

## **APPENDIX F**

### **Airport Conditions and Deficiencies**

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The village of Savoonga, a community of approximately 700 residents (State of Alaska, 2006), is located on Saint Lawrence Island, in the Bering Sea, about 164 miles west of Nome and 36 miles east of Siberia at approximately 63.69° North Latitude and 170.47° West Longitude (Sec. 08, T021S, R061W, Kateel River Meridian, Cape Nome Recording District) (Figure 1). Air transport via the DOT&PF owned and operated airport, is the only viable year-round method of moving goods and people between the mainland and the community. Savoonga is serviced by several air taxi operations that transport freight, passengers, and mail from Nome.

The existing facility includes a single gravel runway (R/W 5-23), which is 4,400 feet long and 100 feet wide, with a 5,000-foot -long and 150-foot-wide runway safety area. The airport also includes a 50- by 696-foot taxiway connecting to a 250- by 550-foot aircraft apron, and 150- by 550-foot aviation support area. Five lease lots and a snow removal equipment building are located on the apron; two of the lease lots are currently occupied. General aviation parking is located on the east side of the apron. The existing ARC for the Savoonga Airport is B-II. The ultimate ARC is B-III. The airport receives occasional service (less than 500 operations/year) from aircraft with an ARC of C-III, such as the Lockheed C-130 aircraft, while the majority of aircraft that currently serve the airport have an ARC of B-II or smaller. The runway and taxiway width, as well as profile grades, will be designed to accommodate the larger Group III aircraft. To accommodate the wider taxiway width the existing and proposed taxiway safety area width are 120 feet. Because the larger aircraft have less than 500 operations per year, FAA will allow the runway safety area to meet the smaller Group II standards. See Table 1 for FAA Standards and Existing Conditions.

**Table 1: FAA Standards and Existing Conditions**

<b>Component</b>	<b>FAA Standard (ARC)</b>	<b>Existing Conditions</b>
RSA Length	5,000 feet (B-II)	5,000 feet
RSA Width	150 feet (B-II)	Approximately 150 feet
Runway Length	4,400 feet	4,400 feet
Runway Width	100 feet (B-III)	100 feet
Runway Surface and other operational Surfaces	Clear and graded with no potentially hazardous ruts	Soft and badly rutted
Taxiway Configuration	N/A	Inadequate turn radius to runway
Taxiway Safety Area Width	120 feet (B-III)	120 feet
Lighting	N/A	Approximately 20 years old
Airspace	P77 surfaces clear	P77 penetrations
Apron	N/A	137,500 square feet
NAVAIDS	Upgrading VASIs to PAPIs	VASI
Airport Access Road	N/A	Surface course is deteriorated

### Runway Safety Area

According to the FAA Alaskan Regional Airports Plan, a runway safety area (RSA) is an area surrounding the runway that is capable of supporting the occasional passage of aircraft without causing structural damage, or injuring the aircraft occupants in the case of undershoot, or veering off the runway. The required RSA for a B-II rated runway is 150 feet wide and 300 feet beyond the ends of the runway per FAA Advisory Circular 150/5300-13. The RSA for R/W 5-23 meets this criteria in length, but is lacking in width in some areas due to ground settlement along the shoulders.

### Runway and Other Operational Surfaces

The existing runway meets FAA standards for both width and length. FAA design standards for runways and RSAs require cleared and graded areas with no potentially hazardous ruts, humps, depressions, or other surface variations (FAA AC 150/5300-13). The existing runway and other operational surfaces are soft and badly rutted. Large rocks are also present on the surfaces. The poor condition of the surfaces results in large amounts of dust on aircraft take-off as well as the potential of damaging aircraft. Air taxi services have threatened to stop service if the surfaces are not repaired.

### Taxiway

The existing taxiway is non-standard in geometry and marking and lighting. The current taxiway turn radii are too sharp, and the entrance to the apron creates a bottleneck that results

in inefficient use of the apron. The design standard for a taxiway uses a design speed of 20 miles per hour for aircraft. The current configuration has an inadequate turning radius to the runway.

#### Taxiway Safety Area

The taxiway safety area provides the same functions as described above for the runway safety area. The FAA AC 150/5300-13 requires a minimum width of 118 feet for taxiway safety areas for Airplane Design Group III. The current taxiway meets this standard.

#### Lighting

Lighted airport facilities are crucial in the State of Alaska due to the long periods of darkness in the winter months. Typically the design life for lighting systems is 10 to 15 years. The existing system is more than 20 years old. Light bases have frost-jacked out of the ground and have been damaged by snow removal equipment. The entire system is in need of replacement.

#### Airspace

The FAR Part 77 establishes imaginary surfaces within the airspace surrounding the airport to ensure that the FAA receives notification of objects that might pose a hazard to aircraft that utilize the airport. Currently, the segmented circle and windcone are located 250 feet from the runway, while Part 77 standards require a distance of 370 feet from centerline.

#### Apron

The existing apron will not accommodate the new taxiway. In order to construct a new taxiway that meets typical layouts and FAA design standards, the apron needs to be expanded. Additional apron space is also needed to meet the operational demands of the current fleet mix. At present, there can be as many as four aircraft on the apron at one time.

#### Precision Approach Path Indicator

Existing VASIs provide visual approach path guidance to the runway on approach. The FAA owns and maintains these units as part of their instrument approach system. They have been upgrading these units with PAPIs as equipment becomes available. The PAPIs are configured differently than VASIs and require gravel pads for their installation. A gravel pad

will be constructed for the PAPI system. The PAPI will be installed when FAA has equipment and funds.

### Airport Access Road

The airport access road extends from the community to the airport. The existing surface course is deteriorated, and under dry conditions traffic on the road creates large amounts of dust. Each spring the road floods due to inadequate drainage culverts. DOT&PF is proposing to place a surface course and install additional culverts under the road to alleviate these problems.