National Occupational Standard for

Chief Executive Officer

Life Sciences/Bio-Health: Post Start-up to End of Growth Phase

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Igniting the bio-economy's brainpower

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2   A COMPETENCY FRAMEWORK FOR INDIVIDUALS WORKING IN THE BIO-ECONOMY

2.1 What is a National Occupational Standard?

In Canada, National Occupational Standards are industry-developed and validated documents that identify, and group tasks/competencies associated with a particular occupation. They also describe the knowledge and skills that a worker must demonstrate to be considered competent.

The former Alliance of Sector Councils (TASC) outlined 11 guiding principles for creating National Occupational Standards (NOS). NOS for the Canadian bio-economy meet all 11 principles and are developed to meet the current and future human capital management needs of the Canadian bio-economy.

2.2 How are we defining a competency?

We define a competency as *a set of related behaviors that describe successful performance in a designated area. It is a behavioural expression of how people integrate knowledge, skills, attributes, and attitudes to produce a value-adding result in a defined situation.*

The competency statement includes a description that integrates skills, knowledge, and actions into a sequence of activities that deliver a value-added product or service.

Performance Indicators is the term we use for the behaviours grouped under each competency that describe the level of mastery the incumbent role must demonstrate when executing a task.

For this project, we have organized the competencies into four categories.

Core Competencies are those competencies that describe the "essence of the role" — that is, they are the one to three most critical competencies that may be applicable across multiple roles in a function or job family. All levels of personnel in this function would typically share them. These competencies may also act as qualifiers that differentiate the function from other functions.

Technical Competencies are those competencies related to specific roles or professions that enable an individual to work, function, and succeed in that role. They address the various responsibilities that job incumbents encounter in a role. For example, a surgeon's technical competencies would encompass multiple surgical tools, techniques, and conditions that could be part of the position. Similarly, technical competencies for a lawyer would contain various legal situations that they encounter in the context of a particular field of practice.

Regulatory Competencies are those competencies that describe compliance with prescribed practices and mandated obligations under applicable laws, regulations, and industry standards. They ensure that critical work processes are implemented and integrated into all work activities. They are of absolute importance where economic behaviours can impact human conditions.

Personal/professional Competencies are those competencies that enable an individual to be successful working with others and fulfilling their responsibilities in a work context. Personal and professional competencies are not necessarily role specific.

2.3 Levels of complexity of work

It is important to recognize how the complexity of work varies along an organizational continuum. At one end of this continuum is low-complexity, clearly defined, task-driven work. At the other end of the continuum is work that is higher in complexity, not as well-defined, and requires higher-level thinking and decision-making skills and a greater degree of autonomy. Results are recognised over a longer period of time and are more difficult to assess.

Figure 1: Demonstrates how the level of complexity changes with the role responsibilities

Complexity Level	Examples of Work at Different Complexity Levels	Typical Roles/Titles
Most Complex	Construct and pursue worldwide strategic plans in large corporations.	CEOs of the largest trans-global corporations
	Construct and pursue worldwide strategic plans.	C-suite executives at multi-national organizations
	Lead the accumulated impact of multiple business units.	C-suite executive at large, multi-location organizations
	Optimize the function of a single business unit or corporate support staff.	General manager; plant manager
	Manage multiple, interdependent projects, balance resources among departments.	Engineering manager
	Plan and carry out sequential projects while considering contingencies and alternatives.	Maintenance manager
	Accumulate information to diagnose and anticipate problems; proactive; notice trends.	Maintenance technician
Least Complex	Follow predefined procedures; seek help when encountering an obstacle. The ability to anticipate problems is not expected.	Maintenance labourer

We define the complexity levels within the profiles at four levels:

Foundational — performance focus is on the execution of procedures and tasks involving own job role.

Operational — performance focus includes some discretion in the planning and executing of work. The work typically includes assessing the quality of the work outcomes and taking corrective action to ensure quality.

Specialist — performance focus is on translating goals and standards to team members and ensuring that work done under the person's responsibility area complies with all corporate standards.

Strategic — performance focus is on leading work and the accumulated impact of work in an independent business unit or across a whole organization. The impact of work at this level is often not visible until the medium to longer term.

The following example illustrates the different complexity levels within a profile.

