

## 5.16 ENERGY AND NATURAL RESOURCES

### 5.16.1 Background

Airport operations require the use of energy: electricity and natural gas are used to cool, heat and light buildings; electricity is used to provide airfield lighting; and aviation fuel, diesel fuel and gasoline are used to operate aircraft or ground support vehicles. Consequently, airport improvements may require additional use of these resources. This section describes the impact of the Proposed Action upon the supply and demand for energy and natural resources at Gary/Chicago International Airport. The potential impact to the energy supply and natural resources were assessed in accordance with FAA Order 5050.4, *Airport Environmental Handbook* as directed by FAA Order 1050.1, *Policies and Procedures for Considering Environmental Impacts*.<sup>1</sup>

Energy requirements associated with airport projects normally fall into two categories: those that relate to changed demand for stationary facilities (e.g. major airfield lighting changes) and those for aircraft operations.<sup>2</sup> Also, the supply of natural resources could be affected by construction activities relating to an airport improvement project.

### 5.16.2 Methodology

The Proposed Action was evaluated based on its potential to increase the demand on locally available energy supplies and natural resources. This evaluation considered the potential effect on existing and future growth and development trends, and the available energy supplies within the study area.

According to FAA Order 5050.4, *Airport Environmental Handbook*, the use of natural resources other than for fuel need be examined only if the action involves a need for unusual materials or those in short supply. FAA Order 5050.4A states further that, "For most airport actions, changes in energy or other natural resource consumption will not result in significant impacts. If the environmental assessment identified problems with demands exceeding supplies, changes in aircraft or ground vehicle use which would greatly increase fuel consumption, or the proposed substantial use of natural resources in short supply, additional analysis will be required in an environmental impact statement per Paragraph 85 (p). Otherwise, it may be assumed that impacts are not significant."

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1 Department of Transportation (DOT) and Federal Aviation Administration (FAA). 1986. *Policies and Procedures for Considering Environmental Impacts, FAA Order 1050.1*. Washington, D.C.: FAA Office of Environment and Energy (AEE). The use of FAA Order 5050.4A constitutes compliance with FAA Order 1050.1, which recommends the use of FAA Order 5050.4A for airport actions.

2 Federal Aviation Administration. *Executive Order 5050.4A, Airport Environmental Handbook*. Chapter Five, Paragraph 47(e)(17), Energy Supply and Natural Resources. Washington, D.C.: FAA Office of Airport Planning and Programming (APP). 1985.

### **5.16.3 Existing Conditions – 2000**

The airfield lighting is operated using electrical power provided by Northern Indiana Public Service Company (NIPSCO). The existing terminal facility uses electrical and natural gas energy sources for its heating and air conditioning operations.

An electrical transmission line owned by NIPSCO transits the area that is in close proximity to the existing primary Runway 12-30 (as shown in Chapter 2, Purpose and Need). Recently the FAA has identified the departure slope from Runway 12 as needing to be kept clear of obstructions. This departure surface begins at the end of runway and rises at a slope of 40:1. The electrical transmission line currently penetrates this departure surface such that the FAA would object to its location and height if it were a new line being constructed. Its penetration of the departure surface effectively reduces the available departure runway length on Runway 12 for airport users.

### **5.16.4 Future Conditions – 2007**

#### **5.16.4.1 No Action**

The no action scenario is a status quo condition, with no changes anticipated in the energy or natural resource requirements.

#### **5.16.4.2 Improvements to Existing Runway 12-30 to Conform to FAA Standards**

The improvement to the existing Runway 12-30 to conform to FAA standards will require an extension of the runway by approximately 546 feet to the northwest to allow for a fully usable runway length of 7,000 feet while meeting the FAA's runway safety area requirements. The improvements to the existing runway will also include the relocation of the existing railway and the burial of the power transmission lines. For the most part, these improvements will require a minor increase in the electrical power requirements, due to the longer length of the lighted runway and taxiway.

#### **5.16.4.3 Improvements to Provide Additional Runway Length on Runway 12-30**

The improvements to provide additional runway length on Runway 12-30 are to occur simultaneously with and require accomplishment of the improvements for Runway 12-30 to conform to FAA standards (safety area improvements). An approximately 1,354-foot extension to the northwest on Runway 12 is proposed in conjunction with the approximately 546-foot extension to Runway 12 to provide safety areas conforming to FAA standards (total extension 1,900 feet). This will require another minor increase in the electrical energy supply due to the longer length of the lighted runway and taxiway.

#### **5.16.4.4 Expansion of Existing Terminal**

A modest expansion of the existing terminal building and apron are proposed: adding one aircraft gate, for a total of four gates in the existing terminal area. Again a minor increase in energy requirements will be required to serve this additional expansion area.

#### **5.16.4.5 Acquisition and/or Reservation of Sites for Future Passenger Terminal and Air Cargo Facilities**

The Proposed Action does not include the development of the areas identified for future aviation related activities. Accordingly, the securing of these sites for future development will not create new demands on energy or natural resources.

#### **5.16.5 Summary of Findings**

The increased requirements for electrical power associated with the Proposed Action are minimal and are capable of being met by the local energy reserves. The increases in air traffic will increase local demand for aviation fuels; however, airport development will not directly affect the fuel consumption for ground transportation. Although additional energy and natural resources will be required for the operation of the Proposed Action, this will not impact the supply of energy or natural resources to the surrounding communities.

#### **5.16.6 Mitigation**

No mitigation measures are required.

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