Kelly Lake First Nation's Response to the Review of Onshore Pipeline Regulations and Filing Manuals Review C. Filing Manuals – Emergency Management Topic Paper

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Disclaimer

BACKGROUND

The Canadian Energy Regulator (CER) is seeking feedback on potential modifications to the Environmental and Socio-economic assessment section A.2 and Chapter 6 of the filing manual.

The CER seeks to improve the overall structure and layout of the existing ESA section in the Filing Manuals by:

- seeking more detail about potential effects of proposed projects on the rights and interests of Indigenous Peoples; and
- improving the clarity and readability of the ESA section.

Below are the responses to the questions posed within the Topic Paper K.

Subtopic 1: Restructuring the ESA Section

K 1. Does the proposed split of the current ESA section improve clarity?

Splitting the current ESA can help improve clarity if the correct topics are included and it is written in a way that is easy for everyone to understand. By splitting the ESA into two sections, is the CER implying that Indigenous rights cannot include rights in and to the pipelines and the products that move through them (i.e. natural gas, oil, etc.)? Clarification on this distinction is required.

K 2. What overarching topics are important to highlight as applying throughout the applicant's ESA and Rights and interests of Indigenous Peoples section?

When developing an Environmental and Socio-economic Assessment (ESA) and discussing the Rights and Interests of Indigenous Peoples, several overarching topics should be emphasized consistently across both sections. These key themes ensure a comprehensive, legally sound, and culturally respectful assessment that aligns with federal policies and Indigenous perspectives.

- Cumulative Effects Considerations.
- Meaningful Indigenous Consultation & Engagement.
- Indigenous Rights & Title Considerations.
- Traditional Land & Resource Use.
- Socioeconomic and Health Considerations.
- Climate Change and Environmental Resilience; and
- Government & Co-Management Opportunities

K 3. What other restructuring of the existing ESA section might improve clarity, readability and better highlight improvement issues?

Improving the structure of the Environmental and Socio-economic Assessment (ESA) section can enhance clarity, readability, and the ability to highlight key issues, assuming the following critical elements are incorporated:

- Use a Clear and Logical Flow.
- Separate Biophysical & Socio-economic Components.
- Clearly Highlight Cumulative Effects.
- Improve Readability with Summaries, Tables & Visuals.
- Strengthen Indigenous Rights & Interests Integration.
- Link Mitigation Measures to Specific Impacts; and
- Improve Transparency on Uncertainty & Data Gaps

Subtopic 2 – Environmental and Socio-Economic Assessment

K 4. To what extent should Indigenous knowledge and engagement be explicitly addressed in the selection of VCs? How should applicants demonstrate that Indigenous knowledge and engagement informed the selection of VCs?

Indigenous knowledge and engagement should be explicitly and meaningfully addressed in the selection of Valued Components (VCs) to ensure comprehensive and culturally sensitive impact assessments. Applicants should demonstrate this by providing evidence of genuine engagement with Indigenous communities, incorporating their perspectives and knowledge into the VC selection process, and outlining how this knowledge informed the final list of VCs.

K 5. What factors should guide the choice of VCs in terms of their breadth?

The choice of VCs should prioritize breadth, encompassing diverse Indigenous communities and knowledge holders, and consider factors like geographic location, traditional knowledge, and capacity building.

K 6. Can VCs be ”nested” to cover both specific and more general concerns (e.g. a general VC that sums the effects on several narrower VCs)? Are there any methodological considerations or approaches regarding the ‘summing’ of effects of individual VCs?

Vulnerability Categories (VCs) can be ‘nested’ to address both specific and more general concerns, with a general VC potentially summing the effects of narrower VCs. Methodological considerations for summing effects include ensuring the approach is transparent, avoids double-counting, and accurately reflects the cumulative nature of the effects.

K 7. What other improvements or clarifications can be made to the discussion and selection of VCs?

Improvements should include clearer guidelines, standardized approaches for summing effects, and enhanced transparency in VC selection and discussion.

2.2 Socio-economic valued components

K 8. Would having separate sections in the Filing Manual (e.g. one describing socio-economic VCs and another describing VCs focused on the rights and interests of Indigenous Peoples) improve clarity?

