

## **12.0 Radiation Protection**

### **12.1 Ensuring that Occupational Radiation Exposures are ALARA**

The information in this section of the reference ABWR DCD, including all subsections, is incorporated by reference with the following site-specific supplements.

#### **12.1.1 Policy Considerations**

The management policy, the ALARA policy and the organizational structure related to ensuring that occupational radiation exposures are maintained as low as is reasonably achievable (ALARA) are described in Section 12.5S, "Operational Radiation Protection Program." Implementation of the policy, organization, training and design review guidance will be consistent with Regulatory Guides 1.8, 8.8 and 8.10, as described in Section 12.5S.

##### **12.1.1.2 Operation Policies**

The operational policy considerations for ensuring that radiation exposures will be maintained ALARA, including the provisions for continuing ALARA facility design reviews once the plant is operational, are described in Section 12.5S.

#### **12.1.4 COL License Information**

##### **12.1.4.1 Regulatory Guide 8.10**

The following site-specific supplement addresses COL License Information Item 12.1.

Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable," and Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As is Reasonably Achievable," both deal with the concept of "as low as is reasonably achievable" (ALARA) as it relates to occupational radiation exposures. Regulatory Guide 8.10 describes the general operating philosophy for maintaining occupational exposures to radiation as low as is reasonably achievable. Regulatory Guide 8.8 describes the information relevant to "as low as is reasonably achievable" that should be included in license applications.

Regulatory Guide 8.10 identifies two basic conditions that are considered necessary for maintaining occupational radiation exposures as far below the specified limits as is reasonably achievable: management commitment and vigilance by the radiation protection staff.

STP 3 & 4 will continue the management commitment and radiation protection practices developed for STP 1 & 2. Section 12.5S further describes the management policies, organizational structure, training, procedures and methods that will be in place for maintaining exposures ALARA.

#### **12.1.4.2 Regulatory Guide 1.8**

The following site-specific supplement addresses COL License Information Item 12.2.

Regulatory Guide 1.8, "Qualification and Training of Personnel for Nuclear Power Plants," provides guidance for the selection, qualification and training of personnel at nuclear power plants. The STP 3 & 4 conformance with Regulatory Guide 1.8, as it pertains to the Health Physics organization and the management of the Health Physics organization, is described in Section 12.5S.

#### **12.1.4.3 Occupational Radiation Exposures**

The following site-specific supplement addresses COL License Information Item 12.3.

Occupational radiation exposures will be maintained ALARA by means of the Operational Radiation Protection Program described in Section 12.5S. The detailed policies and plans for maintaining occupational radiation exposures ALARA will be consistent with the guidance in Regulatory Guides 8.8 and 8.10. The detailed procedures will be prepared consistent with the guidance in Regulatory Guides 1.8, 8.2, 8.7, 8.8 and 8.10, the guidance referenced in NUREG-1736 that is applicable to power reactors, and the requirements in the QAPD (NEI 06-14).

The operational plans, procedures and policies currently in use at STP 1 & 2 reflect industry experience and guidance. They will be used, in conjunction with the guidance contained in the documents identified above, to develop the policies, plans and procedures for STP 3 & 4. Many of these plans, procedures and policies will be common to all four units.

Section 12.3, "Radiation Protection Design Features" describes the many features that have been designed into the plant, incorporating information from operating plant experience and from other plant designs. The management policy described in Section 12.5S includes the provision to continue to assure that the plant is designed, constructed and operated such that occupational and public radiation exposures and releases are maintained ALARA.

Section 12.5S describes methods that will be factored into procedures for maintaining radiation exposure-related operations such as maintenance, inservice inspection, radwaste handling and refueling ALARA.

STP 3 & 4 will follow the guidance provided in Regulatory Guides 8.2, 8.7, 8.9, 8.13, 8.15, 8.20, 8.25, 8.26, 8.27, 8.28, 8.29, 8.34, 8.35, and 8.38 in carrying out the operational radiation protection program.

#### **12.1.4.4 Regulatory Guide 8.8**

The following site-specific supplement addresses COL License Information Item 12.4.

Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable," provides guidance for maintaining the annual dose to individual plant personnel, as

well as, the collective dose to all station personnel ALARA through the design, construction and operation of a nuclear power plant.

STP 3 & 4 has been designed in conformance with Regulatory Guide 8.8 as described in Sections 12.1 and 12.3. Sections 12.1, 12.3, 12.4 and 12.5 provide a description of the ALARA program, the radiation protection program, the design features, and the radiation protection facilities, instrumentation and equipment that will be used to ensure that STP 3 & 4 meet the objectives of Regulatory Guide 8.8 during the construction and operational phases.

