Rich Newberg Reports: Crisis at West Valley Segments

Crisis at West Valley 1: Overview	http://digital.buffalolib.org/document/2076	This overview is the first of five groups of television news reports, videos, and films documenting the political, economic, and social processes that led to a forty-year cleanup effort that is still in progress. The multi-billion-dollar undertaking continues to serve as a national demonstration project	34 minutes

Segment	Description	Science Standards - MST	Science Standards - NYSSLS
1. The Nuclear Waste Challenge CBS, 1979	Overview summary. Radioactive liquid waste must be disposed of by a technology that has yet to be developed.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
2. Migrating Radioactive Waste WIVB, 1982	What is happening below the surface? Concerns of sand "lenses", contaminated ground water, and unsuitable bedrock.	**Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1s, 2.1t	**HS. ESS2-2:** Analyze geoscience data to make the claim that one changes to Earth's surface can create feedbacks that cause changes to Earth's systems.
3. Lessons Learned the Hard Way WIS-TV 1983	Plans to activate a privately owned nuclear reprocessing plant in Barnwell, S.C. are re-evaluated due to reported problems at West Valley.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
4. Who Would Accept Radioactive Waste? CBS, 1982	A small Texas town considers accepting radioactive waste. This small-town site on top of a salt bed. Salt beds are geological formations deemed suitable by the Federal Government to store nuclear waste.	**Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1s, 2.1t	**HS. ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.
5. West Valley Chosen for a National Demonstration Project WIVB, 1980	Stored liquid radioactive waste will be solidified and relocated. State and Federal government agencies and Westinghouse Corporation as the primary contractor take control of the West Valley Site.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

6. Entering the First Radioactive Cell for Testing WIVB, 1983	Video of tests conducted by Westinghouse inside a radioactive cell. The tests will assist in determining the best techniques to prepare the facility to solidify the liquid radioactive waste.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
7. Storing the High-Level Radioactive Waste, CHBWV, 2015	This video documents the history of the nation's first and only commercial nuclear fuel reprocessing plant and the massive job of cleaning up the generated waste.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

Rich Newberg Reports: Crisis at West Valley Segments

Crisis at West Valley 2: The Community Responds	http://digital.buffalolib.org/document/2077	The segment contains 14 video clips that have responses from environmentalists, scientists, and area residents regarding safety concerns at West Valley. Video segments also contain interviews with nuclear physicians who are in favor of storage of low-level nuclear waste. Reports on Federal and State agency funding and accountability are included. Also featured is a report on a public hearing that details statements from those in favor and those oppose reopening West Valley to story nuclear waste.	38 minutes

Segment	Description	Science Standards - MST	Science Standards - NYSSLS
1. "The Story of Nuclear Fuel Reprocessing". Produced by Nuclear Fuel Services. (11 minutes)	Description of the operation of the nuclear fuel reprocessing plant along with the plants mission to reclaim uranium and plutonium inside the spent nuclear fuel rods. The material was shipped to West Valley in specially built trucks and railroad cars.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
2. Could West Valley re-open as a storage facility? WIVB (3:05 minutes)	Reports of a recommendation by NYS Department of Energy that West Valley reopen as a nuclear waste storage facility. Report includes warnings by environmentalists. Researchers have determined that the West Valley facility sits on a seismic fault zone.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1o	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems. **HS. ESS2-2:** Analyze geoscience data to make the claim that one changes to Earth's surface can create feedbacks that cause changes to Earth's systems.
3. Safety concerns and environmental issues. WIVB (2:07)	Safety concerns at the West Valley plant along with potential leaks in a containing wall if seismic occurrences were to happen are raised by local environmentalists. This is due to the recommendation by NYS Department of Energy for the West Valley project to re-open as a storage facility.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1o, 2.1s, 2.1t	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. **HS. ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.

