Chapter 1 - Need for Proposed Action and Background

1.1 Introduction

This document is an environmental assessment (EA) of the proposal to raise the normal water surface elevation from 5517.8 feet above mean sea level (msl) to 5520.5 msl for Steinaker Reservoir in Uintah County, Utah. The Uintah Water Conservancy District (UWCD) has requested Bureau of Reclamation (Reclamation) authorization for this action. The Steinaker State Park, managed by the Utah Division of Parks and Recreation, maintains several campgrounds, an entrance station and other associated buildings and associated infrastructure. Modifications or relocations of some of these facilities would be needed in conjunction with an increase in the reservoir's normal water surface elevation.

1.2 Background

Steinaker Reservoir is an off-channel storage facility located just over 3 miles north of Vernal, Utah (Map 1). Construction of this rolled earth-filled dam was started in 1959 and completed 1962. The reservoir is fed by the Steinaker Feeder Canal which receives water through the Fort Thornburgh Diversion Dam located on Ashley Creek approximately two miles southwest of the reservoir. The Dam and Reservoir are features of the Central Utah Project (CUP), Vernal Unit and provide water to lands south of the reservoir.

The project provides a supplemental water supply of 17,900 acre-feet to about 14,700 acres. Project water also replaces water in Ashley Creek which allows irrigation of lands above Steinaker Service Canal and diversion of water from Ashley Springs on Ashley Creek into the municipal pipelines which supply 1,600 acre-feet of water annually to the communities of Vernal, Naples and Maeser.

Steinaker Reservoir has a total capacity of 38,173 acre-feet and a surface area of 820 acres. Steinaker Dam is a zoned earthfill structure. The dam is 162 feet high, has a crest length of 1,997 feet, and contains 1,892,000 cubic yards of material.

The emergency spillway is a reinforced concrete structure located on the right abutment of the Dam (west side). The 378-foot-long spillway has an inlet channel with a 15-foot-wide uncontrolled overflow structure, a 6-foot-wide chute, and an 11-foot-wide stilling basin which serves both the spillway and outlet works flows. The spillway crest is at elevation 5,520.5 feet. The spillway has a design capacity of 690 cubic feet per second (cfs) at reservoir water surface elevation 5527 feet.

The outlet works are located within the right (west) side of the dam abutment. The outlet works have a design capacity of 550 cfs at maximum reservoir water surface elevation 5520.5 feet. Under normal conditions, outlet works discharges are limited to 300 cfs which is the design capacity of the Steinaker Service Canal which carries the combined discharge of the spillway and outlet works.

Since this is an off-channel reservoir, water is not released directly into any natural drainage. Water can be delivered to Ashley Creek via the service canal.

Map 1. Steinaker Reservoir and State Park

1.3 Purpose, Need and Scope of Analysis

The purpose of the Proposed Action is to increase Steinaker Reservoir's normal water surface elevation from 5,517.8 feet to 5,520.5 feet. This would be an increase of 2.7 feet and would allow the reservoir to be filled to the current spillway crest elevation. This increased elevation would allow for additional carryover water storage above current conditions. If this added carryover water is proposed for any use other than present uses, additional NEPA analysis and

documentation would be needed. The Proposed Action is needed to increase the reservoir's water storage capability with no structural or operational modification to the dam or reservoir. Due to safety concerns, some additional monitoring of the dam would be required when water surface elevation rises to 5520.5 msl.

The scope of analysis in this EA is limited to consideration of whether or not to authorize the proposed water surface elevation increase. This EA is being prepared because of UWCD's request for Reclamation's authorization to raise the normal water elevation. Construction activities (for recreation facilities) associated with the Proposed Action would be limited to previously disturbed lands within Steinaker State Park and are related to modification or relocation of recreation facilities.

1.4 Authorizing Actions, Permits and Licenses

Implementation of the Proposed Action could require a number of authorizations or permits from State and Federal agencies. These are summarized below.

- Reclamation authorization needed to modify normal water surface elevation on a permanent basis. The "Steinaker Dam Issue Evaluation Decision Document" (U.S. Department of the Interior, 2007) found that increasing the maximum normal reservoir water surface elevation as proposed would not increase risk estimates above Reclamation guidelines.

- Permit from the Army Corps of Engineers in compliance with Section 404 of the Clean Water Act, as amended, to modify or relocate recreational facilities.

1.5 Relationship to Other Projects

The Utah Division of Parks and Recreation proposed that the entry station for Steinaker Reservoir State Park be renovated and reconstructed. A Categorical Exclusion (CE) was completed for this proposal on February 5, 2007.

In 2005, 2006 and 2007 Reclamation authorized temporary increases in the normal water surface elevation at Steinaker Reservoir for the purposes of testing the potential effects to dam integrity and spillway operation.