# Project Evaluation Matrix by Highest Scores

| Project | Project Description | Sub-Project Description | Risk Reduction Rating | Mortgage Reduction/ Return of Investment/Cost Avoidance Rating | Regulatory/ DOE-Stakeholder Importance Rating | Potential Impacts to Operational Buildings during Off-Normal event | TOTAL Risk Evaluation* | Summary Description of Project Impacts and Benefits |
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| *PFP to Slab-On-Grade* | 234-5Z, remaining PRF | Final Demolition of PFP structures | High | High | High | Yes | | Completes PFP (Plutonium Finishing Plant) to slab-on-grade; reduces minimum safe costs (min-safe), and eliminates continual risk to surrounding area from residual contamination |
| *IDF (Integreated Disposal Facility) Permitting and Opeartion* | Permitting and documentation updates | Permitting modifications and ready to receive DFLAW | High | High | High | | | Critical permitting and operation to receive DFLAW (Direct Feed Low Activity Waste) waste receipts *Note: Risk reduction, mortgage reduction are based on tank waste related rating* |
| *Sludge Removal* | 100K Sludge Transfers to T Plant | Removal of all sludge to T Plant | High | High | High | Yes | | Removes primary threat of contamination release from KW Basin to the Columbia River; reduction in min-safe costs |
| *100KW Basin Deactivation* | 105KW Basin Deactivation | Sand & Garnet Filter Removal | High | High | High | Yes | | Stabilizes basin and places it into safe configuration for demolition; reduction in min-safe costs |
| | 105KW Basin Deactivation | Characterization/re-packaging of waste/removal | High | High | High | Yes | | |
| | 105KW Basin Deactivation | Remove basin water/grout stabilize | High | High | High | Yes | | |
| *Management of Cesium and Strontium Capsules (MCSC) Project W-135* | WESF Capsule removal | Design Dry Storage Casks and Removal approach | High | High | High | Yes | | Removal of capsules that contain ~1,000,000 Curies of Cesium/Strontium (Cs/Sr) to a safer configuration at dry storage facility; reduction in min-safe costs |
| | WESF Capsule removal | Remove Cs/Sr capsules from WESF and transfer to new casks | High | High | High | Yes | | |
| | Dry Storage Permitting & Construction | Permitting and Construction Dry Storage Facility | High | High | High | | | |
| *PUREX Tunnel* | PUREX Storage Tunnels #2 | Perform Tunnel Grouting Activities to Stabilize | High | High | High | Yes | | High radioactive inventory, potential for release similar to PUREX Tunnel #1, Engineering Evaluation concluded potential for failure |
| *300 Area Waste Site Remediation* | 300-296 Waste Site Source Removal | 300-296 Source Removal | High | Med | High | Yes | | Removal of highly contaminated soil from beneath the 324 Building; reduces monitoring costs and enables final deactivation of the facility |
| *Legacy Waste Processing & WIPP shipments* | Commercial Waste Repackaging | Outside Storage Area A legacy waste processing | High | Med | High | Yes | | Removes and Treats legacy waste currently stored at the Central Waste Complex (CWC); eliminates potential for off-normal events, and reduces ongoing inspection and maintenance costs |
| *PUREX Complex Risk Mitigation* | PUREX Ancillary D&D | PUREX North Tank Farm D&D & RCRA closure | Med | High | High | Yes | | Eliminates asbestos risk, closes 2 RCRA (Resource Conservation & Recovery Act) TSDs (Treatment, Storage, and/or Disposal); reduces ongoing asbestos repair costs, establishes initial phase of future demolition of PUREX Annex and demolition prep of PUREX |
| *External Structures Risk Mitigation* | Inactive structures >60 years old | Interim Stabilization Z-9 Crib and Z-361 tank | High | High | Low | Yes | | Interim stablizations of sites at high risk for collapse or other releases. Cost savings/avoidance by preventing collapse and potential response action, potential impacts to surrounding facilities. 216-Z-9 crib contains 59,000 grams of Plutonium |
| *D&D Facilities and Legacy Alpha Reduction* | 224B D&D | Cell Cleanout (plutonium) Building D&D | High | Med | Med | Yes | | Unknown conditions in hot cells; Deactivation and Demolition (D&D) of remaining alpha facilities at Hanford; avoids ongoing maintenance costs and potential roof repairs |