4. Area residents voice concerns with a petition. WIVB (1:55)	A petition by area residence calling for a ban on nuclear waste storage and the removal of present nuclear waste is featured. Also, a report of a local dairy farmer concern.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
5. Wildlife in the region. WIVB (1:47)	Video footage of deer grazing on grass near the radioactive waste raise concerns over safety for deer and fish consumption. Local environmentalists say detection of leaks in the burial ground area increases the chances that the grasses that the deer consume are contaminated.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
6. Concerned citizens meet to develop a strategy WIVB (1:32)	Concerned citizens meet to determine a strategy to block a proposal for reopening of West Valley as a nuclear waste storage facility. Citizens have fears over accidents with the transportation of the waste or an accident at the plant. Citizens say environmental risks outweigh the economic gains in the community.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
7. Area physicians support the re-opening of West Valley for storage of low-level medical nuclear waste WIVB (1:57)	Nuclear medicine and research communities have concerns over the availability of storage of low-level medical nuclear waste. The belief is that this low-level waste should be stored in regions where it is generated. This waste is generated in the study, diagnosis, and treatment of cancer.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
8. Department of Energy will manage and pay for cleanup efforts. WIVB (1:19)	Story regarding the Department of Energy assurance to then NYS Governor Carey that the federal government will pay and manage cleanup efforts at West Valley. For this to happen, Congress must pass a bill that environmentalists warn may lead to reopening West Valley as a nuclear storage facility.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
9. Environmentalists warn of nuclear waste leaks and lack of adequate monitoring. WIBV (2:23)	Environmentalists warn of issues at the nuclear burial site. Water has infiltrated ditches where strontium 90 and plutonium are stored. Inadequate soil composition monitoring is a concern. Also reported is those who favor reopening say it is becoming difficult to dispose of nuclear medicine waste.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

			HS. ESS2-2: Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.
10. The Federal General Accounting Office (GAO) proposes full funding for West Valley cleanup. WIVB (1:58)	Federal GAO proposal for full funding of West Valley cleanup in exchange for reopening of the site for more nuclear waste storage. Governor Carey's office says GAO proposal carries little weight.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
11. Governor Carey signs bill to set up board to determine future burial of radioactive waste. WIVB (1:47)	Governor Carey signs a bill to set up a five-member board for future burial of radioactive waste. The Governor states that there is no future for high-level nuclear waste burial but has left it open for future low-level nuclear waste burial.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
12. Federal government bill sponsored by local congressmen receives support from NYS government officials. WIVB (1:33)	This report focuses on Governor Careys support of a federal bill sponsored by Congressman Stanley Lundine (D-Jamestown). This bill separates the federal cleanup efforts from the idea that this site should remain open for continued disposal of radioactive waste.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
13. Cattaraugus County lawmakers hearing – area residents opposed to the reopening of West Valley. WIVB (2:00)	West Valley area residents are opposed for the reopening of the West Valley site for storage of nuclear waste. Dairy farmer Emil Zimmerman cites conditions where that contaminated water could leak from radioactive trenches were waste is currently buried. One speaker who is in favor of burying solid, low-level nuclear waste is a representative of Chem-Nuclear Systems.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
14. Aerial and ground footage of West Valley Site. WIVB (3:29)			

Rich Newberg Reports: Crisis at West Valley Segments

Crisis at West Valley 3: Working Toward a Solution	http://digital.buffalolib.org/document/2078	There are 13 video segments in part 3 that detail government involvement, environmentalist concerns and advances in modern medical technology with regards to the West Valley situation.	32 minutes

Segment	Description	Science Standards - MST	Science Standards - NYSSLS
1. Interview with Rep. Stanley Lundine (D-Jamestown) WIVB (2:01)	WIVB interview with Rep. Stanley Lundine D-Jamestown regarding three important committees in the House of Representatives that have approved West Valley projects.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
2. Members of the environmental group Sierra Club are interviewed. (2:08)	Interview with Judith McDonnell who works with the Sierra Club's Radioactive Waste Campaign on lobbying efforts in Washington, D.C. They are against the McCormick Bill. This bill calls for the siting of four high level nuclear waste repositories by 1984, with two sites in NYS considered.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
3. Reports of radioactive waste spill at West Valley. WIVB (1:52)	This report focuses on a radioactive spill at West Valley where a coupling connecting a plastic hose carrying radioactive water broke resulting in spill into the soil. NYS Department of Environmental Conservation (DEC) regional director reports that the quantity was small and contaminated concentrations were "miniscule. Local environmentalists report that is not an isolated incident. Sierra Club members have sent water samples to Albany to be tested from local area brooks and creeks.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1t	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. **HS. ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.
4. Advanced nuclear medical technology and the waste generated. WIVB (1:43)	Advancement in nuclear medical technology generates waste that requires special storage sites. Most states do not want to host the storage of this waste. NYS Energy Commissioner James LaRocca announces that the low-level burial ground at West Valley has too many problems to be a viable option for storage of low-level nuclear medical waste.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

