation:** Govern ID 1, Subcategory 4 should be adjusted to reflect the importance of estalishing programmatic benchmarks for monitoring organizational compliance with governance policies/processes.
		Periodic Review: Organizations should periodically review and update their AI governance framework so that it remains fit-for-purpose and capable of addressing the evolving landscape of risk.	🟩	Govern ID 1, Subcat 2 - Ongoing monitoring and periodic review of the risk management process and its outcomes are planned, with responsibilities clearly defined.	
		Executive Oversight: Governance framework should be back by executive oversight, including (1) approval of governance policies, (2) active role in overseeing product development lifecycle, and (3) go/no-go decisions fo high-risk systems.	🟨	Govern ID 2, Subcat 3 - Executive leadership considers decisions about AI system development and deployment ultimately to be their responsibility.	**Recommendation:** Adjust Govern ID 2, Subcategory 3 to clarify that executive leadership team should have a role in the approval of governance polcies and go/no-go decision for high risk systems
	Personnel, Roles and Responsibilities	Independence: Personnel should be structured in a manner that facilitates separate layers of independent review.	🟨	Map ID 4, Subcat 4 - "Benefits of the AI system outweigh the risks, and risks can be assessed and managed. Ideally this evaluation should be conducted by an independent thrid party or by experts who did not serve as front-line developers for the sytem, and who consults experts, stakeholders, and impacted communities."	**Recommendation:** The AI RMF Initial Draft currently recognizes importance of indpendend layers of review in the Map function. Because the importance of indendent layers of review are important throughtout the AI pipeline, would recommend that it is highlighted in the Govern function ID 2 that addresses key "accountability structures"
		Competence, Resourcing, and Influence: Provide adequate training and resources for personnel to fufill their governace functions and ensure that personnel are empowered to address or escalate risks.	🟨	Govern ID 2, Subcat 2 - "The organization's personnel and partners are provided AI risk management awareness education and training to enable them to perform their duties and responsibilities consistent with related policies, procedures, and agreements."	**Recommendation:** Include a reference to the importance of clear escalation paths in Govern ID 2, Subcat 2.

		Diversity: Establish team with diverse perspectives, lived experiences. Where diversity lacking on internal team, consult with external stakeholders as necessary.	🟩	Govern ID 3, Subcat 1 - "Decision making throught the AI lifecycle is informed by demographically and disciplinarily diver steam, including internal internal and external personnel. Govern ID 5 - "Processes in place to ensure that diversity, equity, inclusion, accessibility, and cultural considerations from potentially impacted individuals and commcunities are fully taken into account."	
		Project Conception			
Impact Assessment	Identify and Document Objectives and Assumptions	Document the intent and purpose of the system - (Comment on Implementation: including intended users, use cases, and potential misuses.)	🟩	Map ID 1. Context is established and understood- "Intended purpose, setting in which the AI system will be deployed, the specific set of users along with their expectations, and impacts of system use are understood and documented as appropriate."	
		Clearly define the model's intended effects. (Comment on Implementation: What is the model intended to predict, classify, recommend, rank, or discover?)	🟩	Map ID 2, Subcat 1 - Classification of AI system is performed- "The specific task that the AI system will support is defined (e.g., recommendation, classification, etc.)"	
		Clearly define intended use cases and context in which the system will be deployed.	🟩	Map ID 1, Subcat 2 - Context is established and understood- "The business purpose or context of use has been clearly defined or – in the case of assessing existing AI systems – re-evaluated."	
	Select and Document Metrics for Evaluating Fairness	Identify "fairness" metrics that will be used as a baseline for assessing "bias" in the AI system.	🟩	Measure ID 1 - Appropriate methods and metrics are identified and paplied. Subcat 1-3.	
	Document Stakeholder Impacts	Identify stakeholder groups that may be impacted by the system.	🟩	Map ID 4 - "Risk and harms to individual, organizational, an societal perspectives are identified."	**Recommendation:** Consistent with the discussion in the "understanding Risk and Adverse Impacts" section (pgs. 5-6), would recommend adjusting the wording of Map ID 4 to reflect that the exercise should focus on "impacts" rather than "risk and harms." As currently drafted, the Map ID 4 focuses only on *negative* risks. But, as noted on pg. 5, the "impact of AI systms can be positive, negative or both and can address, create, or result in opportunities or threates." Would therefore adjust Map ID 4 to read "Impacts on Individuals, Groups, and Society"
		For each stakeholder group, document the potential benefits and potential adverse impacts, considering both the intended uses and reasonably foreseeable misuses of the system.	🟨	Map ID 3, Subcat 1 - "Benefits of intended system behavior are examined. Map ID 4 - Risks and harms to individual, organizational, and societal perspectives are identified	**Recommendation:** Clarify that analysis of potential benefits should include impact assessment for each relevant stakeholder group.
		Assess whether the nature of the system makes it prone to potential bias-related harms based on user demographics.	🟩	Measure ID 2 - Systems are evaluated Subcat 1 - Accuracy, reliability, ustness, resilience (or ML security), explainability and interpretability, privacy, safety, bias, and other system performance or assurance criteria are measured, qualitatively or quantitatively. "	

