



TECHNICAL MEMORANDUM – DRAFT

TO: Barry Norris, OWRD
FROM: Said Amali, Ph.D., PE
SUBJECT: Task 1.F – Review Regulatory and Permitting Challenges and Opportunities

DATE: ~~30 June 2009~~27 June 2009
PROJECT: Umatilla Basin Regional Aquifer Recovery Assessment
IRZ Project No.: 08-016

The agricultural economy of Umatilla and Morrow counties is critically dependant on availability of water for irrigation. Due to overdraft of the groundwater aquifers in the area, the Oregon Water Resources Department (OWRD) designated four ~~groundwater aquifers within the Umatilla Basin as~~ Critical Groundwater Areas (CGAs) in the Umatilla Basin (OWRD 2003). To increase water availability in the CGAs, OWRD has begun a technical assessment of the feasibility of storing water from the Columbia River, and other surface water sources, during high flow periods in shallow sediment and deep basalt aquifers for later recovery and use during the irrigation season. This technical memorandum includes an outline of regulatory steps to develop applications and secure the needed permits for project implementation. Figure 1 depicts the boundary of the CGAs (Figure 1 not attached).

EXECUTIVE SUMMARY

IRZ conducted a review of Oregon rules and regulations to identify permitting and other requirements which must be met for implementation of three conceptual engineering Supply, Storage, Recovery, and Distribution (SSRD) systems identified in this project. No federal permitting requirements are triggered by the SSRD systems. Our evaluation indicates that as long as the final design of the SSRD systems do not deviate significantly from the conceptual systems, the regulatory pathway to implement the selected engineering design is mostly clear. Although some uncertainty exists regarding how best to accommodate certain project permitting needs, we expect that OWRD, and other agencies, will be able to process the needed permits and within normal time frames (what are normal time frames? weeks, months, year?). We intend ~~intent~~ for this memorandum to be a vehicle to initiate discussion amongst stakeholders and solicit comments at an early stage to minimize what regulatory uncertainty exists and eliminate or minimize potential legal issues. The regulatory steps to obtain the needed State permits are summarized in the attached table (not attached on this draft – is this Table 1 referenced later in this memo? If so, recommend designating in the same format throughout).

INTRODUCTION

The conceptual SSRD systems are designed to provide water to certain Sub-Areas within the CGAs. The Sub-Areas which will potentially receive recharge water and the rationale for their selection are described in IRZ (2008) and IRZ (2009). The SSRD1 system is designed to pump Columbia River water for eventual use in the Ordnance Gravel and Butter Creek CGAs. The SSRD2 system is designed to provide



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water to the Stage Gulch CGA Sub-Areas west of Umatilla River. And the SSRD3 system is designed to provide water to Stage Gulch CGA Sub-Areas east of the Umatilla River.

The SSRD systems will require a number of permits and licenses to secure the necessary water rights, to divert water from Columbia River for storage in alluvial and/or basalt aquifers, and to pump the stored water. In addition, the permits and licenses require agency approvals regarding compliance with water quality and treatment standards.

An initial evaluation of Oregon rules and regulations was performed early on to identify the regulatory steps necessary to allow implementation of the SSRDs. This initial evaluation indicated that Oregon Administrative Rules (OAR) 690-350 govern permitting for aquifer storage and recovery (ASR) and aquifer recharge (AR) facilities, administered by OWRD. These rules incorporate certain sections of OAR 340-040 and OAR 333-061 by reference. These sections govern the treatment of waters to be used as potable water or stored in an aquifer which acts as a source of drinking water. They are administered by Oregon Department of Environmental Quality (DEQ), and Oregon Department of Human Services (DHS) Drinking Water Program, respectively. Several ASR and AR facilities are operational in Oregon and provide examples of regulatory processes, and challenges, for this type of system. For example, the cities of Pendleton, Baker City, Beaverton, and Salem use ~~such~~ ASR systems to increase their potable water supply. Only a few ASR systems operate in eastern Oregon for the purpose of providing stored water for agricultural irrigation. Finally, several AR systems have been permitted in Oregon to store winter high flows to provide water for a variety of uses during the other times of the year.