Having separate sections in the Filing Manual—one for socio-economic valued components (VCs) and another specifically for VCs related to the rights and interests of Indigenous Peoples—would significantly improve clarity, readability, and regulatory compliance.

K 9. How would such a split impact the assessment of biophysical VCs, socio-economic, VCs and VCs focused on the rights and interests of /indigenous Peoples?

A split approach to VC assessment, separating biophysical, socio-economic, and Indigenous rights-focused VCs, could lead to siloed assessments, hindering a holistic understanding of project impacts and potentially overlooking crucial interdependencies between these areas.

K 10. What VCs should stay in the ESA sections versus which should move to the “Rights and Interests of Indigenous Peoples?

To effectively address the question of which "Valued Components" (VCs) should remain within the ESA (Environmental Standards Act) sections versus those that should be moved to the "Rights and Interests of Indigenous Peoples" section, ***we need to understand the context and purpose of both sections***. VCs with a strong scientific, ecological, or economic basis should stay in ESA, while those with a strong cultural, social, or spiritual connection to Indigenous peoples should be moved to the "Rights and Interests of Indigenous Peoples" section.

K 11. What other improvements can be made to the guidance for socio-economic VCs?

- Standardized Criteria for Selecting Socio-Economic VCs
- Better Integration of Cumulative Effects
- Stronger Guidance on Indigenous Socio-Economic Impacts
- More Consistent Assessment Methodology
- Strengthening Follow-Up & Monitoring Requirements
- Clearer Guidance on Social & Community Well-Being
- More User-Friendly Guidance with Examples & Templates

2.3 Mitigation and enhancements measures

K 12. What considerations concerning enhancement measures should be included? Are there different considerations for enhancement measures for biophysical VCs versus socio-economic VCs?

Enhancement measures for biophysical and socio-economic valued components (VCs**)** require distinct considerations due to their different goals, implementation strategies, and long-term effects. However, both should follow core principles to ensure they are effective, measurable, and aligned with regulatory and community priorities.

Considerations for Biophysical VCs

There needs to be a focus on restoring, enhancing, or creating ecosystems to improve biodiversity, resilience, and environmental health.

Considerations

Habitat Restoration & Enhancement

- Restore degraded ecosystems beyond pre-project conditions (e.g., restoring wetlands that were lost decades ago).
- Use native species to enhance biodiversity and ecosystem function.

Wildlife Corridors & Connectivity

- Ensure species can move freely by enhancing migration pathways, fish passages, and green infrastructure.

Climate Resilience & Carbon Sequestration

- Support reforestation, soil regeneration, and blue carbon projects (e.g., wetlands that capture CO_2).

Water & Air Quality Improvements

- Implement nature-based solutions such as wetlands for water filtration and buffer zones to reduce air pollution.

Biodiversity Offsets & Conservation Banking

- Where enhancement is required, create or expand protected areas to compensate for impacts.
- Example: If a project affects an old-growth forest, fund the conservation of a similar area.

Considerations for Socio-Economic VCs

There needs to be a focus on maximizing positive impacts on employment, community well-being, cultural resilience, and economic opportunities.

Considerations

Job Creation & Local Economic Development

- Go beyond hiring targets—invest in skills training, supplier development, and permanent local employment.
- Support Indigenous-owned businesses and ensure long-term benefits for underrepresented groups.

Indigenous Cultural Enhancement

- Fund language revitalization, land-based learning programs, and cultural site protection.
- Create Indigenous stewardship programs where Indigenous communities manage and protect lands impacted by development**.**
- Infrastructure & Community Investment
- Ensure the project contributes to long-term community benefits, such as:
  - Affordable housing to prevent displacement.
  - Health services expansion to support growing populations.
  - Transportation improvements to reduce congestion and enhance access.

Gender & Social Equity Considerations

- Use Gender-Based Analysis Plus (GBA+) to design enhancement measures that benefit diverse groups.
- Example: Ensure childcare support programs are in place to enable women's participation in project employment**.**

Education & Capacity Building

- Provide long-term scholarships, apprenticeships, and workforce transition programs.
- Example: Mining projects funding training for alternative green economy jobs to prepare workers for post-project employment.