| | 224T D&D | Cell Cleanout (plutonium) Building D&D | High | Med | Med | Yes | | |



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| *B PLANT Complex Risk Mitigation* | Retired Canyon Ventilation System Stabilization | Grout Stabilize the Legacy Ventilation System, including sand filter, HEPA filter, Vaults | High | Med | Med | Yes | | Retired Ventilation system & related filters and vaults contain ~200,000 Curies of Cs/Sr, prevents potential intrusion leading to off-normal events near B Plant |
| *PUREX Complex Risk Mitigation* | PUREX Interior Risk Reduction | PUREX N Cell Glovebox Removal | High | Med | Med | | | Removal of Plutonium Source inside PUREX, places N cell in safe configuration to avoid risk to ventilation; reduces surveillance and maintenance costs |
| *External Structures Risk Mitigation* | PW-1/3/6 ROD implementation | Construct and Removal of plutonium Sites (includes 216-Z-9) | High | Med | Med | Yes | | Final remediation of 216-Z-9 crib which contains 59,000 grams of Plutonium; ROD (Record of Decision) implementation for PW-1/3/6; reduces surveillance costs and avoids potential off-normal event from collapse |
| | | Settling Tank interim stabilization and final remediation | High | Med | Med | Yes | | ROD implementation for tanks in PW-1/3/6; reduces surveillance costs and avoids potential off-normal event from collapse |
| | | Z Cribs Interim Stabilizations and final remediation | High | Med | Med | Yes | | Interim stabilization of cribs containing high plutonium; ROD implementation for PW-1/3/6; reduces surveillance costs and avoids potential off-normal event from collapse |
| | Filter Systems >60 years old | 291-B, 291-S, 291-T, 291-U, PUREX *Some are active* | High | Med | Med | Yes | | Stabilization of inactive ventilation systems would prevent potential collapses and prevent off-normal events impacting nearby facilities; replace aging active systems; reduces surveillance and maintenance costs; 291-U required to complete U Canyon demolition |
| | Underground Vaults and Settling Tanks | WR Vault, 9 tanks | High | Med | Med | Yes | | Stabilization and remediation of WR Vault next to U Canyon; stabilization of U-361, B-361, and T-361 tanks; reduces surveillance costs; required to complete U Canyon demolition |
| *RCRA Rev. 9 Permit Renewal Effort* | Prepare Closure Plans | 276BA Tank (B Plant)<br>203A, 211A Tank farm removal (PUREX North) | Med | High | Med | Yes | | Closure permits to allow complete removal of tanks outside B-Plant and PUREX North; reduction in surveillance and maintenance costs from failing asbestos on tanks |
| *REDOX Complex Risk Mitigation* | REDOX Interior Risk Reduction | Characterization/Cold & Dark Mods; Waste and Asbestos removal | High | Med | Low | Yes | | Places facility in long-term stable condition; mitigates increasing costs at REDOX for surveillance and maintenance |
| | | REDOX Canyon Entry to Investigate/document conditions | High | Med | Low | Yes | | Determine current conditions to determine if further mitigating activities are necessary; proactively identifies any potential for additional mitigating activities |
| | | Plutonium Loadout Hood Removal and final Demo Prep | High | Med | Low | Yes | | Removal of remaining plutonium sources at REDOX; avoid contamination spread increasing cleanup costs; reduction in surveillance and maintenance costs |
| *Legacy Waste Processing & WIPP shipments* | M-91 Facility Waste Processing | Design M-91 treatment capabilities | Med | Med | High | Yes | | Processing of Transuranic (TRU) legacy waste; reduces surveillance and maintenance costs |
| | M-91 Facility Waste Processing | Construct M-91 and Treat legacy waste | Med | Med | High | | | |
| *External Structures Risk Mitigation* | Wooden structures >60 years old | B Cribs Interim Stabilizations | High | Med | Low | Yes | | Stabilization to prevent potential collapses and off-normal events impacting nearby facilities; reduces surveillance and maintenance costs at aging structures |
| | | C Cribs Interim Stabilizations | High | Med | Low | Yes | | |