Competency Name: Research Ethics			
Competency Definition: Exercises integrity and professionalism to ensure all research is performed responsibly in keeping with the ethical principles of beneficence and nonmaleficence.			
Competence at this level is demonstrated when the **Research Manager**:			
Performance Indicators			
Foundational	Operational	Specialized	Strategic
Diligently follows research procedures and protocols mandated by legitimate authorities and professional organizations.	Regularly monitors own actions and decisions to ensure they align with professional and organizational values.	Holds self and staff accountable to the organization's values, ensuring compliance with the policies and procedures related to scientific ethics and rules of conduct.	Fosters an organizational culture of integrity and ethical business practices by unwavering personal example.

3 OVERVIEW METHODOLOGY FOR THE DEVELOPMENT OF NATIONAL OCCUPATIONAL STANDARDS

National occupational standards were developed using a multi-step process.

Step	Description	Result/Output
1	Identify critical roles in the bio-economy through primary and secondary research.	List of 50 key roles
2	Create draft profiles with critical competencies for the roles, performance, and knowledge indicators.	Draft profiles
3	Review the draft profiles with industry subject matter experts to refine the competencies, performance, and knowledge indicators.	Reviewed profile with design inputs from industry experts
4	Further validation and review by industry via online focus group.	Validated profiles by industry experts
5	Broader validation of the draft profiles via national online surveys.	Occupational Standards validated on a national level by experts from the different sectors
6	Addition of the Essential Skills and Canadian Language Benchmark (ES/CLB) ratings.	Nationally validated NOS profiles with ES/CLB profile for each NOS

4 CHIEF EXCUTIVE OFFICER COMPETENCY FRAMEWORK

4.1 Competency diagram for a Chief Executive Officer

Competencies		Complexity Level				Complexity Level Legend
		1	2	3	4	
Core Competency						1. Foundational
2.4.1	Providing Strategic Direction				▓	
2.4.2	Business Acumen				▓	2. Operational
2.4.3	Maintaining Executive Decorum				▓	
2.4.4	Securing Funding/Working Capital				▓	3. Specialist/Manager
2.4.5	Managing Sustainability in Innovation				▓	
Functional Competencies						4. Expert/Executive
2.5.1	Risk Management				▓	
2.5.2	Financial Management				▓	
2.5.3	Talent Acquisition and Retaining				▓	
2.5.4	Creating and Maintaining Corporate Values				▓	
2.5.5	Ensuring Operational Efficiency				▓	
2.5.6	Maintaining a Sense of Urgency				▓	
2.5.7	Builds and Maintains Constructive Engagements				▓	
Industry Regulatory Competencies						
2.6.1	Ensures Regulatory Compliance				▓	

Competencies	Complexity Level			
	1	2	3	4
Personal and Professional Competencies				
2.7.1　Inspires People				
2.7.2　Critical Thinking				
2.7.3　Communication and Influencing				
2.7.4　Interpersonal Intelligence				
2.7.5　Collaboration				

4.2 Definition of occupation

The role of the CEO is the highest-ranking position in the organization. In most situations, people in this role maintain several different relationships. These include relationships with the board, investors, shareholders, regulators, clients, and their internal leadership team. The roles, responsibilities, and deliverables of the CEO can vary significantly based on the lifecycle stage of the company, the size of project, the product, and the services provided, as well as the nature of the business model that the company is using.

Some organizations may focus on product research and product development without getting involved in the entire commercialization cycle of their products. In these companies, competency requirements related to marketing and production processes may not be as crucial as those focusing on producing and selling specialty pharmaceutical products for end-users. In smaller companies, the CEO takes on more of an operational role, while in larger organizations, they can delegate to their executive leadership team. Having a team to manage subfunctions allows the CEO to focus more exclusively on the company's overall success, which includes developing and executing long-term strategies and increasing shareholder value.

The CEO is also the bearer of the vision with the responsibility of ensuring everybody in the organization identifies with it and stays focused. The CEO is the face of the company and the driving force behind the organizational culture. They act as communicators

both internally and externally. In this role, they are responsible for building stakeholder trust in the organization's ability to deliver on expectations and promises.

As the executive officer of the company, the CEO communicates and discusses the business status with the board of directors, decides on and oversees the business strategy, motivates employees, and drives change. As the senior corporate managers, they govern and direct the company's day-to-day operations.

In all instances, the CEO takes overall responsibility for integrating the end-to-end value chain of the organization in order to ensure performance excellence.

