State of California GenAI Guidelines for Public Sector Procurement, Uses and Training

March 2024

Executive Summary

The following guidelines address procurement, uses, and training related to deploying Generative Artificial Intelligence (GenAI) in California state government. These guidelines provide best practices and parameters to safely and effectively use this transformative technology to improve services for all Californians.

The language throughout Governor Newsom's Executive Order N-12-23 on Generative Artificial Intelligence ("Executive Order") emphasizes the need for responsible implementation of GenAI throughout state government. State entities and their respective leadership will ultimately be responsible for evaluating and incorporating GenAI to support each entity's unique structure and mission. Recognizing this responsibility, the Administration is establishing a framework of required training and state policy guidance to inform, enable and support state leaders in the ethical, transparent and trustworthy use of GenAI.

This document builds upon the State of California: Benefits and Risks of Generative Artificial Intelligence Report published in November 2023 and serves as interim guidance as California seeks to publish the final procurement and training policy in 2025, after extensive piloting, research and stakeholder engagement.

The following guidelines provide the necessary information and steps for state leaders to assess responsibly and accurately – and potentially procure and deploy – GenAI tools in their state entity. State entities should use these guidelines to meet the Executive Order's directive that all state agencies "shall consider pilot projects of GenAI applications" by July 2024.

Before July 1, 2024, there is a soft launch period to test the GenAI risk assessment process that includes the state entity's GenAI lead, as well as Chief Information Officer (CIO)/Agency Information Officer (AIO) consultation with the California Department of Technology (CDT) to help determine a state entity's GenAI readiness before proceeding with a GenAI purchase.

Many state entities may be in the early stages of building internal capacity and knowledge to effectively and responsibly use GenAI tools, while simultaneously seeing software and tools they already use deploying GenAI-based software updates. Section VI of these guidelines provides guidance for such incidental GenAI procurements.

For state entities that may be further along in both staffing capacity and knowledge of GenAI, these guidelines outline the required steps necessary to safely and responsibly procure and deploy new GenAI technology.

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Document History

Revision Number	Revision Date	Summary of Changes	Author
1	March 2024	Initial publication of procurement and training guidance for GenAI	California Department of Technology, Department of General Services, Office of Data and Innovation, Department of Human Resources

I – Introduction and Background

The state of California Generative Artificial Intelligence (GenAI) guidelines for public-sector procurement, uses and training is intended for use by state procurement professionals, Chief Information Officers (CIOs), Agency Information Officers (AIOs), Information Security Officers (ISOs), legal offices, and other program designees responsible for business analysis leading to the purchase of goods and services.

Section 3.a of Executive Order N-12-23, signed by Governor Newsom on September 6, 2023, mandates:

> The Government Operations Agency, the California Department of General Services, the California Department of Technology, and the California Cybersecurity Integration Center, shall issue general guidelines for public sector procurement, uses, and required trainings for use of GenAI, including for high-risk scenarios such as for consequential decisions affecting access to essential goods and services.

GenAI has the potential to improve service-delivery outcomes and increase access to and utilization of government programs. The discussion about how GenAI can be incorporated into the work of state government is complex and requires robust and thoughtful engagement. Use of GenAI technology may help streamline existing processes and enhance time spent on more critical work, leading to better outcomes. Consideration of the use of this new technology must be integrated into strategic planning efforts, enterprise risk management, and results-oriented management frameworks. As state entities consider procuring and using GenAI technology, the state will partner with stakeholders to learn about the advancement of GenAI and navigate the associated risks.

The California Department of General Services (DGS) and California Department of Technology (CDT) will update guidance as the implementation of GenAI – including pilot cases – is tested and put into production.

II – Definitions and Example GenAI Use Cases

GenAI has the ability to generate novel text, images and other content, potentially changing how the state conducts business and serves the public. Terms used in this guidance document include definitions from the State Administrative Manual (SAM) 4819.2. The definitions will aid in identifying GenAI technologies and applying GenAI-specific requirements and processes. These definitions are specific to state administrative use and are not intended to be applied to a broader context.

New definitions for Artificial Intelligence (AI) technology rely on several sources, including The White House's Blueprint for an AI Bill of Rights (October 2022), and the National Institute of Standards and Technology (NIST) AI Risk Management Framework.
These definitions are subject to change; refer to SAM 4819.2 for current definitions.

