Response to *60 Minutes*, "Hanford Nuclear Facility Cleanup," April 30, 2006

At Hanford in Eastern Washington, aside the Columbia River, Bechtel has been working with the Department of Energy (DOE) since 2000 on the largest environmental cleanup project in U.S. history – to safely dispose of 53 million gallons of highly radioactive waste left over from the production of nuclear weapons during the Cold War.

Bechtel is building the world's biggest and most technically sophisticated radiochemical plant to sort the waste and encase it in glass so it can be permanently isolated from the environment. This Waste Treatment Plant (WTP) will safeguard the people of Washington by preventing these dangerous materials seeping out of temporary storage, migrating through groundwater, and polluting the Columbia River.

On April 30, 2006, CBS *60 Minutes* charged that "the U.S. government has botched the clean-up." It also claimed that Bechtel ignored warnings about the need to upgrade seismic design standards, knowingly accepted defective processing tanks from a manufacturer, and wasted hundreds of millions of dollars and years of effort by pushing a "fast-track" approach to building before engineering was complete.

But to make its case, *60 Minutes* misrepresented well-known facts, confused basic issues, and drew unwarranted conclusions that could mislead the public and decision makers if left unchallenged. It is remarkable that with all the investigative resources at their disposal, *60 Minutes* failed to shed light on the real issues that have made WTP such a challenging project.

The seismic issue

The impact of changing seismic criteria on the project has long been a matter of public record. The original ground motion criteria for the design were reviewed by numerous independent experts and provided to Bechtel by DOE as part of its contract in 2000. Bechtel did not independently evaluate those criteria but advised that any substantive increase in predicted ground motion would have a significant impact on the design and therefore the overall cost and schedule of the project.

One reviewing agency, the Defense Nuclear Facilities Safety Board, requested more information about the characteristics of the soils under the WTP. After considerable debate among experts, DOE decided to commission a study in early 2004, which resulted in the department's decision to increase the seismic requirements by nearly 40 percent.

Because its original plant design was conservative, Bechtel did not have to remove or redo any construction work. But prudence dictated that we review tens of thousands of design documents to ensure they meet the new standard. That's not a mistake—it's the price of getting things right as scientific understanding of a complex issue has evolved. Contrary to Leslie Stahl's claim on *60 Minutes*, this cost increase has absolutely nothing to do with "pushing ahead with construction before the engineering is complete."

The submerged bed scrubber vessel

60 Minutes also offered a misleading account of issues surrounding the quality of stainless-steel tanks fabricated by an outside vendor for WTP and installed in November 2003 to hold and process radioactive wastes.

Stahl claimed that deficient welds in the vessel were missed by Bechtel and discovered only "by independent inspectors for Washington state." Not true. As documents available to *60 Minutes* clearly show, the inspector was a subcontractor to Bechtel, responsible for helping to ensure that we comply with state environmental permits.

His careful checks were part of a system of multiple inspections and procedures that Bechtel uses to catch engineering, procurement, or construction problems. We discovered quality problems, we reported them to the Department of Energy, and we ensured that the vendor fixed the defects. We also changed the procurement specifications to prevent problems with other vessels and we strengthened our supplier quality program. Work on the vessel was completed and accepted by DOE in July 2004. The claim of one WTP critic quoted at length on *60 Minutes*—that design and construction flaws on the scrubber vessel prove that Bechtel and DOE both "failed"—is flatly contradicted by the record.

The same critic, Tom Carpenter of the Government Accountability Project, also claimed that Bechtel "demanded" and received a $15 million "bonus" for installing the vessel, implying that DOE must have been asleep at the switch to have rewarded such allegedly poor performance. As Carpenter's own documents show, the payment was simply a contractual fee, not a special bonus, for reaching an agreed construction milestone on the project. Under the terms of the contract, Bechtel had no deadline incentive to rush the job. Stahl did note Bechtel's clarification that the payment was a fee, but provided no context or explanation, which left viewers to see it simply as a semantic distinction without a difference.

"Fast-track" construction

The overarching thesis of the *60 Minutes* show was that a mindless contractor, overseen by an inept agency, has "squandered billions of dollars in taxpayers' money" and years of time by rushing to build major facilities before they are fully designed. Evidently the producers were intent on justifying the show's previous reporting on WTP; as Stahl reminded viewers, "Fast track was singled out as a major problem five years ago when we last reported on the cleanup."

"Fast track," Stahl explained, is the "practice of pushing ahead with construction before the engineering is complete." As noted above, the changed seismic criteria and the vessel flaws were not caused by fast tracking the project. Remarkably, the only example Stahl offered of a "fast-track" fiasco had nothing to do with WTP. It consisted of a nameless building "at a similar site in Idaho," allegedly constructed too small to hold the equipment it was meant to house. In other words, a different place, a different time, a different project, a different contractor.

The process used by Bechtel at WTP is commonly referred to as "design-build." This integration of engineering and construction is the industry approach of choice for a complex nuclear project like WTP. Proper integration means that the design of a particular component of an overall facility is completed before construction of that component so that there is minimal risk of construction rework and inefficient starts and stops. It does allow construction to begin before the entire facility is designed. Bechtel and most other major contractors use this optimized design-build approach on projects worldwide because it delivers projects faster and at less cost.

As of December 2005, design on the project was more than 60 percent done, more than 40 percent of the materials had been purchased and construction was more than 25 percent complete. If the design-build approach were not used for WTP:

- The facility would still be in a phase of design and redesign.
- There would have been no procurement or construction progress and the facility would be 15-20 years from plant startup.
- There would still be no experience with the nuclear quality supply chain challenges and as a result, the cost estimate would still be an order of magnitude understated.

The design-build approach on WTP has worked. It has led to an earlier understanding of what it will really cost to deliver this plant. And because of proper integration between design and construction, all of the construction to date is sound.

The real issues

WTP has faced a number of serious issues, all ignored by *60 Minutes*. The project team has had to overcome dozens of major technical challenges in designing the world's largest and most complex radioactive waste processing plant. It has had to help revive the nation's atrophied nuclear industry production infrastructure and train a new generation of employees to work to nuclear standards, as no major nuclear facility has been built in the United States in over 20 years. It has struggled to anticipate the soaring cost of equipment and supplies over the past few years.

As Tom Hash, chairman of Bechtel National, Inc., testified before a congressional panel in April 2006, "In hindsight, the challenges were bigger than we expected. It has taken us several years of experience—while overcoming major technical hurdles—to know enough to forecast the likely cost and duration of this vital project." But thanks to Bechtel's commissioning of two teams of industry and academic experts last year to evaluate future technical risks and cost-and-schedule estimates, DOE and Congress now have far greater assurances that the project faces no insurmountable technical hurdles and that current estimates are defensible.
(http://www.bechtel.com/PDF/WTP_written_testimony.pdf)

Bechtel, DOE, and *60 Minutes* at least see eye-to-eye on one issue: Nothing must stand in the way of protecting public health and safety. As Christine Gregoire, governor of Washington, concluded on camera, “the last thing we need is to send a message to this country that it’s okay to walk away. It is not. . . . We need to get going.”