| | | S Cribs Interim Stabilizations | High | Med | Low | Yes | | |
| | | T Cribs Interim Stabilizations | High | Med | Low | Yes | | |
| | | U Cribs Interim Stabilizations | High | Med | Low | Yes | | |
| | Stacks >60 years old | Inactive Stack Demolition | High | Med | Low | Yes | | |
| | Tanks >60 years old | CX Tanks Stabilization | Med | Med | High | Yes | | |

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| *Tank Farms Legacy Structures* | Underground Vaults | 204-AR Vault, contains 1 catch tank | Med | Med | High | Yes | | Stabilization and remediation of legacy inactive vault at the tank farms. Prevent tank release/intrusions and potential response action, potential impacts to surrounding facilities |
| *324 Building* | 324 Building D&D | 324 Building D&D | Low | High | High | Yes | | Final demolition of facility; reduces surveillance and maintenance costs |
| *D&D 200 Area Ancillary Facilities* | 242B/BL D&D | Pool Cell cleanout, and D&D | Med | High | Low | Yes | | Continued animal intrusion into building near B Farm; reduces surveillance and maintenance costs |
| *100K Area Closure Project* | 100K Soil Sites Removal | Complete K area waste remediation | Med | Med | Med | | | Removal of Contamination Source, allows for soil remediation and final K Area Closure |
| | D&D of 100K structures | Asbestos Removal, D&D | Med | Med | Med | | | Demolition of 100K Structures to allow for final K Area Remediation; removes asbestos; reduces surveillance costs |
| | 105-KE/105-KW ISS | 105-KE ISS | Med | Med | Med | | | Final long-term safe configuration; reduces surveillance costs and potential repairs |
| *PUREX Complex Risk Mitigation* | PUREX Interior Risk Reduction | PUREX Demo Prep | Med | Med | Med | | | Reduction in surveillance and maintenance costs as facilities age; removes equipment/asbestos and places in safe configuration |
| *Legacy Waste Processing & WIPP shipments* | Waste Treatment | PFP Waste Processing | Med | Med | Med | | | Avoid long-term storage and risk from unprocessed waste from PFP |
| | Commercial Waste Repackaging | Legacy Drum Waste Repackaging/Processing | Med | Med | Med | Yes | | Drum degradation leading to worker risk in CWC storage; reduction in surveillance costs; avoidance of off-normal events |
| | WIPP Certification and Shipments | Audits and TRU waste shipped to WIPP | Med | Med | Med | | | Permanently removes legacy waste from Hanford Site; reduction in surveillance costs |
| *Ground Water (GW) Pump & Treat* | Central Plateau Pump-and-Treat | UP-1/BP-5 well expansion and remediation | Med | Med | Med | | | Reduction of contaminated groundwater in 200 East Area |
| | 100K Pump-and-Treat | Complete remedial Action at 100K | Med | Med | **Med** | | | Plume containment and groundwater remediation near Columbia River |
| | 100-D/H Pump-And-Treat | Complete remedial Action at 100-D/H | Med | Med | Med | | | |
| | Modeling and documentation updates | Modeling to support Central Plateau decisions | Med | Med | Med | | | Analysis to support cummulative impact evalution, biomobilization and biointrusion studies |
| *External Structures Risk Mitigation* | Tanks >60 years old | iMUST Tank Stabilizations:<br>51 in 200East<br>60 in 200West | Med | Med | Med | Yes | | Miscellaneous tanks (iMUST) in the 200 Area; potential impacts from tank release/intrusions and response actions |
| *Tank Farms Legacy Structures* | 244-AR Vault | 244-AR Vault with 3 process cells and 4 tanks | Med | Med | Med | Yes | | Stabilization and remediation of legacy inactive vaults at the tank farms. Prevent tank release/intrusions and potential response action, potential impacts to surrounding facilities |
| | 244-CR Vault | 244-CR Vault with 4 process cells containing 4 tanks | Med | Med | Med | Yes | | |
| | 244-BXR Vault | 244-BXR Vault with 4 process cells containing 4 tanks | Med | Med | Med | Yes | | |
| | 244-TXR Vault | 244-TXR Vault with 3 process cells containing 3 tanks | Med | Med | Med | Yes | | |
| | 244-UR Vault | 244-UR Vault with 3 process cells containing 4 tanks | Med | Med | Med | Yes | | |

