

**TRIPLE POINT RESOURCES - FISHELLS SALT DOME POWER GENERATION PROJECT
ENVIRONMENTAL ASSESSMENT REGISTRATION**

VEC Selection and Environmental Effect Descriptors / Significance Criteria

Table 1: Valued Environmental Components

Valued Environmental Component (VEC)	Overview and Rationale
Atmospheric Environment	<ul style="list-style-type: none"> • Development activities can interact with the atmospheric environment through the mobilization and use of equipment, the construction and operation of other infrastructure, and other associated components and activities. • This includes potential air emissions (including GHGs), dust, noise and vibrations which may result from these activities. • Although the ACAES system does not burn fuel and therefore does not generate direct GHGs (as all energy inputs are electrical, eliminating the need for fossil fuel combustion during operations), there will be some equipment use especially during construction) that will generate air emissions. • The atmospheric environment can act as a ‘pathway’ for other effects, as there are clear inter-relationships between it and other components of the natural and socioeconomic environments, including several of the other VECs described below.
Water Resources (surface and ground water)	<ul style="list-style-type: none"> • The Water Resources VEC includes consideration of groundwater and surface water (freshwater and marine) resources. • Both are integral and inter-related components of the hydrologic cycle, and which have important uses and roles in the biophysical and socioeconomic environments. • As above, water quality and quantity are themselves important and valued. They have clear linkages to other biophysical components, and due to human uses of these resources, to the socioeconomic environment and associated health considerations.
Fish and Fish Habitat	<ul style="list-style-type: none"> • Fish resources and their habitats are important considerations in the EA of any proposed activities that occur within or adjacent to the aquatic (marine or freshwater) environment. • This VEC includes consideration of fish species, as well as relevant components of their habitats (such as water and sediment), given the clear interrelationships between these environmental components.
Vegetation and Wildlife	<ul style="list-style-type: none"> • The inland and coastal areas of Western Newfoundland include a range of floral species and vegetation communities, and are home to a variety of wildlife, including large and small mammals, various resident and migratory species of birds, and other species. • Wildlife can be found in or near the Project site at various times of the year, often moving in and out of the area at different times according to their life histories, habitat requirements and seasonal activities. • Many are an integral component of the local and regional environments and have important ecological and/or socio-cultural roles and value. • A number of plant and animal species in Western Newfoundland have been designated as being species at risk under federal and/or provincial legislation, or may be otherwise of special conservation concern.
Protected and Special Areas	<ul style="list-style-type: none"> • Several locations within and off Western Newfoundland have been designated as protected under provincial, federal /or other legislation and processes, due to their ecological, historical or socio-cultural characteristics and importance.

Valued Environmental Component (VEC)	Overview and Rationale
	<ul style="list-style-type: none"> In addition to areas that may have existing and formal protection, a number of other locations have been identified as being special or sensitive to disturbance for ecological reasons, or for their associated human activities and values.
People and Communities	<ul style="list-style-type: none"> While the proposed Project will not be located within the boundaries of, or in close proximity to, any community, Project related activities may interact with and affect people and communities in the region. The physical health and social well-being of people and communities is of paramount importance, and the planning and eventual implementation of the Project will be very much focused on preventing any adverse implications for residents, as well as maximizing the socioeconomic benefits of the Project during its various phases.
Land and Resource Use	<ul style="list-style-type: none"> The lands and resources of this region are used for a variety of commercial, recreational and/or traditional purposes, by both residents and visitors. Land and resource use is an important component of Western Newfoundland's human environment and overall cultural landscape, and reflects the characteristics, traditions and values of its people - the communities they live in, the manner in which they make a living or supplement their incomes, and the outdoor activities that they partake in and enjoy for recreational and/or cultural reasons.
Fisheries and Other Marine Activities	<ul style="list-style-type: none"> Fisheries (commercial, recreational / traditional) have been key elements in shaping the history and socioeconomic character of Newfoundland and Labrador and are important aspects of the current economic and socio-cultural fabrics of the Western Newfoundland region. These and other marine uses and users may be affected both directly (through possible interactions and disturbance) and indirectly (due to any negative changes in the biophysical environment) by development projects and activities that are located within or adjacent to the marine environment.
Economy, Employment and Business	<ul style="list-style-type: none"> The Project will create important and significant employment and business opportunities and other direct, indirect and induced economic benefits throughout its various phases. Local residents, communities and organizations have expressed strong interest in seeing the social and economic benefits of the Project maximized.

