Section 1: General Background

Overview of HIA
This Toolkit primarily informs HIAs for major natural resource development projects in Alaska. These projects are often large, remote, complex, and typically associated with significant transportation features (e.g., roads, bridges, airstrips, port development/expansion). While resource development projects can be controversial, the appropriate development of Alaska’s natural resources is critical to the economic viability of the state and its citizens. To ensure development is compliant with a web of established laws and regulations, projects are routinely submitted to a rigorous set of impact assessments administered by government (i.e., federal, state, local and tribal) authorities. The HIA is a process that:

- Engages project proponents, key stakeholders, and community concerns in a systematic, collaborative decision-making process;
- Predicts the consequences (positive, negative or both) of different project alternatives;
- Identifies positive health effects while it prioritizes prevention of negative health effects;
- Identifies the project’s most critical potential health effects;
- Facilitates collaboration between the project and the organizations responsible for community public health in a given geographical region; and
- Assures affected communities that the proponent is considering potential human health impacts within the assessment process.

Several key terms have a specific meaning in this guidance:

Health – The reduction in mortality, morbidity and disability due to detectable disease or disorder, and an increase in the perceived level of health.

This definition is from the World Health Organization (WHO) Regional Office for Europe “Health21” policy framework publication (WHO, 1999). As pointed out in this WHO publication, the definition of “health” used in the 1946 WHO Constitution (“A state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”) expresses an ideal that should be the goal of all health development activities. However, this definition does not lend itself to objective measurement, and for the working purposes a narrower definition is needed. The WHO Health21 definition recognizes the difference between ‘aspirations’ (striving for ideals of human health) and ‘operations’ (striving to maintain and advance current human health status) while still allowing for subjectivity in terms of ‘perceived level of health.’
While a project may have positive and negative health effects, there are critical aspects of health that cannot be realistically measured, managed, or mitigated by the private sector. The Alaska HIA Guidance tries to differentiate between the roles and responsibilities of government, the private sector, communities, and individuals.

The Alaska HIA Guidance has adopted many of the standard terms and definitions that are used in the NEPA impact assessment process.

**Environmental Health** – The body of knowledge concerned with the prevention of disease through control of biological, chemical, or physical agents in the air, water, and food, and the control of environmental factors that may have an impact on the well-being of people. Environmental health encompasses the human living environment and stresses primary prevention based on engineering and design improvements (World Bank; Listorti, 1996).

Environmental health refers to health issues affected by the social, economic and physical context in which people exist. For example, economically driven (job-seeking) influx can have potential health consequences.

Private sector resource development projects tend to focus on classic environmental health concerns such as contaminants or noise since these issues are well understood and are typically addressed in many internal environmental and social impact guidelines. This toolkit provides a means to consider SDH and associated key health outcomes (e.g., alcohol/drugs, gender violence, suicide, etc.) that are related to the environments where people live. The broad-based descriptor “health effects categories” is used in this guidance and is generally consistent with the environmental health areas (EHA) framework utilized by the International Finance Corporation in their HIA Toolkit.

**Impacts/Effects** – The terms "effect" and “impact” are synonymous in this toolkit. Effects may include those that have beneficial or detrimental consequences to communities or individuals. Impacts are usually classified into three types:

- **Direct** – caused by an action and occurring at the same time and place
- **Indirect** – caused by an action and occurring later in time or farther removed in distance, but still reasonably foreseeable.
- **Cumulative** – caused by an action and when added to other past, present and potential actions, may become collectively significant over a period of time.

These definitions have been developed for the National Environmental Policy Act (NEPA) but are also useful for health impact analysis because of the emphasis on place and timing.
**Human Environment** – The relationship of people to their physical and social environment.

**Affected Environment** – A term used in the NEPA process referring to an area that will be affected or created by the alternatives under consideration.

**Significance** – Refers to the relative importance of an impact. It is important to note that the term significance has different meanings when it is used in the HIA document than it does when it is used in the EIS generated for NEPA. NEPA significance is a highly technical term that is carefully defined in federal regulations under 40 CFR 1508.27.

In the HIA document, however, significance has a broader meaning that is tied to recommended mitigation strategies. Health impacts deemed to have a certain level of significance (usually medium or higher, see Section 8) may act as a signal for the HIA team to propose some reasonable mitigation strategy within their report. It is possible that an impact could be significant in the context of a stand-alone HIA but not be deemed significant in the EIS under NEPA.

The HIA team has adopted a model to assess significance that evaluates several different dimensions of an impact and assigns it an overall significance score. This method is described in detail in Section 8.

Finally, it should be clear that HIA/NEPA significance should not be confused with mathematical/statistical significance language that is used in medical literature to describe the reliability of a scientific result.

**Social Determinants of Health (SDH)** – The range of personal, social, economic and environmental factors that interact to influence the health status of individuals or populations.

In the USA, the Centers for Disease Control and Prevention (CDC) define SDH as “the circumstances, in which people are born, grow up, live, work, and age, as well as the systems put in place to deal with illness. These circumstances are in turn shaped by a wider set of forces: economics, social policies, and politics”. There are a variety of SDH models that are used and promoted including those from the World Health Organization (2008).