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| *Waste Evaporator* | 242-T Evaporator | D&D of Facility (Inactive) | Med | Med | Med | Yes | | Final demolition of facility; reduces surveillance and maintenance costs |
| *400 Area (FFTF)* | FFTF and Legacy Support Structures | Final closure of area, Sodium waste in interim storage | Med | Med | Med | | | Final closure of facility; reduces surveillance and maintenance costs; prevents off-normal event from sodium waste |
| *Management of Cesium and Strontium Capsules (MCSC) Project W-135* | WESF Deactivation | WESF | Low | High | Med | | | Places WESF (Waste Encapsulation and Storage Facility) in long-term surveillance and maintenance; reduction in minimum safe costs |
| *200 Area Remediation* | M-37 TSD Closures | Closure of RCRA units (A-29 Ditch, A-36B Crib, A-37-1 Crib, B-63 Trench, B Pond, S Pond, CX Tanks, Hexone Tanks) | Med | Low | High | Yes | | Final RCRA closure of contaminated cribs, ponds, ditches, tanks; reduces surveillance costs |
| *RCRA Rev. 9 Permit Renewal Effort* | Prepare Part B documentation in support of RCRA Rev. 9 issuance | CWC, Outside Storage Areas, WRAP, T Plant, Trenches 31/34 | Low | Med | High | | | Issues RCRA Revision 9 permit and obtains final permit for facilities currently operating in interim status; compliance with Agreed Order |
| *100 Area Final RODS* | 100-NR-2 | RI/FS revision and Proposed Plan | Low | Med | High | | | Final remedial decision at 100-N Area at River Corridor; reduces maintenance costs when remedial action is completed |
| *External Structures Risk Mitigation* | Air Tunnels/Vent Lines >60 years old | Stabilize Exhaust Ducts at facilities in 200 Area | Med | Med | Low | Yes | | Prevent collapse and potential response action, potential impacts to surrounding facilities |
| | Encased/Buried Pipelines >60 years old | Stabilize Process Transfer lines at facilities in 200 Area | Med | Med | Low | Yes | | Prevent collapse and potential response action, potential impacts to surrounding facilities |
| | Tanks >60 years old | 200-E-14, 216-BY-201, 216-TY-201 | Med | Med | Low | Yes | | Prevent tank leaks and/or intrusions, potential impacts to surrounding facilities |
| *Waste Evaporator* | 242-A Evaporator | Tanks, equipment in lined vault. Upgrades to maintain capacity (Active) | Med | Med | Low | Yes | | Upgrades on aging facility that handles tank waste, avoidance of off-normal events |
| | 242-S Evaporator | D&D of Facility | Med | Med | Low | Yes | | Residual chemical and radiological Inventory; reduction in surveillance costs |
| *Environmental Support Lab D&D* | 6266L/600 area | D&D of Facility | Med | Med | Low | | | Removes contaminated structures in 600 Area |
| *Water Treatment Facility* | 200 Area Water Treatment Facility | Install new facility and D&D aging 1944 facility (currently active) | Med | Med | Low | Yes | | Contains <2,500 lbs. Chlorine with potential release of chlorine gas inhalation; avoidance of off-normal events |
| *100K Area Closure Project* | 105KW Basin Removal | Remove entire basin and contamination (if found) | Med | Low | Med | | | Permanent removal of structure and asbestos; K Area closure and waste site remediation; reduction in surveillance requirements |
| | 105-KE/105-KW ISS | Waste Site stabilization from KE basin leak | Med | Low | Med | | | Final remediation of waste site due to leak at 105-KE Basin |

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| *B PLANT Complex Risk Mitigation* | B Gallery Stabilization and RI/FS | Characterization/Known contamination fixes | Med | Low | Med | | | Known contamination investigation and repair; reduction in ongoing maintenance costs |
| *PUREX Complex Risk Mitigation* | PUREX North Annex D&D | PUREX Annex D&D, RCRA closure of tank | Med | Low | Med | Yes | | Cleanout interior of PUREX Annex and D4 structure; removal of contaminated equipment & Piping, Transite removal (~100,000 m2), reduction in ongoing maintenance costs |
| *200 Area Remediation* | PW-1/3/6 ROD implementation | Remediate the 200 East Area Waste Sites | Med | Low | Med | Yes | | Implements PW-1/3/6 ROD which remediates waste sites in 200 East Area |