This role works in the following subsectors:

Applicable To	Bio-Health	Agri-Bio	Bio-Industrial	Bio-Energy
	■			

The level of complexity of the role is:

Span of Complexity Levels	Foundational	Operational	Specialist/ Management	Expert/Executive
				■

4.3 Level of education, training, or designations requirements

Typical Education Required	Secondary	College	Bachelor	Master	PhD
			■	■	

Typical Starting Experience	0–5 yrs.	5–10 yrs.	10–15 yrs.	15–20 yrs.	20+ yrs.

Educational Qualifications

The CEO role is very different from a technical expert and other professional occupations. The role of the CEO can be very diverse, and simple rules do not apply in identifying the qualifications for the CEO role. However, a recent study published in 2021 by Study.eu on the educational levels of CEOs globally provided the following guidelines:

- Generally, Chief Executive Officers are well-educated
    - Globally, 98% of a research sample holds a bachelor's degree
    - 64% hold a master's degree or equivalent (including MBAs)
    - 10% hold a doctorate-level of education
- In North America, the preference is trends towards an MBA, while the CEOs in Europe prefer technical, scientific, or legal degrees at the master's level
- A Canadian study related to CEOs within the Bio-Medical and Life Science fields revealed a preference for at minimum a post-graduate degree in the applicable disciplines
- While there is no hard rule around this, study participants noted that most Canadian start-up companies in the Life Sciences Research and Development (R&D) arena are led by candidates with a PHD, due to the highly technical nature of these companies

Experience

A significant number of smaller companies characterizes the Canadian business landscape. Therefore, it is difficult to gain experience in a single company. Still, it is essential to have extensive experience related to the type of organization the CEO is heading up:

- In the Biomedical R&D industry, products and services often take years to deliver and significant regulatory requirements need to be met over an extended timeframe; therefore, it is beneficial to have experience in the end-to-end development processes
- It is not uncommon to find people with 20 plus years of experience in the field. Experience, coupled with a demonstrated ability to deliver strong performance results in their past roles, is valuable, since this indicates the ability to build a positive reputation to grow a company's track record in delivering shareholder value

- Notably, several current CEOs also recommended international exposure within the selected field as a vital qualifier for success in this role
- Experience and proven success in creating investor trust and raising capital are highly valued
- Equally important is a proven track record in collaborating with the Board and harvesting their inputs to deliver on the company strategy

4.4 Core competencies list for CEO

4.4.1 Providing Strategic Direction

Integrates knowledge of market opportunities, available technologies, and product trends to define the organization's vision, mission, and strategic direction in order to share and create collaborative alignment of all relevant stakeholder contributions to deliver the company's purpose.

Competency in this role is demonstrated when the individual:
- Sets, confirms, and communicates the vision, mission, or purpose of the company.
- Confirms and creates alignment around the desired future state of the business with employees, the board, and investors.
- Engages employees and other stakeholders to clarify the strategic roadmap to define goals and objectives.
- Ensures that company interactions and transactions comply with company values to build and strengthen the organizational culture.
- Ties mission-supporting performance to measurement and rewards.
- Monitors and creates support and acceptance for the strategic direction of the company by engaging in conversations for understanding and alignment.

Knowledge required for competency at this level:
- Knowledge of market analysis and competitor analysis tools and techniques
- Detailed knowledge of strategic planning processes and tools
- Knowledge of how to manage change and create employee ownership for company goals and objectives
- Knowledge of communication techniques

4.4.2   Business Acumen
Applies knowledge of the organization's value chain to validate opportunities, make decisions, and manage financial indicators for organizational growth in order to realize the company's mission.

Competency in this role is demonstrated when the individual:
- Demonstrates the capacity to interpret market needs and define products, services, or technologies that can extract value from identified opportunities.
- Demonstrates the ability to analyze the complexities of the business environment and deliver strategies to reach company goals.
- Interprets financial performance indicators, investor requirements, and market drivers to make decisions that will increase returns on investment.
- Adequately evaluates opportunities and problems from different perspectives in order to devise strategies to deal with various and often complex situations.
- Weighs different outcomes for potential technical, product, and financial choices to select actions that will provide the best growth opportunities for the company.

Knowledge required for competency at this level:
- Detailed knowledge of value chain concepts
- Detailed knowledge of concepts driving company performance
- Working knowledge of the investment sector
- Working knowledge of the product development process and related cost structure

4.4.3   Maintaining Executive Decorum
Applies awareness of self, stakeholder expectations, and the organization's strategy in order to convey confidence and respect in serving as the public champion of the company's results, inspiring confidence in the ability of the organization to deliver a track record of success.