OBJECTIVES

This task has the following specific objectives:

- Clarify permitting requirements under Oregon rules and regulations relating to testing and implementation of AR and ASR projects.
- Clarify regulatory requirements under Oregon rules and regulations relating to water treatment, impacts to native water quality, impacts to drinking water supplies, and impacts to existing water rights.
- Suggest steps to resolve permitting uncertainties.
- Identify a Water Rights Strategy for AR and ASR Source Waters.
- Determine if existing water rights may be suitable for the project.

SCOPE OF ASSESSMENT

Oregon developed the current ASR/AR regulatory framework to primarily meet the needs of municipal and public water systems. These systems are regulated to ensure that their ~~pipel~~ water supplies meets drinking water standards through stringent and extensive monitoring and reporting as well as treatment



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requirements. The SSRD systems proposed in this project have several significant differences with typical public water systems, as follows:

- A great portion of the imported water is designed to reside in the aquifers to provide for curtailed irrigation groundwater rights and not for municipal drinking water use. ~~through piped systems.~~
- A portion of the imported water is targeted to increase aquifer sources of water supply to domestic and municipal water supplies and not to be directly tied to any potable water distribution system.
- The system will be operated in areas where the distance to existing municipal systems is much greater than the groundwater 2-year time of travel.
- The system is at a ~~relatively immense~~ large scale in terms of volumes of water to divert and store, geographical extent of system distribution, use of existing pumping infrastructure, the size of the groundwater aquifers utilized, and finally its great importance to local and State economies.

It appears that the current regulatory framework can be used to permit and operate the proposed SSRD systems. However, there are specific items which need further clarification and discussion with OWRD, DEQ, and DHS. The data and information generated in this project are expected to provide significant assistance in reaching clarifications and agreements on the final regulatory steps. It is certainly preferred by the stakeholders that any permitting complexities that arise can be addressed within the current rules and regulations, without the need for new rule making.

The following rules and regulations were deemed applicable and reviewed for this task:

- OAR 690-350 AQUIFER STORAGE AND RECOVERY (ASR) AND ARTIFICIAL GROUNDWATER RECHARGE (AR)
- ORS 537.135 & 143 APPROPRIATION OF WATER GENERALLY
- OAR 333-061 PUBLIC WATER SYSTEMS
- OAR 340-040 GROUNDWATER QUALITY PROTECTION
- OAR 690-033 ADDITIONAL PUBLIC INTEREST STANDARDS FOR NEW APPROPRIATIONS
- OAR 690-310 WATER RIGHT APPLICATION PROCESSING
- OAR 690-507 UMATILLA BASIN PROGRAM
- OAR 690-009 GROUNDWATER INTERFERENCE WITH SURFACE WATER
- OAR 340-044 UNDERGROUND INJECTION CONTROL

The above rules and regulations were reviewed to identify sections which are relevant to construction of the SSRD systems and their operation and maintenance. They include provisions required to begin pilot testing, and to obtain system permits and final water right certificates. They additionally include provisions dealing with monitoring and reporting of system, aquifer, and water quality data which will



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have to be part of the initial pilot testing and future system operations. This evaluation did not intend to include those aspects involving fiscal responsibilities related to system ownership and operation.

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FINDINGS

The steps required to obtain the OWRD limited licenses and permits, and to comply with other regulatory requirements are summarized in Table 1. Table 1 provides a pathway for the stakeholders to begin project construction, and for its continued operation and maintenance. It should be noted that the information included in Table 1 covers the permitting needs of SSRD1 and SSRD2 systems. The SSRD3 system, intended for the Stage Gulch Sub-Area east of Umatilla River, has not been designed due to lack of suitable alluvial recharge and treatment options. Therefore, permitting needs for this system ~~is~~ are not included in Table 1.

REFERENCES

IRZ Consulting LLC, 2008. Task 1.D: Estimate Water Needs. Umatilla Basin Regional Aquifer Recovery Assessment, Technical Memorandum, Draft.

IRZ Consulting LLC, 2009. Task 1.J Develop a Scope for the Entire project. Umatilla Basin Regional Aquifer Recovery Assessment, Technical Memorandum, Draft – in press.