K 13. What principles and other considerations concerning offsets should be included? Are there different considerations for offsets for biophysical VCs versus socio-economic VCs?

Core Principles for Offsets applicable to both Biophysical & Socio-Economic VCs that should be included:

Hierarchy of Avoidance, Mitigation, and Offsetting

- Offsets should only be used as a last resort when avoidance and mitigation are insufficient.
- Projects should demonstrate that all reasonable efforts to avoid and minimize impacts have been exhausted.

Equivalence (Like-for-Like or Better)

- Offsets should replace the same type and function of the lost resource or value.
- Net gain or no net loss should be the goal, especially for biodiversity and Indigenous cultural values.

Permanence & Long-Term Effectiveness

- Offsets must be monitored and maintained for the duration of the project's impact (or longer).
- Clear legal and financial mechanisms should ensure offsets persist beyond the project's lifespan.

Proximity & Local Relevance

- Offsets should occur as close as possible to the impacted area.
- For socio-economic offsets, they should directly benefit the affected communities.

Additionality

- Offsets should provide benefits above and beyond what would have happened without the project (i.e., they should not replace existing conservation or social programs).

Transparency & Stakeholder Involvement

- Indigenous groups, local communities, and regulators should be involved in offset design.
- Public reporting should track offset effectiveness.

Offsets for Biophysical VCs: Key Considerations

There needs to be a focus on restoring, enhancing, or conserving ecological functions lost due to project impacts.

Considerations

- Type of Offset Measures**:**
    - Restoration Offsets**:** Active habitat restoration (e.g., reforestation, wetland rehabilitation).
    - Protection Offsets**:** Legal conservation of equivalent areas under threat.
    - Compensatory Conservation**:** Enhancing degraded ecosystems elsewhere.
    - Cultural Impact Offsets: Recognition of the impacts to the loss of traditional culture when land is taken up for resource development

Offsets for Socio-Economic VCs: Key Considerations

There needs to be a focus on restoring or compensating for lost economic, social, cultural, or Indigenous values.

Considerations

- Type of Offset Measures**:**
    - **Economic Offsets**:
        - Local hiring or workforce training programs.
        - Business development funds for impacted communities.
    - **Infrastructure & Services**:
        - Funding for healthcare, education, or community infrastructure.
    - **Cultural Offsets**:
        - Support for Indigenous cultural programs (e.g., language revitalization, land-based education).
    - **Land-Based Offsets:**
        - Providing alternative land access for traditional Indigenous practices (hunting, fishing, gathering).

K 14. What is the best way to document, monitor, manage, and report on socio-economic protection and enhancement measures?

The best way to document, monitor, manage, and report on socio-economic protection and enhancement measures is through a structured Socio-Economic Management & Monitoring Framework (SEMMF) that includes:

- Clear Documentation of Measures
- Ongoing Monitoring and Data Collection
- Adaptive Management for Continuous Improvement
- Transparent Reporting and Stakeholder Engagement

K 15. How can information relevant to environmental and socio-economic protection measures best be documented to ensure site-specific information and relevant commitments are maintained and maintained and implemented during operations?

To effectively document environmental and socio-economic protection measures, create a comprehensive, site-specific Environmental Protection Plan (EPP) that includes baseline data, mitigation strategies, monitoring plans, and clear responsibilities, ensuring it's regularly reviewed and updated.

K 16. What other improvements can be made to the discussion and guidance for mitigation and enhancement measures?

To improve the discussion and guidance for mitigation and enhancement measures, the Filing Manual should provide clearer definitions, structured approaches, and practical tools to ensure effective implementation. Key areas for improvement include:

- Clarifying the Difference Between Mitigation & Enhancement Measures.
- Strengthening the Integration of Indigenous Knowledge (IK) & Community Input.
- Improved Monitoring, Reporting, and Adaptive Management.
- Stronger Guidance on Cumulative Effects; and
- Best Sector-Specific Practices & Case Studies.

By improving definitions, community involvement, monitoring, cumulative effects consideration, and sector-specific guidance, the Filing Manual can provide more actionable and effective mitigation/enhancement frameworks.