	Document Risk Mitigations	If risk of bias is present, document efforts to mitigate risks.	🟩	Manage ID 2 - Priority actions to maximize benefits and minimize harm are planned, prepared, implemented and communicated ot internal and external stakeholders as appropriate (or required) and to the extent practicable	
		If risks are unmitigated, document why the risk was deemed acceptable.	🟨	Manage ID 1 "Assessments of potential harms and results of analyses conducted via the map and measure functions are used to respond to and manage AI risks.-Responses to enumerated risks are identified and planned. Subcat 3 -- "Responses can include mitigating, transferring or sharing, avoiding, or accepting AI risks."	**Recommendation:** Clarify that documentation should include explanation about why risks were deemed acceptable. Insight into rationale for key design decisions is an important artefact.
		Document how identified risks and potential harms of each risk will be measured and how the effectiveness of mitigation strategies will be evaluated.	🟩	Measure ID 1, Subcat 2 -- "Approaches and metrics for quantitative or qualitative measurement of the enumerated risks , including technical measures of performance for specific inferences, are identified and selected for implementation	
Risk Mitigation Best Practices	Independence and Diversity	Seek feedback from a diverse (culturally + subject matter) set of stakeholders to inform the impact assessment.	🟩	Govern ID 3, Subcat 1 - "Decision making throught the AI lifecycle is informed by demographically and disciplinarily diver steam, including internal internal and external personnel. Govern ID 5 - "Processes in place to ensure that diversity, equity, inclusion, accessibility, and cultural considerations from potentially impacted individuals and commcunities are fully taken into account."	
	Transparent Documentation	Share impact assessment documentation with personnel working on later stages of the AI pipeline so that risks and potential unintended impacts can be monitored throughout the development process.	🟩	Govern ID 4, Subcat 1 -- "Teams are encouraged to consider and document the impacts of the technology they design and to develop and communicate about these impacts more broadly."	
	Accountability and Governance	Confirm leadership is briefed on high-risk systems to faciliate go/no-go decision.	🟨	Govern ID 2, Subcat 3 -- "Executive leadership of the organization considers decisions about AI system development and deployment ultimately to be their responsibility"	**Recommendation:** Recommend greater specificity regarding the importance of executive leadership briefing + go/no-go decision for high risk systems.

Data Acquisition

ent	Maintain Records of Data Provenance	Maintain sufficient records to enable "recreation" of the data used to train the AI model, verify that its results are reproducible, and monitor for material updates to data sources.	🟨	Map ID 2, Subcat 2-- "Considerations related to data collection and selection are identified. (e.g., availability, representativeness, suitability)."	**Recommendation:** Flesh out Map ID 2, Subcat 2 to better account for the vital importance of data to the AI development process.
		Scrutinize data for historical biases.	🟨	Map ID 2, Subcat 2-- "Considerations related to data collection and selection are identified. (e.g., availability, representativeness, suitability)."	**Recommendation:** Expand Map ID 2, Subcat 2 to tease out what it means to examine data "suitablity" (e.g., examining for historical biases)

Impact Assessme	Examine Data for Potential Biases	Evaluate “representativeness” of the data.	🟩	Map ID 2, Subcat 2-- "Considerations related to data collection and selection are identified. (e.g., availability, representativeness, suitability)."	
		Scrutinize data labeling methodology.	🟥	Map ID 2, Subcat 2-- "Considerations related to data collection and selection are identified. (e.g., availability, representativeness, suitability)."	**Recommendaton:** Expand on Map ID to reference importance of examining data labeling methodology.
	Document Risk Mitigations	Document whether and how data was augmented, manipulated, or re-balanced to mitigate bias.	🟨	Map ID 2, Subcat 2-- "Considerations related to data collection and selection are identified. (e.g., availability, representativeness, suitability)."	**Recommendation:** The AI RMF should encourage documentation of efforts to mitigate risks related to training data.
Risk Mitigation Best Practices	Independence and Diversity	To facilitate robust interrogation of the datasets, data review teams should include personnel that are diverse in terms of their subject matter expertise and lived experiences.	🟩	Govern ID 5 - "Processes in place to ensure that diversity, equity, inclusion, accessibility, and cultural considerations from potentially impacted individuals and commcunities are fully taken into account."	
	Re-Balancing Unrepresentative Data	Consider re-balancing with additional data.	🟥		The Initial Draft of the AI RMF currently lacks any specific recommended practices and/or informative references for mitigating risks.
		Consider re-balancing with synthetic data.	🟥		The Initial Draft of the AI RMF currently lacks any specific recommended practices and/or informative references for mitigating risks.
	Data Labeling	Establish objective and scalable labeling guidelines.	🟥		The Initial Draft of the AI RMF currently lacks any specific recommended practices and/or informative references for mitigating risks.
	Accountability and Governance	Integrate data labeling processes into a comprehensive data strategy.	🟥		The Initial Draft of the AI RMF currently lacks any specific recommended practices and/or informative references for mitigating risks.