5. NYS Energy Commissioner announces NYS will no longer consider West Valley as a site to store low-level nuclear waste. WIVB (1:37)	Reports on a news conference announcing that NYS will no longer consider West Valley a site to bury low-level nuclear waste. Buffalo area hospitals are concerned. Also announced is the massive cleanup effort that will soon begin at West Valley. 600,000 gallons of high-level radioactive waste that is currently located in underground steel storage tanks will be solidified into a glass like substance and removed from the site to a federal repository permanently. As part of this agreement West Valley will not be used for any other purposes other than the solidification and removal of waste	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
6. Area physicians warn of nuclear medicine and research in Buffalo may shut down due to lack of storage for low-level waste. WIVB (2:19)	Medical treatments for cancer, cancer research and diagnosis all utilize nuclear medical procedures. Nuclear medicine and research may soon shut down due to lack of adequate, local storage facilities for the low-level waste produced. Local environmentalists respond that the nuclear burial ground at West Valley is in poor condition and that radioactive waste be stored in above-ground storage containers.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
7. Interview with a local physician who demonstrates a nuclear medical procedure on a patient. WIVB (2:33)	Local V.A. Hospital physician is interviewed. Dr. Steinbeck demonstrates the use of a nuclear medicine cardiac procedure on a patient that avoids a surgical procedure. Nuclear medical procedures allow physicians to diagnosis the presence of cancer at earlier stages.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
8. Federal energy officials reduce amount of money to fund West Valley cleanup. WIVB (1:56)	Federal energy officials propose to reduce the amount of funding to NYS for the cleanup of 600,000 gallons of nuclear waste buried at West Valley.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
9. Continued coverage on a proposal by federal energy officials to reduce the amount of money for the West Valley cleanup efforts. WIVB (1:25)	Follow up story regarding the proposal to reduce federal funding for the West Valley cleanup.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

10. Overview of high- and low-level nuclear waste storage issues at West Valley WIVB (1:46)	Mina Hamilton from the Sierra Club states that plutonium is buried in the West Valley property. Trenches where sand lenses may be providing underground migration paths for radioactive waste and bedrock composition pose major threat of migration of radioactive waste material.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1s, 2.1t	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. **HS. ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.
11. U.S. Department of Energy considers alternative sites for radioactive waste storage. CBS (5:24)	Tulia, Texas is located on top of one of the largest salt beds in the United States and is one of several sites the U.S. Department of Energy is considering for nuclear waste storage. Salt beds and basalt rock formations are believed to be suitable for nuclear waste storage.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1t	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. **HS. ESS2-2:** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.
12. U.S. Department of Energy meets with concerned citizens. WIVB (2:33)	Prior to federal officials taking possession of the West Valley site that contains the reprocessing building and nuclear waste burial grounds licensed by the Nuclear Regulatory Commission, representatives from the Energy Department meet with concerned citizens. NYS possess most of the 3,300-acre site. The cleanup project will take approximately 16 years to complete. The federal government with Westinghouse Electric Corporation will attempt to turn 600,000 gallons of radioactive liquid waste into a glass like substance that would be shipped to a federal repository.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment P.I. 7.2c, 7.3a, 7.3b	**HS-LS2-7:** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.
13. Exterior video of the West Valley facility and property. WIVB (2:05)			

Rich Newberg Reports: Crisis at West Valley Segments

Crisis at West Valley 4: Cleanup Plans Take Shape	http://digital.buffalolib.org/document/2079	There are 13 video segments in part 4 that feature plans for the clean up of the West Valley site.	45 minutes