2.4 Cumulative Effects

K 17. To what extent should environmental events and climate change be included in cumulative effect assessments?

Environmental events and climate change should be fully incorporated into cumulative effects assessments (CEAs) to ensure that assessments reflect the true and long-term impacts of projects or activities on the environment. Incorporating environmental events and climate change in cumulative effect assessments is essential for understanding the full scope of a project's impact. Not only does it improve the accuracy of the assessments, but it also helps ensure that projects are resilient to future environmental changes, comply with regulatory requirements, and reflect public and ecological interests.

K 18. How is cumulative effects assessment relevant to positive effects as well as adverse effects?

Cumulative Effects Assessment (CEA) is crucial not just for identifying and managing adverse effects, but also for recognizing and enhancing positive effects. While the term "cumulative effects" often focuses on potential harm, the scope of CEA is much broader and should address both positive and negative impacts over time and space. Inclusion of both positive and adverse effects in a CEA result in a more holistic, balanced assessment.

It ensures that projects and activities are evaluated not just for the harm they may cause, but also for the good they can bring, making it easier to manage and optimize both. By capturing the full spectrum of impacts, CEA becomes an invaluable tool for promoting sustainable development, fostering resilience, and enhancing the well-being of communities and ecosystems alike.

K 19. What factors are important in choosing the appropriate baseline for cumulative effects assessments?

Choosing the appropriate baseline for a Cumulative Effects Assessment (CEA) is a critical step in ensuring that the assessment accurately reflects the current state of the environment and the potential impacts of a proposed project or activity. The baseline establishes the reference point against which the cumulative effects will be measured.

Factors to consider when selecting the baseline:

Temporal Relevance

Current or Historical Conditions: The baseline should reflect conditions that are most relevant to the time frame of the project. This could be current baseline conditions (e.g., the state of the environment at the time of assessment) or a historical baseline if the environment has undergone significant changes in the past (e.g. previous Right of Way (RoW) reclamation/restoration).

Long-Term vs. Short-Term Trends**:** It's important to consider both short-term fluctuations and long-term trends. Some environmental changes, like climate change, may not be immediately observable, but have profound long-term impacts. A baseline should capture both the current state and anticipated changes over time, factoring in expected climate impacts or other long-term influences.

Spatial Scale

Regional vs. Local Baseline: The geographic scale of the baseline should align with the spatial scale of the potential cumulative impacts. For example, if a project has regional implications (e.g., a large infrastructure project), the baseline should reflect broader ecological and social contexts, not just local conditions.

Sensitive Areas: Areas of ecological or cultural significance (e.g., protected habitats, Indigenous lands) may require more specific baselines, especially where impacts could be more pronounced or distinct from surrounding regions.

Environmental Sensitivity

Ecological Sensitivity: The baseline should account for areas that are particularly sensitive to disturbance, such as habitats for endangered species, critical ecosystems, or areas with low resilience to stressors. These environments may require a more detailed and carefully selected baseline.

Vulnerable Communities or Species: If the baseline includes or affects vulnerable or at-risk species, ecosystems, or communities, extra care should be taken to ensure that these elements are accurately represented. This could include establishing baselines that consider the full range of potential ecological services that these communities provide.

Data Availability and Quality

Reliable and Robust Data: The selection of a baseline depends on the availability of high-quality, up-to-date environmental data. Ideally, data should be collected over a reasonable period to capture variations and trends, such as seasonal or annual changes.

Historical Data: If long-term monitoring data is available, it provides valuable insights into environmental trends and changes and allows for comparisons of pre- and post-activity impacts.

Human Influence and Land Use History

Pre-Existing Human Activities: Baseline conditions should reflect not just natural environments, but also human-induced changes (e.g., urbanization, agriculture, or industrial development). If significant historical changes have already occurred, the baseline should reflect the current state of the environment rather than an idealized "pristine" condition.

Cumulative Effects of Past Activities: The baseline should consider the cumulative impact of previous or ongoing developments. Past land use practices, infrastructure, and projects can affect the existing conditions and should be considered when determining the baseline. For example, a previously logged forest area may have a baseline that includes a reduced biodiversity compared to an untouched forest.