| *Tank Farms Legacy Waste Handling* | 219-S Waste Handling Facility | 3 tanks in underground concrete vault, an operating gallery, sampling room supporting 222-S labs (Active Facility) | Med | Low | Med | | | 10,000 gallons stored in aging vaults when in use; potential threat as facility ages |
| *REDOX Complex Risk Mitigation* | REDOX Ancillary D&D | Ancillary D&D | Low | Med | Med | Yes | | Permanent removal of structure and asbestos; reduction in surveillance requirements |
| *RCRA Rev. 9 Permit Renewal Effort* | Prepare Closure Plans | A-29 Ditch, A-36B Crib, A-37-1 Crib, B-63 Trench, B Pond, S Pond, CX Tanks, Hexone Tanks | Low | Low | High | | | Issues RCRA Revision 9 permit and final closure plans for units in the 200 Area and 300 Area |
| | Prepare Closure Plans | 324 Building D&D | Low | Low | High | | | |
| | Prepare Closure Plans | Burial Grounds | Low | Low | High | | | |
| | Prepare Closure Plans | Canyon TSDs | Low | Low | High | | | |
| *200 Area RI/FS and RODs* | RI/FS Process 200 Area | U Area, PFP Area, remaining 200 West Area (200-WA-1/200-IS-1) | Low | Low | High | | | Completes RI/FS (Remedial Investigations and Fesibility Studies) investigation at 200 Area waste sites. Includes final remedial action |
| | RI/FS Process 200 Area | 200 East area (200-IS-1/200-EA-1) | Low | Low | High | | | |
| | RI/FS Process 200 Area | 200-SW-2 CERCLA burial grounds | Low | Low | High | | | |
| | RI/FS Process Canyons | REDOX | Low | Low | High | | | RI/FS work plans and remedial investigations to reach final decision on canyons. Includes final remediation (following demolition preparatory activities) |
| | RI/FS Process Canyons | B Plant | Low | Low | High | | | |
| | RI/FS Process Canyons | PUREX | Low | Low | High | | | |
| *100 Area Final RODS* | 100-BC-1 Final ROD | ROD | Low | Low | High | | | Obtains final remedial decisions and actions at River Corridor |
| | 100-KR-4 Final ROD | RI/FS revision and Proposed Plan | Low | Low | High | | | |
| *200 Area Remediation* | MG-1/MG-2 Waste Sites | Remediation of 200 Miscellaneous Area Waste Sites | Low | Low | High | | | Remediation at 200 Area miscellaneous waste sites |

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| *GW Pump & Treat* | Central Plateau Pump-and-Treat | ZP-1 treatment | Med | Low | Low | | | Reduction of contaminated groundwater in 200 West Area |
| *100 Area ISS Reactors* | 5 "cocooned" reactors | Reactor core placed in long-term safe configuration | Med | Low | Low | | | Final removal of reactor cores and cleanup at River Corridor |
| *D&D Facilities and Legacy Alpha Reduction* | B Plant Ancillary D&D | D&D of B Plant Ancillary | Low | Med | Low | | | Demolition of B Ancillary facilities reduces surveillance cost |
| | 231Z D&D | Regulatory Paperwork and D&D | Low | Med | Low | | | Demolition of 231Z; reduces surveillance cost |
| *PFP Slab Removal* | 242-Z and PRF | Characterization and Slab Removal | Low | Med | Low | | | Characterizes slabs after PFP above-grade structure is demolished; removing slab avoids surveillance costs |
| *External Structures Risk Mitigation* | Cross-Site Steamlines | Asbestos Removal, D&D | Low | Med | Low | Yes | | Failing asbestos and employee concerns; reduces surveillance and maintenance costs |
| *Canyon ROD Implementation* | U Canyon | Final demolition, construction of barrier | Low | Med | | | | Completes U Canyon ROD requirements, including demolition and cap installation |
| *200 Area Remediation* | Hexone Tank Closure | Hexone Tanks RCRA closure | Low | Low | Med | | | Final RCRA closure of tanks; tanks are grout stabilized and are low risk outside REDOX facility |
| *100 Area Final RODS* | 100-D/H groundwater | RD/RAWP | Low | Low | Med | | | Final remedy at River Corridor groundwater units |
| | 100-BC-1 groundwater | RD/RAWP | Low | Low | Med | | | |
| *200 Area Remediation* | PW-1/3/6 ROD implementation | Design Process for PW-1/3/6 | Low | Low | Med | | | Begins capital asset process for PW-1/3/6 final remediation; required to build and construct remedy values at >1 Billion lifecycle costs |
| *618-11 Remediation* | 618-11 | Final remediation of waste site | Low | Low | Med | | | Remediate waste sites adjacent to Energy Northwest |



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