Data Preperation and Model Definition

npact Assessment	Document Feature Selection and Engineering Processes	Document rationale for choices made during the feature selection and engineering processes and evaluate their impact on model performance.	🟨	Govern ID 1 - "Policies, processes, procedures and practices across the organization related to the development, testing, deployment, use and auditing of AI systems are inc place, transparent, and implemented effectively."	**Recommendaton**: The Govern ID 1 Category appropriately focuses on examination of policies, practices, and procedures for ensuring oversight of AI systems. However, the Subcategories in ID 1 are all narrowly focused on docummenting risk management processes and outcomes. Recommend broadening the subcategories (or adding standalone subcategory) to encourage evaluation and documentation of key system attributes (and the rationale for related decisions), particularly as it relates to: data provenance, feature selection/engineering, and the rationale for the selected modeling approach.
		Document potential correlation between selected features and sensitive demographic attributes.	🟨	Measure ID 2, Subcat 1 - "Accuracy, reliability, robustness, resilience (or ML security), explainability and interpretability, privacy, safety, bias, and other system performance or assurance criteria are measured, qualitatively or quantitatively."	**Recommendation**: Provide greater detail regarding what should be documented, particularly as it relates to: data provenance, feature selection/engineering, and the rationale for the selected modeling approach.

Ir	Document Model Selection Process	Document rationale for the selected modeling approach.	🟨	Govern ID 1, Subcat 1 - "The risk management process and its outcomes are documented and traceable through transparent mechanisms, as appropriate and to the extent practicable."	**Recommendation**: Provide greater detail regarding what should be documented, particularly as it relates to: data provenance, feature selection/engineering, and the rationale for the selected modeling approach.
		Identify, document, and justify assumptions in the selected approach and potential resulting limitations.	🟨	Govern ID 1, Subcat 1 - "The risk management process and its outcomes are documented and traceable through transparent mechanisms, as appropriate and to the extent practicable."	
Risk Mitigation Best Practices	Feature Selection	Examine for biased proxy features.	🟥		
		Scrutinize features that correlate to sensitive attributes.	🟩	Measure ID 2, Subcat 1 "Accuracy, reliability, robustness, resilience (or ML security), explainability and interpretability, privacy, safety, bias, and other system performance or assurance criteria are measured, qualitatively or quantitatively."	
	Independence and Diversity	Seek feedback from diverse stakeholders with domain-specific expertise.	🟩	Govern ID 3, Subcat 1 - "Decision making throught the AI lifecycle is informed by demographically and disciplinarily diver steam, including internal internal and external personnel. Govern ID 5 - "Processes in place to ensure that diversity, equity, inclusion, accessibility, and cultural considerations from potentially impacted individuals and commcunities are fully taken into account."	
	Model Selection	Avoid inscrutable models in circumstances where both the risk and potential impact of bias are high.	🟥		

Validating, Testing, and Revising the Model

Impact Assessment	Document Validation Processes	Document how the system (and individual components) will be validated to evaluate whether it is performing consistent with the design objectives and intended deployment scenarios.	🟩	Measure ID 2 - Systems are evaluated. Subcat 1 - Accuracy, reliability, robustness, resilitence (or ML security), explainability, and interpretability, privacy, safegy, bias, and other sytem performance or assurance criterial are measured, qualitatively or quantitatively.	
		Document re-validation processes (incl. cadence of re-validation + benchmarks that trigger out-of-cycle re-validation)	🟨	Manage ID 2, Subcat 2 - "Plans are in place, both performance and control-related, to sustain the value of the AI system once deployed.	**Recommendation:** Manage ID 2, Subcat 1 should more specifically call for examination of processes for scheduled and out-of-cycle system revalidation.
	Document Testing Processes	Test the system for bias by evaluating and documenting model performance.	🟩	Measure ID 1 + ID 2	
		Document how testing was performed, which fairness metrics were evaluated, and why those measures were selected.	🟩	Measure ID 1 + ID 2	
		Document model interventions.	🟩	Manage ID 3 - "Responses to enumerated and measured risks are documentd and monitored over time."	
Risk Mitigation Best Practices	Model Interventions	Evaluate potential model refinements to address bias surfaced during testing.	🟩	Manage ID 3 - "Responses to enumerated and measured risks are documentd and monitored over time."	
	Independence and Diversity	Validation and testing documentation should be reviewed by personnel who were not involved in the system's development.	🟩	Map ID 4, Subcat 4 - "Benefits of the AI system outweigh the risks, and risks can be assessed and managed. Ideally this evaluation should be conducted by an independent thrid party or by experts who did not serve as front-line developers for the sytem, and who consults experts, stakeholders, and impacted communities."	