Considerations of Natural Variability

Natural Fluctuations: The baseline should reflect the natural variability of the environment, including cyclical changes (e.g., natural droughts, floods, or pest outbreaks). Understanding the "normal" range of variability allows for a more realistic assessment of what constitutes an impact versus what may be part of natural environmental processes.

Climate Change Projections: Climate change is causing shifts in ecosystems, and baselines should include future projections to account for changing temperature, precipitation, and other climate factors. This helps ensure that the baseline is not static but instead reflects ongoing environmental changes.

Regulatory and Policy Context

Legally Defined Baselines: In some cases, regulations or policies may define specific baseline conditions for environmental assessments (e.g., water quality standards, air quality limits). The baseline for CEA should be consistent with these legal definitions or requirements.

Stakeholder Expectations: Baseline selection should also reflect stakeholder concerns, such as the values or concerns expressed by Indigenous communities, residents, or environmental organizations. Local knowledge can play a crucial role in defining the baseline, particularly when the community has observed changes that may not be reflected in scientific data alone.

Ecological Integrity or Desired State

Environmental Management Goals: If the project area is part of a broader environmental management or conservation initiative (e.g., protected area management, biodiversity conservation), the baseline may reflect desired ecological conditions rather than just current conditions. This approach considers future restoration goals or ecosystem services that might be prioritized over current disturbances.

Thresholds of Ecological Health: Baseline conditions should align with thresholds of ecological integrity, defining what is considered a healthy, functioning ecosystem. For example, a baseline could be set based on achieving certain biodiversity or water quality goals that are consistent with ecological health.

Socio-Economic Context

Human Well-Being: The baseline should include the socio-economic context, especially if the project will affect communities or cultural heritage. This can involve assessing baseline conditions in terms of local economies, health, infrastructure, or social well-being. Understanding the socio-economic baseline can help assess how projects will impact livelihoods or community health, especially in rural or Indigenous communities.

Cultural and Traditional Use: In areas of Indigenous land or territories, the baseline should incorporate cultural and traditional land uses. This ensures that impacts on these practices (e.g., fishing, hunting, gathering) are adequately considered.

Project specific Considerations

Project Scope and Lifecycle: The baseline should consider the project's scale, scope, and anticipated lifecycle. For instance, a project with a long-term duration (e.g., a mine or large infrastructure project) may need a baseline that reflects long-term trends rather than current conditions, especially if there are significant ongoing changes anticipated during the project's life.

Potential Project Interactions: If the project interacts with existing or planned developments, the baseline should account for the cumulative effect of these other projects, either planned or underway. This could include potential compounding impacts on air quality, water resources, or biodiversity.

Selecting the appropriate baseline for a Cumulative Effects Assessment is a nuanced process that requires ***careful consideration of environmental, social, and temporal factors***. The baseline should provide an accurate reflection of current conditions, while also accounting for past activities, natural variability, and expected future changes. It serves as a reference point to measure the potential cumulative impacts of a proposed project, ensuring the CER has a clear understanding of the project's true environmental and social effects through an Indigenous lens.

K 20. To what extent should the use of offsets and the applicant's confidence in achieving no net loss relieve an applicant from having to include cumulative effects assessment in their ESA?

The use of offsets and an applicant's confidence in achieving no net loss should not entirely relieve the applicant from having to include a Cumulative Effects Assessment (CEA) in their Environmental and Social Assessment (ESA).

While offsets and no net loss goals are important tools for mitigating specific project impacts, they do not eliminate the need for a broader, more comprehensive evaluation of cumulative effects.

Offsets and no net loss goals are important components of managing environmental impacts, but they should not replace the need for a Cumulative Effects Assessment (CEA)**.** CEA provides a broader, more comprehensive understanding of how a project interacts with existing and future environmental pressures. It helps decision-makers and stakeholders assess the long-term sustainability of a project, even when offsets are proposed, and ensures that all aspects of environmental, social, and economic health are adequately considered. Therefore, offsets and no net loss should complement, rather than substitute, a robust CEA to ensure that the project's effects are fully understood and managed.

K 21. What other improvements can be made to the discussion and guidance for cumulative effects?

Improving the discussion and guidance for cumulative effects requires addressing key gaps in methodology, consistency, and decision-making processes.

