

## EARLY FOOD PROTECTION IN A RADIOLOGICAL EMERGENCY

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Washington State has gone through several changes on how and when protective actions are recommended to the public to prevent the public from consuming contaminated food products between the time of a radiological release and the time when a food control area can be established. Washington State refers to the public recommendations to protect livestock and to prevent consumption of radiologically contaminated food products as the Agriculture Advisory. The agriculture advisory is anticipated to be in place for 24 to 48 hours until an official food control area can be established and an embargo placed on food products within the food control area.

The last several exercises at the Columbia Generating Station have proven that our methodology for determining the size of the Agriculture Advisory has been inadequate to protect the public from consumption of contaminated food products. During the 2000 and 2002 ingestion exercise we demonstrated that a substantial amount of food production ground fell outside of the recommended agriculture advisory area but within the food control area once established. Meaning that the public would have been unprotected from presumably consuming contaminated food products until the food control area had been established. The methodology of using a 60-degree wedge in the wind direction from the power plant to the edge of the 50-mile EPZ was questioned. Washington State Department of Health Office of Radiation Protection was asked to review the methodology that the Washington State Department of Agriculture used for the Agriculture Advisory. An Agriculture Advisory was needed to protect the public but not create undue economic hardship for the state. The Columbia Generating Station sits in the middle of Washington States most productive farm ground and milk production areas. Any recommendations to curtail agriculture production through an advisory or food control area will have substantial economic impacts to Washington State. Also an agriculture advisory area that is too small not only would leave the public unprotected but could also create the perception that all of Washington States products could be harmful no matter where the products originated in the state.

Washington State Department of Health was asked to review the methodology used to develop the area for the Agriculture Advisory. Washington State Department of Health used weather data from the National Weather Service specific to the power plant in Washington State, EDPS modeling and NARAC modeling to determine a new methodology for protecting the public. The data supported using a 180-degree wedge in the wind direction from the power plant to the edge of the 50-mile EPZ in addition to a 10-mile circle surrounding the power plant. The determination of when the Agriculture Advisory was issued was also questioned. The old methodology had

the Agriculture Advisory being issued at a General Emergency. It was determined that a radiation health physicist would verify that conditions at the power plant would most likely result in food control issues. This allowed the agriculture advisory to be issued regardless of the emergency declaration and included a verification step with a radiation health physicist at the power plant.

In the 2006 exercise at the Columbia Generating Station the new methodology for the Agriculture Advisory was demonstrated. The Agriculture Advisory was demonstrated successfully with the exception that the advisory was issued the same time as the evacuation instructions were given for the evacuation zones. This created conflicting messages between evacuating and taking protective measures to protect livestock and water sources. With the result of possibly delaying the evacuation of citizens within the evacuation areas. Procedures were updated so that the evacuation areas within the 10-mile EPZ were issued an agriculture advisory at a Site Area Emergency (before evacuation orders) that included only the steps to protect livestock and water sources. The protective recommendation steps to protect livestock and water sources would be the steps that prevented citizens from evacuating.

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