Segment	Description	Science Standards - MST	Science Standards - NYSSLS
1. U.S. Department of Energy meets with concerned citizens. WIVB (3:33)	This story documents U.S. energy officials assuring West Valley residents that the cleanup effort will be safely conducted with citizen input. Citizens are concerned with contamination and liability should there be an accident. Safety procedures and review of technology for nuclear waste solidification and decontamination are noted in this segment.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
2. Interview with Jim Duckworth from Nuclear Fuel Services WIVB (12:55)	This informational briefing with Jim Duckworth from Nuclear Fuel Services features a scale model of the tank that contains 600.000 gallons of radioactive liquid waste. Admission of a crack in the system with discussion of safety features are discussed. The model fits the design technology of 1963 safety criteria.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
3. Overview report on terms of the cleanup agreement at West Valley. WIVB (1:25)	NYS Energy Commissioner reviews the terms of cleanup agreement at West Valley. The cleanup effort is estimated to take 17 years. High-level liquid nuclear waste is planned to be turned into a glass like material and removed to an unnamed federal repository for permanent storage.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
4. Cleanup agreement at West Valley calls for Getty Oil's Nuclear Fuel Services transfer ownership.	Cleanup agreement at West Valley calls for Getty Oil's Nuclear Fuel Services company to transfer ownership of the high-level radioactive site to the federal government.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
5. What about the nuclear fuel rods? WIVB (2:13)	As the transfer of West Valley to the federal government finalizes Senator Moynihan (D-N.Y.) states that this cleanup effort will serve as a demonstration project for the nation. AS 600,000 gallons of high-level radioactive waste will be solidified and removed, there are questions about the placement of highly radioactive spent nuclear fuel rods contained in canisters submerged in pools of water.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

6. U.S. Senate considers West Valley as a future site for storage of spend nuclear fuel rods. WIVB (1:53)	A U.S. Senate bill that prohibits nuclear waste to be stored on the property of the nuclear power plants that generate waste is being considered. Included in the bill is thought to use West Valley as one of three future sites for storage of spent nuclear fuel rods. Currently stored at West Valley is 162 metric tons of nuclear rods.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
7. Westinghouse educates citizens about West Valley clean up and removal of radioactive waste. WIVB (2:15)	This report is a public relations effort by Westinghouse to educate citizens regarding the cleanup and remove of radioactive waste from West Valley. Assurances of the 600,000 gallons of high-level liquid waste that will be turned into a glass like substance will not be permanently stored at the site. Old fuel reprocessing equipment will be decontaminated and removed to the necessary equipment for solidification can be installed.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
8. Final federal government report (0:45)	The final federal report on the long-term management of liquid high-level nuclear waste storage at West Valley recommends that the waste be shipped to a federal repository for permanent storage. No permanent storage site has been designated.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
9. Is West Valley "the most convenient dumping ground"? WIVB (1:14)	The House Energy Committee fails to stop the U.S. Department of Energy from creating radioactive waste storage sites from nuclear power plants. Representatives Lundine (D-Jamestown) and Kemp (R-Hamburg) will work to "remove any possibility of West Valley being used either temporarily or permanently as a storage ground for nuclear waste".	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
10. U.S. Energy Secretary James Edwards interviewed. WIS-TV (3:03)	Interview conducted as a facility in Barnwell, S.C. is considering opening a privately owned nuclear reprocessing plant, like what was once the West Valley operation. Edwards states that the plant at West Valley was successful then as the Nuclear Regulatory Commission changed the rules by adding more regulations, the Getty Company could not afford the additional work and went out of business. Due to defense work that was done at West Valley this justifies taxpayers covering the cleanup costs.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.2c, 7.3a, 7.3b	**HS-ESS3-4:** Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