- Clearer Definitions and Standardization
- Stronger Regulatory & Policy Frameworks
- Improved Data Collection and Sharing
- Better Integration with Decision Making
- Enhanced Engagement
- Use of Advanced Tool & Technology
- Stronger Follow-Up and Monitoring Programs

2.5 Significance

K 22. Would a framework like the significance tables used in the NEBC Recommendation Report be appropriate for inclusion in the Filing Manual?

A framework similar to the significance tables used in the NEBC (North East British Columbia) Recommendation Report could be a valuable addition to the Filing Manual, particularly for assessing cumulative effects.

Why It Would Be Appropriate:

- **Consistency & Transparency:**
  - Provides a standardized method for evaluating significance across projects.
  - Helps ensure consistency in decision-making by regulators and proponents.
- **Structured Decision-Making:**
  - Clearly outlines how cumulative effects are assessed in terms of spatial and temporal scales, magnitude, reversibility, and likelihood.
  - Reduces subjectivity in significance determinations.

- **Improved Stakeholder Understanding:**
    - Offers a clear, transparent way for the public, Indigenous communities, and stakeholders to understand how cumulative effects are considered.
    - Facilitates better engagement and trust in the process.
- **Regulatory Alignment:**
    - Aligns with established environmental assessment frameworks, including the Canadian Impact Assessment Act (IAA**)** and provincial requirements.
    - Can be tailored to different project types (e.g., pipelines, mining, forestry).

How It Could Be Incorporated into the Filing Manual:

- **Guidance on Cumulative Effects Assessments (CEAs):**
    - A section in the Filing Manual outlining how proponents should systematically assess and document cumulative effects.
    - Use of significance rating tables with defined criteria (e.g., magnitude, geographic extent, frequency, duration, reversibility).
- **Examples & Case Studies:**
    - Include examples from past assessments (such as NEBC) to demonstrate application.
    - Case studies showcasing how cumulative effects significance has been evaluated in different sectors.
- **Integration with Decision-Making:**
    - Clear instructions on how cumulative effects significance should influence project approvals and mitigation strategies.
    - Link to adaptive management requirements based on significance determinations.

K 23. What considerations should apply when making the significance determination for federal lands?

When making a "significance" determination for cumulative effects on federal lands, several key considerations should be applied to ensure a comprehensive and legally defensible assessment. These considerations align with federal policies, Indigenous rights, environmental sustainability, and long-term management.

Legal & Policy Frameworks

Impact Assessment Act (IAA) Compliance:

- Ensure consistency with federal impact assessment requirements.
- Consider national environmental priorities and commitments, such as Canada's climate action goals and biodiversity conservation.

Federal Land Use Policies & Management Plans:

- Align with management plans for national parks, military lands, Indigenous reserves, and protected areas.
- Adhere to relevant land-use restrictions or conservation mandates.

Environmental & Ecological Considerations

Baseline Conditions & Sensitive Ecosystems:

- Evaluate the existing ecological conditions and cumulative stressors on federal lands.
- Consider protected species, old-growth forests, wetlands, or critical habitats.

Resilience & Reversibility:

- Assess whether the ecosystem can recover from additional stressors.
- Determine the potential for permanent or long-term degradation.

Indigenous Rights & Consultation

Duty to Consult & Accommodate:

- Ensure meaningful consultation with Indigenous groups whose rights or lands may be affected.
- Consider Indigenous knowledge (IK) alongside Western science in the assessment process.

Indigenous Land Use & Treaty Rights:

- Recognize potential impacts on Indigenous traditional land use, hunting, fishing, and cultural heritage.

Socioeconomic & Cultural Considerations

Public & Community Interests:

- Consider the views of stakeholders, municipalities, and federal land managers.
- Assess impacts on recreational areas, tourism, and heritage sites.

Cumulative Socioeconomic Effects**:**

- Evaluate whether the project contributes to economic disparities, housing pressure, or infrastructure strain on adjacent communities.

Transboundary and Regional Impacts

Effects Beyond Federal Lands:

- Determine if cumulative effects extend beyond federal jurisdiction (e.g., provincial lands, international borders, or marine environments).
- Coordinate with other regulatory bodies to ensure comprehensive regional assessments.