Competency in this role is demonstrated when the individual:

- Communicates a compelling picture of the company's future that helps others understand business objectives and their role in implementing them.
- Makes firm decisions, directs, delegates, and holds the executive team responsible for delivering results that benefit the entire company.
- Credibly demonstrates their understanding of business operations and the systems, processes, departments, and functions that drive profitable and sustainable growth.
- Demonstrates the ability to interpret situations as they arise and identify opportunities that drive value for the organization.
- Presents self confidently in a disciplined yet engaging manner to gain the trust of others.
- Demonstrates the ethics, values, and morals that are expected from others.
- Maintains personal and professional composure and appearance at all times.

Knowledge required for competency at this level:

- Understanding of value chain analysis
- Working knowledge of investor decision-making
- Detailed understanding of the elements that contribute to Executive etiquette and decorum

4.4.4   Securing Funding/Working Capital

Uses knowledge of the company's capital needs, investor requirements, and proven financial principles to develop and implement fundraising systems, and secures working capital through delivering fit-for-purpose fundraising campaigns.

Competency in this role is demonstrated when the individual:

- Uses the strategy plan to forecast capital requirements and decide on the timing and type of capital funding required (e.g., Series A, B, and C, debt, non-dilutive funding options, etc.).
- Finalizes the investor options related to terms and conditions by addressing equity, economics, control, valuation, liquidation, anti-dilution, and vesting options.
- Confirms the benefits and risks associated with additional funding strategies and obtains board support and approval.
- Prepares a fundraising strategy and plan based on sound financial principles supported by the board.

- Develops the investor information packages and shares information with investors in ways that are reflective of industry best practices such as virtual data rooms, etc.
- Launches funding campaigns, presents, and responds to investors and negotiations as required to ensure all reserve matters are identified, understood, and approved by the board.

Knowledge required for competence at this level:
- Working knowledge of financial models, capitalization assessments, and investor decision making criteria
- Detailed knowledge and understanding of the benefits and risks related to different investment agreements
- Knowledge of the sources and methods of raising capital

4.4.5   Managing Sustainability in Innovation

Builds a culture and mindset where technical and scientific knowledge is applied in product development and manufacturing processes to meet present needs without limiting the ability of future generations to sustain themselves.

Competency in this role is demonstrated when the individual:
- Creates an awareness and understanding of the business value and market requirements to ensure sustainability in innovation, product development, and manufacturing processes.
- Collaborates with board members and investors to develop a strategy related to sustainability, balancing economic realities and ethical responsibility.
- Collaborates with key stakeholders in the company to develop research, engineering, operating, and product standards that meet sustainability targets.
- Leads the drive to reassess existing products, inbound logistics, production processes, and outbound logistics to identify opportunities to minimize waste.
- Builds organizational capability and competency in advanced techniques to deliver a more efficient, less wasteful, and sustainable company.
- Measures results related to implemented sustainability strategies and action plans to communicate and reward results.

Knowledge required for competence at this level:
- Working knowledge of Quality by Design practices
- Working knowledge of the application of circular economy principles to design out waste, recycling, and/or repurposing materials and products
- Working knowledge of applying global best practices in sustainable innovation and manufacturing (e.g., process analytical technologies, smart data applications, and concepts like additive manufacturing)

4.5 Functional competencies list for CEO

4.5.1   Risk Management

Reduces business vulnerability by applying knowledge of risk management practices and regulatory and operational requirements in order to ensure the implementation of systematic processes to identify, assess, mitigate, and control risks across the organization's integrated value chain.

Competency in this role is demonstrated when the individual:
- Ensures the organization has the systems, technology, models, and processes to identify and manage risks appropriately to its level of exposure and established risk appetite.
- Collaborates with the board and investors to set the organization's risk appetite.
- Ensures the board and investors are informed about the risks and support the risk mitigation and control strategies and results.
- Ensures the involvement of all multidisciplinary functions in developing the end-to-end risk management process and strategy.
- Addresses identified risk management needs in the organization's strategic planning process.
- Ensures a mutual understanding of the risks and identified risk mitigation strategies among the different stakeholders across the organization's value chain.
- Drives the establishment of a risk awareness culture without compromising innovation.
- Ensures corporate governance processes are in place to assess the effectiveness of the organization's risk management strategies and oversee the implementation of corrective action, as required.