Table 2: Environmental Effects Descriptors and Associated Ratings

Effects Descriptor	Definition and Ratings
Nature (Direction) of the Effect	<i>Adverse, Neutral or Positive</i> (as compared to baseline environmental conditions).
Magnitude	<p>The degree of change from existing (baseline) conditions</p> <p><i>Negligible:</i> Although there is potential for a Project-VEC interaction, there would be no likely detectable effect that would differ from current conditions or be outside natural variability</p> <p>For the Physical Environment:</p> <p><i>Low:</i> A minor, but detectable change to existing conditions, but one that is within the range of normal variability, or which does not change overall availability or quality of the environmental component or parameter</p>

Effects Descriptor	Definition and Ratings
	<p><i>Medium:</i> A detectable change to existing conditions, but one that is within applicable regulatory standards and guidelines, or which does not change overall availability or quality of the environmental component or parameter</p> <p><i>High:</i> A detectable change to existing conditions that results in measurable and prolonged exceedances of applicable regulatory standards and guidelines or changes in overall availability or quality of the environmental component or parameter</p> <p>For the Biological Environment:</p> <p><i>Low:</i> Materially affects 0 to 10 percent of the population that occurs in the Study Area</p> <p><i>Medium:</i> Materially affects 10 to 25 percent of the population that occurs in the Study Area</p> <p><i>High:</i> Materially affects over 25 percent of the population that occurs in the Study Area</p> <p>For the Socioeconomic Environment:</p> <p><i>Low:</i> Affects 0 to 5 percent of individuals / users in the Study Area or is otherwise detectable, but does not change overall availability, quality or value of the environmental component or parameter</p> <p><i>Medium:</i> Affects 5 to 25 percent of individuals / users in the Study Area or is otherwise detectable, but is within applicable regulatory standards and guidelines and/or does not change overall availability, quality or value of the environmental component or parameter</p> <p><i>High:</i> Affects over 25 percent of individuals / users in the Study Area or is otherwise detectable, and results in measurable and prolonged exceedances of applicable regulatory standards and guidelines and/or changes the overall availability, quality or value of the environmental component or parameter</p>
Geographic Extent	<p>The spatial area within which an effect will likely occur and be detectable:</p> <p><i>Site:</i> Effect is confined to the Project Area or a portion thereof</p> <p><i>Local:</i> Effect is confined to the Study Area or a portion thereof</p> <p><i>Regional:</i> Effect will likely extend beyond the Study Area</p>
Duration	<p>The period of time over which an environmental effect will likely occur and be evident (in months).</p>
Frequency	<p>How often an environmental effect will likely occur:</p> <p><i>Once:</i> Occurs once during the Project</p> <p><i>Sporadic:</i> Occurs sporadically during the Project</p> <p><i>Regular:</i> Occurs on a regular basis throughout the Project</p>

Effects Descriptor	Definition and Ratings
	<i>Continuous:</i> Occurs repeatedly and continuously throughout the Project
Reversibility	The likely ability of an environmental component to return to an equal or improved condition once the disturbance(s) has ended.
Certainty	The level of confidence in the environmental effect prediction.

In the VEC-specific environmental effects assessments, the following criteria and definitions are used to describe and evaluate the significance of both Project-specific and cumulative environmental effects.

Table 3: Environmental Effects Significance Criteria

VEC(s)	Significance Criteria <i>For the purposes of this EA, significant environmental effects are defined as those that are likely to cause one or more of the following:</i>
Atmospheric Environment Water Resources	<ul style="list-style-type: none"> • A detectable decrease in existing air or water conditions (availability, quality) that results in measurable, repeated and prolonged exceedances of applicable regulatory standards and guidelines, and/or associated, detectable and sustained changes in local water use. • A detectable increase in noise (sound pressure levels) and vibration conditions that results in measurable, repeated and prolonged exceedances of applicable standards and guidelines at nearby residential areas or other sensitive points of reception, and/or which otherwise causes detectable and prolonged disturbance effects; or • A detectable increase in light levels that results in measurable, repeated and prolonged exceedances of applicable guidelines at nearby residential areas and/or other sensitive receptors, and/or which otherwise cause detectable and prolonged disturbance effects.
Fish and Fish Habitat Vegetation and Wildlife (including Species at Risk)	<ul style="list-style-type: none"> • Mortality or life-threatening injury to individuals of a designated (protected) species at risk, or destruction or alteration of the critical habitat of any such species; • Effects to any species within the Study Area, such that size, health, ecological function or sustainability of a population would be measurably and adversely affected; or • Destruction of, or displacement of biota from, important feeding or reproduction areas, migratory routes or other essential habitats, during time periods and for durations over which the size, health, ecological function and/or sustainability of a population would be measurably and adversely affected.
Protected and Special Areas	<ul style="list-style-type: none"> • An adverse change in one or more of the important and defining ecological and socio-cultural characteristics of such an area, resulting in an associated, detectable and sustained decrease in its overall integrity, value or use.
People and Communities Land and Resource Use Fisheries and Other Marine Activities Economy, Employment and Business	<ul style="list-style-type: none"> • An adverse effect on the health, safety or well-being of affected individuals or communities, such that there are associated, detectable and sustained decreases in these characteristics and the resulting health or quality of life of a population; • A detectable reduction in commercial activity levels and overall economic revenues over several years for one or more existing and active enterprises, which challenges their on-going operations and overall economic viability; or • A decrease in overall recreational or traditional activity levels or the enjoyment or cultural value of these pursuits for a community or region over multiple seasons or years.