**The HIA Process**

The typical flow of the HIA process is represented in Figure 1 on the next page.
Figure 1 HIA Process

Project concept → Feasibility studies; project planning → Project Cycles → Construction → Operations → Downsizing; decommissioning; divestment → Review

Legislation and Project Information → Hazard Types, Health Hazard ID → Modeling & Ranking → Significance Criteria → Define Roles & Responsibilities → Significance criteria


Health Context → Define TOR → Baseline Data → Health Management Plan → Surveillance System → Audit

Stakeholder Communication and Consultation
In the HIA roadmap, the yellow “project cycles” blocks illustrate the typical phases of resource development projects. The elements of an HIA may or may not follow the timing of the project sequence. The orange bar entitled “stakeholder communication and consultation” illustrates that stakeholders should have input throughout the entire process (see Section 7 for detailed comments on stakeholder engagement). The beige boxes indicate key activities performed during the various steps of an HIA. The blue boxes in the center are the main steps of the HIA process which include:

- **Screening** – Preliminary evaluation to decide whether a project poses any significant health questions and if an HIA is needed

- **Scoping** – During scoping, a vast array of health issues of potential concern are considered, and a finite set of health impacts that must be addressed are identified. Useful baseline health information, along with the input of key stakeholders and the relevant health authorities, is important to identifying this realistic set of health concerns. See Section 5, Scoping, for a fuller discussion of this topic as well as Section 7, Stakeholder Engagement, for guidance on involving local communities fully in the scoping process.

- **Health Risk/Impact Assessment** – The health impacts identified during the scoping process are ranked, qualitatively or quantitatively. This step explicitly describes the intensity, geographic extent, duration, and likelihood of the key health impacts. (See Section 8)

- **Health Action Plan** – The HAP, using the rankings developed in the risk assessment, establishes the proposed mitigations for identified impacts in a written plan. Mitigations are actions that totally eliminate or compensate for potentially negative impacts.

- **Implementation and Monitoring** – After the health action plan is developed, it is necessary to decide how the mitigation actions will be implemented and monitored, and to establish the roles and responsibilities of the key stakeholders, including the project proponents. During this process, action frameworks, allocation of resources, and monitoring systems may be developed in order to provide satisfactory review of mitigation strategy. In addition, the monitoring system may be designed to capture unanticipated effects or provide an early-warning system to raise an alert if problems are occurring at the community level. The monitoring plan should define appropriate key performance indicators.

**Evaluation and Verification of Performance and Effectiveness** – A step to ensure that implementation has been accomplished and is achieving the intended results. Community participation in this process is an important strategy that should be considered

A summary of some of the key activities performed during the various phases of an HIA are shown below.
Key Activities during the Steps of an HIA

**Screening**

1. Assemble the team
2. Identify legislative and relevant corporate requirements
3. Gather and review relevant project information
4. Evaluate health context
   a. Location
      - Rural
      - Urban
      - Peri-Urban
   b. Influx
      - Temporary
      - Permanent
      - Countries or locations of origin
   c. Culture including history
      - Tribal
      - Level of subsistence harvesting
      - Alcohol status
5. Review project design
   a. Water bodies
   b. Waste management
   c. Roadways, pipelines
   d. Construction camps
   e. Operations facilities
   f. Sources of potential exposure
   g. Transmission-line corridors
6. Review the possible health impacts using health effect categories
7. Identify potentially impacted geographic areas and potentially affected communities
8. Identify key stakeholders
9. Determine whether HIA is needed

**Scoping**

1. Set the geographical, time scale, and population boundaries to the assessment
2. Determine HIA approach
   a. Comprehensive
      - Significant influx concerns
      - Resettlement/relocation
      - Key SDHs, e.g., income, employment
      - Significant construction activity
      - New linear features, including transportation
      - Large project in rural setting
      - Potential subsistence impacts
      - Community perceptions
   b. Rapid Appraisal
      - No new data collection anticipated within communities of concern
      - Existing data source review
   c. Desktop
      - Limited review
Baseline Data

1. Literature review by Health Effects categories
2. Evaluation of existing country survey and research data
   - Data validation
   - Statistical analysis
3. Evaluation of data from key stakeholders; traditional and local knowledge
4. Evaluation of health data from existing project workers

Impact/Health Risk Assessment

1. Detailed description of risks and potential causation
   - Use map to brainstorm and identify risks
2. Assess impact significance
   - Perception of risks by potentially affected communities - Extent
   - Nature—direct, indirect or cumulative - Magnitude
   - Timing and duration - Frequency
3. Risk Ranking
   - Severity
   - Probability

Health Action Plan, addressing risks identified

1. Mitigation Approach
   - Action
   - Resource flows and responsibilities
   - Timing (construction, operations, decommissioning)
   - Collaborating organizations, if applicable

Monitoring & Evaluation

1. Define Key Performance Indicators (KPIs)
2. Determine approach to data collection
   - Implement
   - Evaluate
Can occur at all levels

Stakeholder Engagement

1. Transparency
2. Consultation
3. Response/feedback for public comments
4. Accountability, including consideration of participatory monitoring/verification
   - Evaluate