Knowledge required for competency at this level:
- Working knowledge of risk management models and practices
- Working knowledge of all relevant regulatory protocols
- Working knowledge of quality management

4.5.2   Financial Management

Uses the organizational goals and strategic plan as the basis for financial management and ensures that the budgeting, accounting, financial control, and risk management systems are in place to protect the organization's assets and liquidity.

Competency in this role is demonstrated when the individual:
- Ensures financial reporting systems are accurate and efficient in order to deliver financial reports to the board and investors, as required.
- Ensures effective treasury management by forecasting future financial performance and putting action plans into place to manage cash flow and provide liquidity.
- Ensures fiscal management practices are in place to provide operational cashflow and make sure growth capital is available when required.
- Ensures compliance with financial practices related to legal and regulatory filings, as well as the laws, rights, and responsibilities to stakeholders.
- Ensures critical indicators are available to manage and track the efficiency and effectiveness of implemented financial risk management strategies.

Knowledge required for competency at this level:
- Working knowledge of accounting, finance, and treasury management practices and tools
- Working knowledge of financial compliance requirements

4.5.3   Talent Acquisition and Retaining

Uses the understanding of critical role requirements to identify, acquire, and retain talent with the diversity of skills and competencies needed to create a competitive advantage in delivering the company's strategic goals.

Competency in this role is demonstrated when the individual:

- Ensures equity, diversity, and inclusiveness is built into the company's strategy, ethos, and values and manages progress against measurable outcomes.
- Collaborates with key staff to identify and acquire the skills and competencies to drive the company's performance.
- Intentionally builds and maintains employee engagement in the strategic goals of the company.
- Ensures team members leverage the expertise and competencies of their colleagues to improve the company's performance.
- Ensures critical talent needs are identified and development practices are in place to deliver competent successors.
- Openly expresses the company's core values, models them, and requests everyone to do the same.
- Ensures the company maintains its preferred workplace culture.

Knowledge required for competency at this level:

- Working knowledge of the tools and practices to create productive workplaces
- Knowledge of best practices in executive talent management

4.5.4 Creating and Maintaining Corporate Values

Uses the brand expectations to create a clear set of beliefs and demonstrates ownership of the process to ensure people in the company express these guiding beliefs in everything they do to create a common identity.

Competency in this role is demonstrated when the individual:

- Collaborates with the board and significant stakeholders to define the non-negotiable values that drive the company's internal and external relationships.
- Collaborates with the executive team to assess the values against challenging business scenarios to make sure they hold up.
- Ensures all employees have access to information explaining the values and how people should use them.
- Initiates conversations and discussions to share personal stories about the values that should drive decisions and behaviours.
- Models company values and asks people to do the same.
- Obtains feedback on how, and if, employees and stakeholders experience consistency with the values in the company's daily activities and takes corrective action when required.

Knowledge required for competency at this level:
- Knowledge of change management practices and techniques
- Knowledge of leadership practices to ensure corporate alignment
- Working knowledge about creating a corporate identify and brand through applying the corporates values

4.5.5   Ensuring Operational Efficiency

Uses the values, mission, and strategy to guide the development and implementation of a management framework that ensures operational efficiency and maintains business integrity.

Competency in this role is demonstrated when the individual:
- Collaborates with the board and executive team to provide the values, mission, and strategy.
- Ensures an open, transparent, and respectful working relationship with the board to ensure the organization is extracting maximum value from the board.
- Ensures board members are competent in executing their work and executing all fiduciary and governance responsibilities.
- Collaborates with the executive team to identify high-risk areas that may impact operations and company reputation if not managed effectively.
- Collaborates with the executive team to develop and implement rules, guideline policies, and provisions in order to direct decision making and management practices.
- Ensures effective feedback loops and metrics are available to identify performance trends that require corrective actions.
- Collects and translates investor and regulatory requirements and user expectations to set work standards and ensure quality at all levels of work.
- Ensures the board members are in alignment and support any adversarial or challenging strategic, operational, or ethical actions required.

Knowledge required for competency at this level:
- Detailed knowledge of company management systems and governance frameworks
- Knowledge of board roles and responsibilities

4.5.6   Maintaining a Sense of Urgency

Ensures a balance between requirements for consistency of processes and the need for dynamic processes that require quick adaptation to focus attention on action, progress, and completion of long cycle time activities; also solves problems in new and innovative ways to drive rapid accomplishments.

