

dose exposure as a result of a fuel handling accident are proposed for the methodology change and Regulatory Guide 1.25 deviation requested. Therefore, there are no radiological consequence changes for this event.

The fuel handling accident event does involve fuel barrier failure and does involve consequences, however no changes to the fuel handling dose calculation are required since the decontamination factor will remain unchanged even with maximum fuel pin pressure exceeding 1200 psig. Activities affecting on-site dose consequences that may require prior NRC approval are those that impede required actions inside or outside the control room to mitigate the consequences of reactor accidents.

The proposed change does not modify any operator actions and hence will not impede required actions inside or outside the control room to mitigate the consequences of reactor accidents. The proposed change will not prevent or degrade the effectiveness of actions described or assumed in an accident discussed in the UFSAR. The proposed change does alter assumptions previously made in evaluating the radiological consequences of an accident described in the UFSAR, however the altered assumption is a methodology change. If the proposed methodology change were not applied, the calculated dose would increase. The peak assembly average pin pressure concept would allow the decontamination factor (DF) to remain the same and therefore consequences would remain unchanged. The proposed change does not play a direct role in mitigating the radiological consequences of an accident described in the UFSAR. The radiological consequences of the accident described in the UFSAR are bounding for the proposed activity (e.g., the results of the UFSAR analysis bound those that would be associated with the proposed change).

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. The proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

The accident affected by the proposed change is the fuel handling accident (UFSAR Section 15.7.4). The proposed change does not involve any new equipment and does not operate any existing equipment in a different or more severe manner than what has previously been analyzed. PVNGS evaluations concluded all analyses of record for fuel handling events involving fuel assemblies containing ZIRLO cladding will remain bounding. The material strength of ZIRLO is significantly higher than that for Zircaloy-4. Since the allowable stresses for ZIRLO cladding are significantly higher than for Zircaloy-4, the same number of fuel rods (or fewer) will be damaged by the same accident scenarios as previously evaluated. Regardless of the fuel type (and hence cladding type), the design stress and code allowable limits will not be exceeded. Slight changes in the maximum fuel pin pressure during fuel movement will have no impact on the possibility of creating an accident of

a different type as long as the design pressure structural limits of the fuel assembly are not approached. PVNGS calculation documents minimum liftoff pressures will not be challenged regardless of the fuel type or cladding type. Maintaining peak assembly average fuel pin pressure below 1200 psig will not challenge the liftoff pressure design basis limit for the cladding. The peak pin internal pressures for the hot rods never exceed the clad liftoff pressure and therefore the fuel pins will not be more likely to fail. Vendor calculation shows that the ZIRLO cladding fuel design results in a greater margin to the design pressure limit of the fuel cladding and also documents liftoff pressures are not exceeded for PVNGS fuel designs.

The design function of the SSCs required to function during a fuel handling accident is to provide protection to ensure fuel damage is limited to 236 fuel pins (one fuel assembly) and ensuring doses do not exceed established limits. These are indirect effects. This change will not make a SSC more likely to fail (no direct effects). In fact, ZIRLO cladding fuel is less likely to fail than the original Zircaloy-4 cladding fuel. No physical changes to the SSCs will be performed as a result of the proposed change. This proposed change does not change the failure modes for the SSCs required to operate for the fuel handling accident. The cladding calculations document design stress or code allowable limits will not be exceeded. Hence, system/equipment redundancy requirements are maintained. Fuel handling accident analyses must ensure doses at the site boundary remain within acceptable design limits. The cladding calculations document fuel pin pressures do not exceed the design pressure ratings for the fuel assembly. Therefore, no indirect effects on SSCs associated fuel clad pressure boundary exist. None of the failure modes and effects analyses are impacted by this methodology change since no SSCs are being modified, system lineups remain the same, and operator actions are not changing.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. The proposed change does not involve a significant reduction in a margin of safety.

The Nuclear Reactor Regulation (NRR) Safety Evaluation, "Related to Task Interface Agreement 99-03 Regarding Potential Nonconservative Assumptions for Fuel Handling Accident, McGuire Nuclear Station, dated November 24, 1999," states in part, "The NRR staff has concluded that the increased rod pressures associated with extended bumup fuel can be expected to decrease the value of the iodine DF. However, the NRR staff believes that the iodine DF value of 100 provided in Regulatory Guide 1.25 has sufficient margin to compensate for the increases in rod gas pressures at current allowable bumup levels and for the expected increases in gap release fractions. Conservatism in the assessment of the amount of fuel damage provide additional margin. Design basis fuel handling accidents are not considered to have a high risk significance. On the basis of these findings, the staff concludes that there is reasonable assurance that adequate

protection of the public from the effects of design basis fuel handling accidents involving fuel with peak rod average bumups as high as 62 GWD/MTU will continue."

To assess the margin of safety, the methodology specified in Regulatory Guide 1.183, "[Alternative Radiological Source Terms for Evaluating Design Basis Accidents at Nuclear Power Reactors,]" was evaluated. This regulatory guide suggests a DF of 200 for iodine. This DF is well above the DF of 100 specified by Regulatory Guide 1.25.

APS [Arizona Public Service] proposes that ample margin is retained to justify the continued used [use] of an overall decontamination factor of 100 at a peak assembly average fuel pin pressure of 1200 psig.

Therefore, APS has concluded that the proposed license amendment request does not involve a significant reduction in a margin of safety.

Based on the above, APS concludes that the [activities associated with] the proposed amendment(s) present no significant hazards consideration under the standards set forth in 10 CFR 50.92 ["Issuance of Amendment,"] (c) and, accordingly, a finding of "no significant hazards consideration" is justified.

The NRC staff has reviewed the licensee's analysis and, based on that review, it appears that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff proposes to determine that the request for amendments involves no significant hazards consideration.

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*Arizona Public Service Company, et al., Docket Nos. STN 50-528, STN 50-529, and STN 50-530, Palo Verde Nuclear Generating Station, Units 1, 2, and 3, Maricopa County, Arizona.*

*Date of amendments request:* September 17, 2003.

*Description of amendments request:* The amendments would revise sections of the Technical Specifications (TS) to support replacement of the part length control element assemblies (PLCEAs) with a new design that contains neutron absorber over the entire control section of the CEA. The replacements are referred to as part strength control element assemblies (PSCEAs). Additionally, a change is proposed to TS 3.1.5—"Control Element Assembly (CEA) Alignment," Condition B, to eliminate a potential condition which could cause an unwarranted plant shutdown.

*Basis for proposed no significant hazards consideration determination:* As required by 10 CFR 50.91(a), the licensee has provided its analysis of the