

Willow Master Development Plan

Appendix E.18

Public Health Technical Appendix

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List of Acronyms

BLM	Bureau of Land Management
DHSS	Alaska Department of Health and Social Services
HEC	health effects category
NSB	North Slope Borough

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1.0 PUBLIC HEALTH

Table E.18.1 describes the health effects categories (HECs) and Table E.18.2 provides an overview of the technical guidance for evaluating health impacts from resource development used to inform the health impact analysis. Guidance for evaluation comes from:

- Alaska Department of Health and Social Services (DHSS), *Alaska Health Impact Analysis Technical Guidance* (2015)
- North Slope Borough (NSB), *Health Impact Assessment for Natural Resource Development in Alaska Collaborative Guidance* (2015)
- Bureau of Land Management (BLM), *National Petroleum Reserve in Alaska Integrated Activity Plan/Environmental Impact Statement* (2020) health effects analysis

Table E.18.1. Health Effects Category Descriptions

Health Effects Category	Description
HEC1: Social determinants of health	Economic status, educational status, social support systems, employment status, mental health, maternal and child health, substance use, social exclusion, psychosocial distress, historical trauma, and family dynamics
HEC2: Accidents and injuries	Intentional and unintentional injuries with fatal and nonfatal results; traffic patterns, alcohol involvement, emergency services availability, presence of law enforcement, and presence of prevention programs
HEC3: Exposure to potentially hazardous materials	Documented illnesses or exacerbation of illnesses commonly associated with pollutants through inhalation, ingestion, or physical contact
HEC4: Food, nutrition, and subsistence activities	Nutrient levels, malnutrition, or improvements in nutrient intake, diet composition, food security, and consumption of subsistence foods
HEC5: Infectious disease	Rates of increase or decrease for a range of infectious diseases, such as sexually transmitted infections, respiratory illness, or skin infections; immunization rates; and the presence of infectious disease prevention efforts
HEC6: Water and sanitation	Changes to access, quantity, and quality of water supplies; distance to clean water, water fluoridation, indoor plumbing, water treatment facilities, and existence of community facilities, such as washaterias or community showers
HEC7: Non-communicable and chronic diseases	Increases/decreases in mortality and morbidity rates of cancer, cardiovascular and cerebrovascular diseases, diabetes, respiratory diseases, and mental health disorders; smoking rates, rates of alcohol and drug abuse, physical activity levels, presence of recreation centers, and cancer-screening rates
HEC8: Health services infrastructure and capacity	Increase or decrease in the number of medical evacuations, clinic or hospital visit trends, health expenditures, and medication usage; distance to health facilities, medevac facilities/aircraft, the presence of community health aides, and the frequency of physician visits to the area

Source: DHSS 2015

Note: HEC (health effects category)

Table E.18.2. Health Effect Factors from Relevant Guidance Documents*

Alaska HIA Technical Guidance (ADHSS 2015)	HIA for Natural Resource Development in Alaska Collaborative Guidance (NSB 2015)	National Petroleum Reserve in Alaska IAP/EIS Health Effects Analysis (BLM 2020)	"Public Health Information for the Willow Master Development Plan." (EXP Energy Services Inc. 2022)
HEC1: Social determinants of health	Overall health and well-being Psychological and gender issues Maternal and child health	Acculturative stress Economic impacts on health	Employment, Economic status, Household income, Poverty levels Social connections and cultural continuity Mental health
HEC2: Accidents and injuries	Accidents and injuries	Safety	Accidents and injuries
HEC3: Exposure to potentially hazardous materials	Contaminant exposure	Environmental exposures	Air quality and air pollutant emissions Water Quality
HEC4: Food, nutrition, and subsistence activities	Food, nutrition, and physical activity	Diet and nutrition	Food and nutrition Subsistence activities
HEC5: Infectious disease	Infectious disease	Infectious disease	Communicable diseases Infectious diseases Immunizations
HEC6: Water and sanitation	Water and sanitation	NA	Water and sanitation
HEC7: Non-communicable and chronic diseases	Non-communicable/chronic diseases	NA	Non-communicable/chronic diseases
HEC8: Health services infrastructure and capacity	Health services infrastructure and capacity Occupational/community health interface	Health-care services	Health-care services

Note: HEC (health effects category); HIA (Health Impact Assessment); IAP/EIS (Integrated Activity Plan/Environmental Impact Statement); NA (not applicable)

2.0 REFERENCES

ADHSS. 2015. *Health Impact Assessment Program: Technical Guidance for Health Impact Assessment in Alaska – Version 2.0*. Anchorage, AK: State of Alaska Health Impact Assessment Program.

BLM. 2020. *National Petroleum Reserve in Alaska Final Integrated Activity Plan and Environmental Impact Statement*. Anchorage, AK.

EXP Energy Services Inc. 2022. *Public Health Information for the Willow Master Development Plan*. Anchorage, AK.

NSB. 2015. *Health Impact Assessment in the North Slope Borough: A Guide for Stakeholders, Decision-Makers and Project Proponents*. Barrow, AK.

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