Competency in this role is demonstrated when the individual:
- Mentors others in the organization to make quick but data-rational decisions to progress work while maintaining quality.
- Instills a sense of urgency to find new solutions to the world's pressing challenges to ensure meaningful progression.
- Facilitates the transition of information between the different process steps and between teams to ensure work is progressing as required.
- Ensures that employees and leaders stay connected with external realities, developments, and opportunities to use new technologies to shorten the product development cycles.
- Takes opportunities to publicly convey excitement and express appreciation to individuals and teams for ensuring a high pace in achieving results.
- Identifies obstacles to progress and works fast to remove them.
- Communicates the importance of creating solutions with a more deliberate and focused mindset to eliminate complacency and generate a competitive advantage.

Knowledge required for competency at this level:
- Detailed knowledge of industry performance benchmarks
- Understanding of the principles of performance management

4.5.7   Building and Maintaining Constructive Engagements

Applies knowledge of investor requirements, end-user expectations, and new technologies to develop selective partnerships with respected individuals and companies in order to build reputation and reduce time to innovation and delivery of products ready for commercialization.

Competency in this role is demonstrated when the individual:

- Connects with people where critical conversations occur and focuses on establishing trustworthy relationships with participants where opportunities for constructive engagements are found.
- Forms collaborative business relationships to reduce costs and technical and operational risks through shared access to R&D assets.
- Identifies strategically important technology and equipment suppliers to reduce time to the final product.
- Identifies critical sources of expertise and exploits ways to share knowledge and reduce time to innovation within the knowledge network.
- Develops an understanding of potential conflicts of interest and implements actions to proactively mitigate risks.
- Encourages and supports employees to develop collaborative relationships with key stakeholders in order to stay abreast of industry-wide developments.
- Maintains a positive attitude and respectful communication in adversarial and conflicting situations to resolve conflict and leverage mutual benefit.

Knowledge required for competency at this level:

- Working knowledge of the ecosystem business model
- Understanding of alliances and their potential benefits to the company
- Detailed knowledge of the end-to-end innovation lifecycle

4.6 Industry regulatory competencies list for CEO

4.6.1   Ensuring Regulatory Compliance

Uses an understanding of applicable laws, rules, and regulations to ensure the development and implementation of a compliance strategy and plan to mitigate compliance risks.

Competency in this role is demonstrated when the individual:

- Consults with subject matter experts and applicable regulatory agencies to understand relevant compliance requirements.
- Ensures that appropriate team members/staff develop and implement of a compliance strategy.
- Participates in the process of identifying relevant compliance risks.

- Reviews the compliance risk management strategy's efficiency and ensures the implementation of corrective actions when required.
- Ensures the board is knowledgeable on the compliance management requirements and plan.
- Ensures employees are educated on the policies and procedures and communicates company goals and expectations.

Knowledge required for competence at this level:
- Working knowledge of regulatory requirements, financial management, taxes and filings, and related labour laws
- Knowledge of EH&S requirements applicable to the type of operations
- Detailed knowledge of the International Council for Harmonization technical requirements for the registration of pharmaceuticals for human use (pharmaceutical product developers only)
- Detailed knowledge of the requirements to be Good Manufacturing Practice (GMP) compliant (fabricators and packers of pharmaceutical products only)

4.7 Personal and professional competencies list for CEO

4.7.1 Inspiring People
Uses confidence and stimulating messages to share and build trust in a compelling future vision of the company in such a way that people adopt a strong sense of commitment and encouragement to engage with hard work and deliver shared goals.

Competency in this role is demonstrated when the individual:
- Conveys a clear description of a compelling vision for the future of the company in such a way that people can identify with it.
- Articulates the future vision in ways that resonate with the different audiences and create a willingness to engage in and contribute to delivering the future goals.
- Demonstrates confidence that the vision is possible and conveys a moral conviction about the preferred future state of the organization.
- Never compromises the vision and always acts consistently in showing commitment to the vision of the organization.
- Engages and empowers others while expressing trust in the collective ability to achieve the required future state described in the vision.

- Celebrates collective successes in the company and recognizes contributions.