- Generative Artificial Intelligence (GenAI) – Pretrained AI models that can generate images, videos, audio, text, and derived synthetic content. GenAI does this by analyzing the structure and characteristics of the input data to generate new, synthetic content similar to the original. Decision support, machine learning, natural language processing/translation services, computer vision and chatbot technologies or activities support may be related to GenAI, but they are not GenAI on their own.

- Incidental GenAI purchase – A purchase for which a state entity identifies the use of GenAI tools as part of the overall purchase for any type of procurement. A request to primarily purchase a good or service, where the state or vendor identifies a subcomponent of the purchase as using GenAI tool(s) to assist with the delivery of the solution, is considered an incidental purchase of GenAI.

- Intentional GenAI purchase – A purchase for which a state entity identifies a GenAI product or solution to meet a business need for any type of procurement. A request to purchase a specific GenAI product or solution at the onset of a procurement is considered an intentional purchase of GenAI.

Definitions for the following terms are available in SAM 4819.2.

- Algorithm
- Artificial Intelligence (AI)
- Automated decision system
- Automation
- Chatbot
- Consequential decision
- Large language model
- Machine learning
- Natural language processing

GenAI is rapidly evolving, and the ways in which the technology can be used are likely to grow well past the date of these guidelines' initial publication. The below list serves as an initial set of common use cases for GenAI tools that may be of interest to use in a state-approved setting. In some of these use cases, specialized techniques (such as few-shot learning and other technical advancements) allow high-quality output with minimal data.

State procurement and contracting professionals and program contract managers – working with their CIOs and AIOs – must diligently identify GenAI before and throughout the procurement process. Many types of purchases may include elements of GenAI regardless of whether a state entity is intentionally trying to purchase GenAI or not. A solicitation may receive bid responses that include GenAI, regardless of whether it is a non-IT goods and services, IT goods and services, or telecommunications purchase.

State procurement and contracting professionals, program contract managers, and leaders should be especially attentive to procurements involving deliverables in the areas displayed in the chart below. As GenAI tools have already been integrated into these tasks in other domains, vendors may propose a solution that includes GenAI, even if that wasn't the state entity's original intent. The following table provides examples of business needs that may result in a GenAI purchase. Please note that while these GenAI use cases are common, they may not always be optimal or necessarily appropriate for a state entity's programmatic needs or for the Californians they serve. State entities will need to evaluate the associated risks such as security, privacy, workforce and equity outcomes. (See Section V—GenAI Risk Assessment and Management, for more information.)

Operational Need	GenAI Outcome	Common GenAI Use Cases
Content generation (text, image, video)	Generates completely novel content, instead of remixing and modifying existing content.	• Generate public awareness campaign materials like flyers, website content, posters and videos. • Generate visualizations of data.
Chatbots	Leverages conversational models trained on massive dialogue datasets. Can have coherent discussions and execute tasks via conversation naturally.	• Build a virtual assistant for common constituent questions. • Voice-enabled digital assistance. • Create chatbot to guide users through services in their preferred language. • Increase first-call resolution for state service centers. • Reduce call wait and handle time at state customer service centers. • Create greater language access equity for program beneficiaries.
Data analysis	Finds insights and relationships in data through learned knowledge about the world, without hand-coded rules or labeled training data.	• Analyze health care claims or tax filing data to detect fraud. • Analyze network activity logs, identify cybersecurity anomalies and threats, and propose remediation actions. • Ticket triaging. • Root cause identification. • Resolution recommendation from historical tickets.

Explanations and tutoring	Generates natural language explanations and tutoring through dialogue without human-authored content.	• Explain program eligibility to potential enrollees. • Provide interactive tax assistance.
Personalized content	Leverages user data, information and/or models to adaptively generate personalized content without explicit rules or large amounts of user data.	• Auto-populate tax information and filing instructions based on a person's needs. • Help auto-populate public program applications based on a person's situation and household composition.
Search and recommendation	Uses contextual cues to improve search relevance and provide useful recommendations.	• Searching or matching state code regulations concerning specific topics. • Recommend government services based on eligibility. • Search regulations nationwide.
Software code generation	Generates code by learning underlying structure and patterns of code, without the need for human written examples. Can expand short descriptions into full programs.	• Translate policy specifications, such as Web Content Accessibility Guidelines (WCAG) and Americans with Disability Act (ADA) requirements, into software code. • Generate data transformation scripts from instructions. • Accelerate adoption of human-centered design in state web-based forms and pages. • Reduce administrative costs and burden to developing and maintaining best-in-class state government websites.
Summarization	Does not require human-written summaries as training data. Can learn underlying patterns of language to generate summaries.	• Summarize public comments to identify key themes. • Summarize public research to inform policymakers. • Summarize statutory or administrative codes.
Synthetic data generation	Allows generation of new, diverse, anonymized data from existing datasets for analysis and experimentation.	• Generate synthetic patient data for training health care AI. • Generate simulated tax records for training tax auditing AI.