Preparing for Deployment and Use

ent	Document Lines of Responsibility	Define and document who is responsible for the system's outputs and the outcomes they may lead to, including details about how a system's decisions can be reviewed if necessary.	🟩	Govern ID 2, Subcat 1 - "Roles and responsibilities and lines of communication related to identifying and addressing AI risks are clear to individuals and teams throughout the organization."	
		Establish management plans for responding to potential incidents or reports of system errors.	🟩	Manage ID 3, Subcat 1 - "Plans related to post deployment monitoring of the systems are implemented, including mechanisms for user feedback, appeal and override, decommissioning, incident response, and change management."	
	Document Processes for Monitoring Data	Document what processes and metrics will be used to evaluate whether production data (i.e., input data the system encounters during deployment) differs materially from training data.	🟨	Manage ID 3, Subcat 1 - "Plans related to post deployment monitoring of the systems are implemented, including mechanisms for user feedback, appeal and override, decommissioning, incident response, and change management."	**Recommendation:** Manage ID 3 should reference importance of monitoring for data drift in one of the subcategories.

Impact Assessm	Document Processes for Monitoring Model Performance	For static models, document how performance levels and classes of error will be monitored over time and benchmarks that will trigger review.	🟩	Manage ID 3, Subcat 1 - "Plans related to post deployment monitoring of the systems are implemented, including mechanisms for user feedback, appeal and override, decommissioning, incident response, and change management."	
		For models that are intended to evolve over time, document how changes will be inventoried; if, when, and how versions will be captured and managed; and how performance levels will be monitored (e.g., cadence of scheduled reviews, performance indicators that may trigger out-of-cycle review).	🟥		
	Document Audit and End-of-Life Processes	Document the cadence at which impact assessment evaluations will be audited to evaluate whether risk mitigation controls remain fit for purpose.	🟩	Govern ID 1, Subcat 2 Ongoing monitoring and periodic review of the risk management process and its outcomes are planned, with responsibilities clearly defined.	
		Document expected timeline that system support will be provided and processes for decommissioning system in event that it falls below reasonable performance thresholds.	🟩	Manage ID 3, Subcat 1 - "Plans related to post deployment monitoring of the systems are implemented, including mechanisms for user feedback, appeal and override, decommissioning, incident response, and change management."	
Risk Mitigation Best Practices	Monitoring for Drift and Model Degradation	Input data encountered during deployment can be evaluated against a statistical representation of the system's training data to evaluate the potential for data drift (i.e., material differences between the training data and deployment data that can degrade model performance).	🟥		
	Product Features and User Interface	Integrate product and user interface features to mitigate risk of foreseeable unintended uses—e.g., interface that enforces human-in-the-loop requirements, alerts to notify when a system is being misused.	🟥		
	System Documentation	AI Developers should provide sufficient documentation regarding system capabilities, specifications, limitations, and intended uses to enable AI Deployers to perform independent impact assessment concerning deployment risks.	🟥		
		Consider incorporating terms into the End User License Agreement that set forth limitations designed to prevent foreseeable misuses (e.g., contractual obligations to ensure end user will comply with acceptable use policy).	🟥		
		Review marketing materials for consistency with system capabilities.	🟥		
	AI User Training	AI Deployers should provide training for AI Users regarding a system's capabilities and limitations, and how outputs should be evaluated and integrated into a workflow.	🟩	Govern ID 2, Subcat 2 The organization's personnel and partners are provided AI risk management awareness education and training to enable them to perform their duties and responsibilities consistent with related policies, procedures, and agreements	
	Incident Response and Feedback Mechanisms	AI Deployers should maintain a feedback mechanism to enable AI Users and Affected Individuals (i.e., members of the public that may interact with the system) to report concerns about the operation of a system.	🟩	Manage ID 3, Subcat 1 "Plans related to post deployment monitoring of the systems are implemented, including mechanisms for user feedback, appeal and override, decommissioning, incident response, and change management."	