Knowledge required for competency at this level:
- Knowledge of motivational and public speaking techniques
- Working knowledge of change management
- Strong understanding of personal communication style

4.7.2   Critical Thinking

Analyzes data, synthesizes information, and evaluates arguments to develop insights about possible outcomes and consequences of actions in order to make purposeful and goal-directed decisions that increase desired results.

Competency in this role is demonstrated when the individual:
- Demonstrates and models an approach to collecting and finding relevant information that provides insights when confronted with critical business decisions.
- Analyzes information to identify inconsistencies in reasoning about business concerns requiring decision-making to provide rational data and facts.
- Forecasts the consequences of a decision by analyzing, synthesizing, and evaluating the information and data available to assess the impacts of the decision.
- Provides solid reasons for decision-making to create a distinct competitive advantage for the company.
- Uses sound judgement and provides solid reasons to make strategic decisions that impact the organization's direction or resources in the presence of ambiguous or conflicting information.
- Engages with members of the executive team and coaches them to analyze business ecosystem elements to expertly make decisions that will deliver the strategic goals of the company.

Knowledge required for competency at this level:

- Awareness of current competition, up-and-coming technologies, potential needs, and/or "pain points" for end-users/customers
- Working knowledge of risk management
- Working knowledge of metacognitive processes/thinking about improving one's own critical and data rational thinking

4.7.3   Communication and Influencing

Communicates in ways that create shared understanding, generate support for achieving goals and objectives, and facilitate conflict resolution and problem-solving.

Competency in this role is demonstrated when the individual:
- Delivers multi-mode communications that convey a clear understanding appropriate to the target audience and context, e.g., using plain language to communicate technical research details to a non-technical audience.
- Uses persuasive language to ethically advocate for concept process design options and equipment selection options while allowing others room to share their opinions.
- Invites participative decision-making where appropriate, encouraging input from staff.
- Uses discretion and integrity to resolve conflict with a resistant audience in a manner that maintains a positive working relationship.
- Uses scientific presentations to convince stakeholders of technical choices in process design and optimization.

Knowledge required for competency at this level:

- Detailed understanding of communication tools and techniques
- Working knowledge of influencing strategies and techniques

4.7.4   Interpersonal Intelligence

Uses an awareness of the moods, motivations, and intentions of others in informal and formal business relationships to adapt quickly and efficiently interact with people to influence and manage the relationship.

Competency in this role is demonstrated when the individual:
- Sets and maintains a positive attitude in the interactions with others by recognizing their needs and motivations.
- Makes others feel important by listening attentively to other ideas, opinions, and concerns.
- Consistently models ethical conduct such as discretion, personal integrity, and respect for diversity to foster cooperation and collaboration with important stakeholders.
- Works cooperatively with multiple stakeholders, demonstrating tact, diplomacy, and a willingness to consider alternative approaches or ideas that achieve results within ethical guidelines.

- Manages own behaviors to diffuse conflicting relationships and overcome barriers in achieving shared workplace goals.
- Demonstrates resilience by remaining respectful but tenacious and committed to goals even in the face of opposition and ambiguity.

Knowledge required for competency at this level:
- Working knowledge of emotional and social intelligence
- Understanding of conflict management strategies
- Working knowledge of motivational theories
- Knowledge of personal style of interaction with people

4.7.5   Collaboration
Uses interpersonal skills to participate in activities or lead multi-functional teams to generate ideas and solutions, solve problems, and improve organizational performance.

Competency in this role is demonstrated when the individual:
- Listens actively to conversations with stakeholders to develop a sense of areas where the company needs improvement.
- Actively engages contributors with the right experience and/or knowledge to participate and contribute to solving problems related to the company's ability to deliver expected results.
- Applies active listening and emotional intelligence techniques to ensure others feel valued.
- Encourages broad discussion and sharing of ideas to generate innovative solutions.
- Openly gives credit to the ideas and participation of others.
- Assumes responsibility if things go wrong.

Knowledge required for competency at this level:
- Knowledge of how to use and apply emotional intelligence principles to gain the support of people from diverse backgrounds
- Working knowledge of teamwork and principles of collaboration
- Working knowledge of group problem solving and decision-making principles
- Knowledge of effective communication principles

5   References

Gathering the data

The development of the National Occupational Standards started with a review of existing information for the role. This review process included: referencing books, job postings, websites, articles, and BioTalent Canada's existing skills profiles to create the first draft. After several iterations via written feedback, focus groups and a national survey with subject matter experts, the National Standards were developed. The following are sources consulted during the creation of the Chief Executive Officer profile:

"5 Ways to Meet Regulatory Compliance & Standards Requirement." *Security Scorecard*, 17 Oct. 2019, https://securityscorecard.com/blog/5-ways-to-meet-regulatory-compliance-and-standards-requirements.