11. Lessons learned from West Valley WIS-TV. This same piece appears in the Crisis at West Valley 1: Overview report	Plans to activate a privately owned nuclear reprocessing plant in Barnwell, S.C. are re-evaluated due to reported problems at West Valley.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
12. Exterior and interior video at West Valley. (2:48)	Video of West Valley tour of exterior and interior.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
13. First tests conducted by Westinghouse experts. WIVB	This report documents the first tests conducted on West Valley site by Westinghouse corporation. The tests will assist in determining the best techniques for preparing the facility to solidify the liquid radioactive waste. NOTE – The U.S. demonstration project formally started in 1981 and is still in progress in 2020. The final cleanup costing taxpayers $5-$10 billion dollars.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

Crisis at West Valley 5: Present and Future Concerns	http://digital.buffalolib.org/document/2080	The 6 video segments show progress made in cleaning up the West Valley radioactive waste site. This include solidification of the high-level liquid waste that has been stored in underground tanks and the demolition of the contaminated building. Concerned citizen groups express worries about health, safety, and environmental issues with the storage, management, and cleanup efforts. Also, alarming is the West Valley site is on a rapidly eroding plateau surrounded by a watershed. Erosion to reach underground nuclear waste and release long-lasting radioactive materials into the Great Lakes.	35 minutes

Segment	Description	Science Standards - MST	Science Standards - NYSSLS
1. Steel lined concrete casks provide on-site storage of high-level radioactive glass logs converted from liquid waste at West Valley**.** *["HLW Progress Video" produced by DOE contractor CH2M HILL BWXT WEST VALLEY, LLC. ; 7/7/2016 ; Runs: 1:58]*	56 casks weighing 90 ton each holding high-level nuclear waste are stored above ground on West Valley Demonstration Project site. The casks contain glass logs made from liquid nuclear waste. They will remain radioactive for thousands of years. The casks need to be removed for building demolition to occur.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
2. Transporting highly radioactive building material from West Valley to Texas. *["Melter Shipment "Video" produced by DOE contractor CH2M HILL BWXT WEST VALLEY, LLC.; 12/14/2016; Runs: 3:57]*	The equipment used in the vitrification process (turning the radioactive liquid into glass like rods) must be safely packaged and disposed of off-site. The equipment was loaded onto special trailers with 130 tires and then transported from West Valley to a rail yard in Blasdell, NY then taken by rail to a site in Andrews, Tx.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.

3. Resident records radioactive waste from West Valley rolling through his neighborhood. *[Posted on YouTube by "Robert"; October 26, 2016; Runs: 1:36]*	Citizen reaction to large vessels containing dismantled parts from West Valley transported through is neighborhood.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
4. Second radioactive waste transport video *[November 2, 2016; Runs: 2:33]*	A second video showing how the special trailer carrying radioactive waste load negotiates the crossing over of railroad tracks.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
5. Demolition of radioactive buildings begin at West Valley. *["VIT DEMO V4" produced by DOE contractor CH2M HILL BWXT, WEST VALLEY, LLC.; 12/19/2017; Runs: 4:28]*	Demolishing the building where high-level liquid radioactive waste was turned into a glass like substance. This radiological demolition requires continuous monitoring and specialized equipment. Continuous air monitors provide a real time read out for the protection of personnel on-site as well as the public and the environment. Citizen watchdog groups have strongly recommended that real time off-site monitoring of the air take place when demolition of the Main Processing Building is carried out.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I.7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I.2.1t	**HS-ETS1-3:** Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints, including cost, safety, reliability, and aesthetics, as well as possible social, cultural, and environmental impacts.
6. The decisions that will impact generations to come. *[NARRATED SLIDE PRESENTATION produced by Diane D'Arrigo, Radioactive Waste Project Director/Nuclear Information and Resource Service (NIRS); 5/18/2020; Runs:20:25]*	This is a narrated slide show summarizing concerns by citizen watchdog groups and environmental experts with information dating back to the mid-1970's.	**Key Idea 7:** Human decisions and activities have had a profound impact on the physical and living environment. P.I. 7.1c, 7.2c, 7.3a, 7.3b **Key Idea 2:** Many of the phenomena that we observe on Earth involve interactions among components of air, water, and land. P.I. 2.1s, 2.1t	**HS-LS2-7.** Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. **HS. ESS2-2.** Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to Earth's systems.