Source: State of California Benefits and Risks of Generative Artificial Intelligence Report, November 2023.

III – Summary of State Entity Responsibilities

Collectively, CDT, DGS, and the California Department of Human Resources (CalHR) are responsible for providing guidance, support, and training to state entities considering the use and procurement of GenAI technology. Each state entity is responsible for the ethical, transparent and trustworthy deployment of GenAI in their organization and must assess the impact to the state workforce. State entity directors and their executive leadership teams, including their CIOs, are responsible for the following:

***All** state entities need to prepare for **incidental** GenAI purchases. Steps 1-3 must be completed:*

1. Assign a member of the executive team the responsibility of continuous GenAI monitoring and evaluation. In most cases, this responsibility should fall to the state entity's CIO.
2. Attend mandatory Executive and Procurement Team GenAI trainings. (See Section IV—Training for more information.)
3. Review annual employee training and policy to ensure staff understand and acknowledge the acceptable use of GenAI tools. (See Section IV—Training, which describes a framework for state government worker training and upskilling. More guidance on training opportunities is forthcoming.)

*For state entities seeking **intentional** procurements, items 1-3 above, in addition to items 4-8 below, must be completed:*

4. Before procuring new GenAI technology, identify a business need and understand the implications of using GenAI to solve that problem statement. A comprehensive discovery process that includes an assessment of the problem and potential solutions through market research will be essential in preprocurement analysis.
5. Create a culture of engagement and open communication with state employee end users for a collaborative and collective approach on the impact of Gen AI technology.
6. Assess the risks and potential impacts of deploying the GenAI under consideration. Section V of this document provides direction on the risk assessment process to assist state entities in determining the impact of using GenAI on routine and nonroutine tasks. Future guidance will provide a framework for determining the impact of the use of GenAI on Californians, particularly vulnerable communities.
7. Before deploying a solution that includes GenAI into production, the state entity must invest time and resources to prepare data inputs and test models adequately. The testing phase will allow staff to experiment with the proposed solution, gather feedback, and correct outcomes to reduce bias and inaccurate information. Evaluation of the GenAI technology will continue throughout its use within a state entity, and will involve a human. (See Section V—GenAI Risk Assessment and Management, for more information.)
8. Establish a GenAI-focused team responsible for continuously evaluating the potential use of GenAI and its implications for operations and program administration. The use of GenAI tools will in many instances require a "human in the loop" to provide feedback to the model.

All state entities are required to conduct and submit an inventory of all uses of GenAI – intentional and incidental – to the California Department of Technology. Direction will be provided at a later date.

IV – Training

State Workforce GenAI Training

Procurement and Risk Assessment GenAI Training will be incorporated into a broader sequence of forthcoming GenAI trainings pursuant to the Executive Order and in coordination with CalHR. Subsequent trainings will support the broader state workforce beginning July 31, 2024. The below roadmap previews future training opportunities.

The GenAI training strategies and recommendations for state staff are designed to accomplish the following key goals:

- Support safe, secure and responsible business implementation of GenAI.
- Prepare California's state government workforce for the next generation of skills needed to thrive in the GenAI economy.
- Utilize GenAI tools to achieve equitable outcomes and identify and mitigate potential output inaccuracies and biases.

When exploring the use of GenAI technology, state entities should consider a phased approach to workforce training. Three recommended phases are organized by various disciplines to ensure training goals are met, resulting in effective leadership in using GenAI within the state.

Phase 1: Executive Leadership, Legal, Labor and Privacy
Executive-level individuals should receive general education and training first, followed by more specialized roles in leadership. This will allow executives to ensure that the appropriate individuals in their organizations are enrolled in subsequent training. The recommended specialized roles for phase 1 training include legal, labor and privacy specialists so that potential legal, labor and privacy risks are identified and addressed proactively.