Bhalla, Vikram, et al. "A CEO's Guide to Talent Management Today." *BCG Global*, BCG Global, 10 Apr. 2018, https://www.bcg.com/publications/2018/ceo-guide-talent-management-today.

Bowen, Robert J E. "Sustainability & The Life Sciences Industry: A Global Introduction." *ISPE Pharmaceutical Engineering*, 2020, https://ispe.org/pharmaceutical-engineering/march-april-2020/sustainability-life-sciences-industry-global.

Clark, Leah. "The Core Elements of Executive Presence - GP Strategies Corporation." *GP Strategies Corporation - A Staging Site for Your New Website*, 1 May 2022, https://www.gpstrategies.com/blog/the-core-elements-of-executive-presence/.

Competencies for Chief Executive Officers of Private Foundations. Council on Foundations Inc., 2006, https://cof.org/sites/default/files/documents/files/Competencies%20for%20CEOs%20of%20PFs.pdf.

Dewar, Carolyn, et al. "The Mindsets and Practices of Excellent CEOS." *McKinsey & Company*, McKinsey & Company, 25 Oct. 2019, https://www.mckinsey.com/capabilities/strategy-and-corporate-finance/our-insights/the-mindsets-and-practices-of-excellent-ceos.

Dhankhar, Ajay, et al. "Expanding Horizons for Risk Management in Pharma." *McKinsey & Company*, McKinsey & Company, 31 May 2018, https://www.mckinsey.com/capabilities/risk-and-resilience/our-insights/expanding-horizons-for-risk-management-in-pharma.

Global C-Suite Series 25th Edition The CEO Study, Own Your Impact Practical Pathways to Transformational Sustainability. May 2022, https://www.ibm.com/downloads/cas/6NJEKDD8.

Heathfield, Susan M. "Chief Executive Officer (CEO) Job Description Learn About the Salary, Required Skills, & More." *The Balance*, The Balance, 22 Sept. 2022, https://www.thebalancemoney.com

Rezak, Catherine J. "Developing Your Critical Thinking Leadership Skills." *IIDM*, 30 May 2022, https://www.iidmglobal.com/expert_talk/expert-talk-categories/leadership/leadership_skill

Sarafin, Greg. "The CEO Imperative: How Mastering Ecosystems Transforms Performance." *EY*, EY, 24 Jan. 2022, https://www.ey.com/en_us/alliances/the-ceo-imperative-how-mastering-ecosystems-transforms-performance

Simpson, Karl. "9 Capabilities a Biotech CEO Must Possess." *Liftstream*, 18 May 2020, https://www.liftstream.com/blog/9-capabilities-a-biotech-ceo-must-possess/#.Y0bGKlLMJD8.

Stephanie, Overby. "How to Create a Sense of Urgency without Stressing out Your Team: 7 Tips." *The Enterprisers Project, A Community Helping CIOs and IT Leaders Solve Problems*, 19 June 2019, https://enterprisersproject.com/article/2019/6/how-create-sense-urgency-in-teams-7-tips

Valentine, Gerry. "Council Post: Executive Presence: What Is It, Why You Need It and How to Get It." *Forbes*, Forbes Magazine, 31 July 2018, https://www.forbes.com/sites/forbescoachescouncil/2018/07/31/executive-presence-what-is-it-why-you-need-it-and-how-to-get-it

You already have a stellar team. Here's how to enhance their key skills.
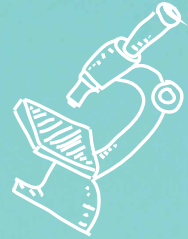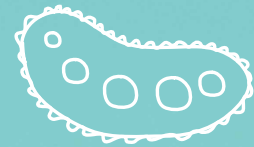
PROFESSIONAL DEVELOPMENT

- Essential Skills Fundamentals
  - Introduction to the Bio-economy, Reading, Writing, Numeracy, Document Use, Communication, Collaboration, Problem Solving

- Technical Skills Fundamentals
  - Scientific Report Writing, GLP, GCP, GMP, QA/QC

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