Climate Change & Long-Term Sustainability

Greenhouse Gas (GHG) Emissions & Carbon Sinks:

- Assess the project's contribution to climate change.
- Consider loss of carbon sinks (e.g., deforestation, wetland destruction) and long-term emissions impacts.

Adaptation & Resilience:

- Evaluate whether the project increases vulnerability to climate change, such as wildfires, flooding, or extreme weather events.

Cumulative Effects Thresholds & Significance Criteria

Threshold-Based Approach:

- Identify pre-established thresholds or limits for environmental and social impacts on federal lands.
- Use science-based benchmarks for air/water quality, wildlife populations, and ecosystem health.

Multi-Factor Significance Determination:

- Weigh multiple criteria such as magnitude, geographic extent, duration, frequency, and likelihood of cumulative effects.
- Apply a precautionary approach where scientific uncertainty exists.

Final Determination & Justification

Clear, Defensible Rationale:

- Provide a transparent justification for why an effect is deemed significant or not.
- Consider public and Indigenous concerns in the final determination.

Mitigation & Adaptive Management:

- If an effect is significant, outline required mitigation, monitoring, and follow-up actions.
- Ensure adaptive management strategies are in place to address long-term uncertainties.

K 24. What other improvements can be made to the discussion and guidance for significance?

Improving the discussion and guidance for significance determinations requires enhancements in clarity, consistency, methodology, and integration into decision-making.

Standardized Criteria & Thresholds

Define clear significance thresholds:

- Use measurable indicators for different environmental and socio-economic factors.
- Develop sector-specific or region-specific thresholds (e.g., biodiversity loss limits, pollution levels, noise limits).

Incorporate cumulative effects considerations:

- Ensure that significance is assessed not just in isolation but in the context of existing pressures on the environment.
- Use a tiered approach (local, regional, national) to significance determination.

Transparency & Consistency in Methodology

Clear and repeatable decision-making process:

- Develop decision matrices or significance tables that guide assessors in evaluating impact severity.
- Ensure consistency in how **magnitude, extent, duration, reversibility, and likelihood** are weighted.

Define uncertainty thresholds:

- Include guidelines on how to handle scientific uncertainty in significance determinations.
- Encourage the use of a precautionary approach where data gaps exist.

Improved Integration with Indigenous Knowledge & Public Values

Incorporate Indigenous knowledge (IK) systematically:

- Develop frameworks for co-developing significance thresholds with Indigenous communities.
- Ensure assessments reflect traditional land use, cultural significance, and Indigenous worldviews on impact evaluation.

Account for social acceptability:

- Include public and stakeholder concerns in significance determinations.
- Develop tools for evaluating community-defined significance (e.g., surveys, participatory workshops).

Stronger Regulatory & Policy Alignment

Clarify links to decision-making:

- Ensure that a finding of significant adverse effects has clear policy or regulatory consequences.
- Align with existing environmental laws (e.g., Impact Assessment Act, Species at Risk Act, Canadian Environmental Protection Act).

Integration with mitigation and offsets:

- Provide guidance on when mitigation is insufficient, and a project should not proceed.
- Establish criteria for offsetting significant effects when unavoidable.

Use of Advanced Tools & Technology

GIS & Remote Sensing for Impact Analysis:

- Improve spatial assessment of regional and long-term cumulative effects.

AI & Machine Learning for Impact Prediction:

- Use data-driven models to assess likelihood and severity of impacts.

Interactive Decision Support Tools:

- Develop digital significance calculators that allow users to input project data and receive a preliminary significance rating.

Enhanced Follow-Up & Adaptive Management

Mandatory monitoring & reassessment:

- Link significance determinations to long-term monitoring plans.
- Require periodic re-evaluation of significance if conditions change.

Adaptive management triggers:

- Define thresholds where additional mitigation must be applied if effects exceed predicted levels.

More Practical Examples & Case Studies

Expand real-world applications in guidance documents:

- Include past cases where significance was contested or challenged, and how decisions were justified.
- Provide sector-specific examples (e.g., energy, mining, forestry, urban development).