Phase 2: Program Staff and Technical Experts
State entities should build GenAI skill sets and competencies for program staff to identify where GenAI may help improve operational efficiency and high-quality, equitable service delivery. Program staff will be trained and prepared to evaluate potential GenAI use cases and identify potential risks.

State entities should train technical experts and cybersecurity professionals concurrently with program staff to ensure safety and security during use case planning and piloting. Trained technical experts will also be essential for evaluating a state entity's technical readiness for GenAI technology ahead of procurement.

Phase 3: General Workforce
General workforce roles should receive general education and training before GenAI tools are deployed. Training on emerging technologies will also be available for the statewide workforce who utilize GenAI technology. Rightsizing the education and training to the business needs of the workforce and departments will ensure the best use of GenAI to deliver critical services for California.

It is recommended that training on emerging technologies, such as GenAI, be included in required Information Privacy and Security Training for all state employees. The following chart provides an overview of the initial training curriculum.

General Education	Foundational introduction to AI, types of AI, potential business applications, potential risks, and comparing conventional AI versus GenAI. Key questions answered through this training: • What is AI? • What are the different types of AI? • What is the difference between Conventional AI and GenAI? • What are common business uses of AI? • What are the risks of AI?
Risk Intelligent GenAI Competencies	Module 1: Introduction to GenAI, basic functional concepts, potential use cases and risk mitigation. Key questions answered through this training: • In simplified terms, how does GenAI work? • What are the potential use cases of GenAI? • What risks are associated with GenAI, and how can they be mitigated? • What is the state's role in ensuring safe, secure and responsible business implementation of GenAI? Module 2: Legal and privacy considerations of GenAI, data ownership, product ownership, and managing privacy risks. Key questions answered through this training: • How do state government information privacy policies apply to GenAI? • How do state government data and product ownership policies apply to GenAI? • What potential privacy risks exist with GenAI compared to conventional AI? • What are the best practices to mitigate privacy risks with GenAI? • How do state entities utilize the state's risk assessment process for GenAI use cases?
Technical Training	Module 1: GenAI infrastructure, model management, model training, and output monitoring. Key questions answered through this training: • How is data prepared for model training? • What are GenAI model training methods?

	• What are best practices of output monitoring? • What are best practices for preventing and troubleshooting model collapse? Module 2: Security considerations of GenAI, information security, and cybersecurity threat protection. Key questions answered through this training: • What are the information security considerations of GenAI? • What are best practices of cybersecurity protection against GenAI threats? • What are best practices for controlling information access by GenAI models?

Procurement GenAI Training

To provide the required training pursuant to Section 3.a of the Executive Order, beginning March 29, 2024, state purchasing officials will have access to Procurement GenAI Training. CIOs/AIOs and Administration chiefs/deputy directors are also encouraged to take this training. The training will focus on the following:

- Identifying GenAI purchases
- Intentional and incidental GenAI purchase process flows

To register for the class, visit the California Procurement and Contracting Academy (CalPCA)*)*.

Additional Support

CDT and DGS will provide ongoing support to state entities through the GenAI community of practice (AI Community [AIC]), workshops in coordination with CalHR, and specific areas of practice learning opportunities.

V – GenAI Risk Assessment and Management

Risk management is a key component of responsible deployment and use of GenAI technology. Deployment of GenAI technologies must be evaluated through a risk assessment based on the National Institute of Standards and Technology's AI Risk Management Framework, as well as relevant portions of the SAM and State Information Management Manual (SIMM). As indicated in Section IV, training will be provided to state leaders and procurement teams to effectively assess and mitigate GenAI risk within their state entity.

A state entity's CIOs must evaluate risk for all GenAI usage and purchases, whether intentional or incidental.

CDT will continue to develop policies specific to GenAI technologies to reinforce the California Generative Artificial Intelligence Risk Management Principles, located in the GenAI Toolkit, and will provide additional guidance to CIOs and AIOs on how to evaluate risks associated with GenAI acquisitions.

Broad questions that should always be considered before the start of using GenAI include:

- What are potential inequities in problem formulation?
- What are the data inputs?
- How and when will the solution be implemented and integrated into existing and future processes and delivery of services?
- Who will be the GenAI team responsible within the program area to monitor, validate and evaluate the GenAI tool?
- How does using the GenAI tool build trust with the end user, including Californians impacted?
- Is the GenAI tool accessible and culturally appropriate?

Additional information and resources specific to risk can be found in the GenAI Toolkit – GenAI Risk Assessment and Management section.

VI – GenAI Procurement

The State Contracting Manual is the primary source of guidance for state contracting and procurement. Existing contracting laws, policy and procedures are applicable to purchases that include GenAI. When a state entity is considering intentionally or incidentally purchasing GenAI, additional measures must be included in the procurement process to properly assess the risk associated with the GenAI tool or service. This applies to IT, non-IT, or telecommunications purchases.

The following guidelines must be followed when procuring GenAI:

1. All solicitations must incorporate mandatory GenAI bidder/offer disclosure notification language regardless of acquisition type, dollar value or method. See "Mandatory Disclosure Language" in the GenAI Toolkit for more information.
2. A written solicitation is required every time a state entity is purchasing GenAI. Use of acquisition methods that do not require a solicitation, such as the Fair and Reasonable Acquisition Method, is prohibited when purchasing GenAI.
3. A risk evaluation is required by the state entity's CIO/AIO as well as a GenAI consultation with CDT. This includes purchasing GenAI technology functions or services using a DGS Leveraged Procurement Agreement (LPA). For more information about CDT GenAI consultation, see "CDT Consultation" in the GenAI Toolkit.
    - For IT transactions, the SIMM 71-B form "Certification of Compliance with IT Policies" must indicate the use of GenAI technologies.
    - For non-IT transactions, state entities must implement internal procedures for identifying GenAI technologies.
    - For telecommunications, if identified by the vendor, state entities must include the GenAI Disclosure & Fact Sheet in GenAI intake documents.
4. CDT will provide a "GenAI Assessment" for GenAI procurements. The GenAI Assessment must be included in requests to state entity procurement officials as well as to DGS for procurement/contract services (e.g., non-IT contract approval, Non-Competitively Bid [NCB] justification requests, requests for DGS' Procurement Division to conduct purchases above purchasing authority dollar thresholds, increases in purchasing authority, etc.) and kept in the procurement file.
5. GenAI technology solutions must incorporate GenAI Special Provisions as identified through CIO/AIO consultation with CDT regardless of acquisition type, dollar value or method.
6. For all evaluations/offers submitted, the GenAI Disclosure & Fact Sheet form is required to be completed by the bidder/offeror. If GenAI is disclosed by the bidder/offeror, the procurement official must engage the state entity's CIO/AIO before awarding any procurements.
7. State entities must report contracts that are intended to purchase or use GenAI technologies. For more information, see "Reporting" in the GenAI Toolkit.
8. Contract management for contracts that include the use of GenAI technologies requires special attention before accepting or approving deliverables. State entities must assign a GenAI subject matter expert to assist with contract management functions. For more information regarding GenAI contract management, see "Contract Management of GenAI technology" in the GenAI Toolkit.

9. Amendments that add new GenAI technology, change the risk level or modify the underlying GenAI technology must be resubmitted to CDT for review prior to execution. Routine amendments to GenAI contracts for time or money are not required to undergo additional CDT consultation.
10. State entities must consult CDT if a GenAI technology function or service has been added to a contract without their consent. This may be identified during a contract amendment process or post-award contract management activities.

As GenAI is tested and put into production, DGS and CDT will update procurement guidance accordingly. For additional details about required steps for GenAI procurement, including visualized process flows and mandatory contract language, please see the GenAI Toolkit – Procurement Process for GenAI.

VII – Resources

GenAI Toolkit

State Contracting Manual (SCM)

- Volume 2 (SCM 2), Chapter 13

State Administrative Manual (SAM)

- SAM 4986 – New SAM AI Section and Introductions
- SAM 4819.2 – New definitions for AI and GenAI

State Information Management Manual (SIMM)

- SIMM 5305-F – Generative Artificial Intelligence Risk Assessment
- SIMM 180 – Statement of Work Guidelines
- SIMM 71-A – Certification of Compliance with IT Policies Preparation Instructions
- SIMM 71-B – Certification of Compliance with IT Policies Template

GenAI Disclosure & Fact Sheet

Benefits and Risks of Generative Artificial Intelligence Report (November 2023)

Executive Order N-12-23

White House's Blueprint for an AI Bill of Rights

National Institute for Standards & Technology's AI Risk Management Framework