

ALTERNATIVE 3

Alternative Concentration Limits and Institutional Controls

COST ESTIMATE SUMMARY

Sheet 3

Site: HMC Grants Reclamation Project

Phase: Groundwater Corrective Action F

Base Year:

Location: Grants, NM

Date: 4/4/22

Duration: 5 years

Description: Alternative 3 includes approval of proposed alternate concentration limits (ACLs) and durable and enforceable institutional controls (IC's) to limit access to potential groundwater exposures within the proposed longterm control boundary (LTCB). Fee title and/or ICs to applicable lands and interests therein not already owned by the Federal Government within the Long Term Care Boundary (LTCB) would be transferred to the long-term custodian (US Department of Energy; DOE). A Long-term surveillance fund determined by NRC would be provided by the licensee. Under this alternative, corrective action extraction and treatment of groundwater would cease upon approval of the proposed ACLs and final decommissioning and reclamation of the Site would resume. This alternative allows for license termination, de-listing from the National Priorities List (NPL), and transfer to the Long-term custodian (DOE). Because Site transfer takes place, funding by the licensee for long-term surveillance plan (LTSP) monitoring and reporting is included.

Capital Costs:

Decommissioning of existing CAP treatment systems (RO, zeolites and evap ponds) would occur in year 0, CAP well abandonment and piping infrastructure decommissioning would occur in years 0-1. The engineered final cover (part of groundwater source control efforts) would be installed on the LTP in Year 1. Covering of the STP, which is not considered a substantial long-term source of groundwater impacts, is not included as a groundwater CAP alternatives cost. Construction Completion Reports (CCR) for the LTP Cover and decommissioning of the treatment systems would be provided to NRC in year 3.

Operating and Maintenance Costs (O&M):

Groundwater monitoring costs for the existing groundwater monitoring program would continue throughout the entire compliance period (years 0-4), Operation of the and operation of the Site support facilities (admin, environmental, maintenance, sampling and staff, etc.) would continue through transfer (years 0-4).

Periodic Capital Costs:

Long-term surveillance and monitoring costs are provided to the Federal Government in the LTSP funding.

Present value is calculated based on a discounted cashflow factor using the equation $[(1+i)^n]/[(1+r)^n]$ where i is the annual inflation rate, r is the annual discount rate and n is the annual compounding period (See Sheet 13).

CAPITAL COSTS:

Item No.	DESCRIPTION & NOTES	UNIT	UNIT COST	QUANTITY	TOTAL (ROUNDED)
1.00	Treatment Systems Decommissioning (Year 0)				\$497,310
1.01	Decommissioning of zeolite treatment system	LS	\$191,000	1	\$191,000
1.02	Decommissioning of RO treatment system	LS	\$220,000	1	\$220,000
1.03	Project Management	%		10	\$41,100
1.04	Contingency	%		10	\$45,210
2.00	LTP Cover (Year 1)				\$7,296,140
2.01	Install LTP Cover	LS	\$6,317,000	1	\$6,317,000
2.02	Project Management	%		5	\$315,850
2.03	Contingency	%		10	\$663,290
3.00	Well Abandonment/Closure (Year 0-1)				\$3,376,390
3.01	Alluvial Well Abandonment	EA	\$2,090	903	\$1,887,270
3.02	U. Chinle Well Abandonment	EA	\$2,600	29	\$75,400
3.03	M. Chinle Well Abandonment	EA	\$2,600	54	\$140,400
3.04	L. Chinle Well Abandonment	EA	\$2,600	27	\$70,200
3.05	San Andres Well Abandonment	EA	\$100,000	7	\$700,000
3.06	Reporting	LS	\$50,000	1	\$50,000
3.06	Project Management	%	\$8,000	5	\$146,170
3.07	Contingency	%	\$16,790	10	\$306,950
4.00	Evaporation Pond Decommissioning (Year 1)				\$3,262,519
4.01	West Collection Pond	LS	\$210,370	1	\$210,370
4.02	East Collection Pond	LS	\$118,730	1	\$118,730
4.03	EP1 Decommissioning (most costs in STP reclamation)	LS	\$2,351	1	\$2,351
4.04	EP2 Decommissioning	LS	\$710,028	1	\$710,028
4.05	EP3 Decommissioning	LS	\$1,783,199	1	\$1,783,199
4.06	Project Management	%	\$141,240	5	\$141,240
4.07	Contingency	%	\$296,600	10	\$296,600
5.00	Corrective Action piping removal site wide (Year 0-1)				\$2,275,480
5.01	Corrective Action piping removal site wide	LS	\$1,970,100	1	\$1,970,100
5.02	Project Management	%	\$98,510	5	\$98,510
5.03	Contingency	%	\$197,010	10	\$206,870
6.00	Construction Completion Reports (CCR) (Year 2)				\$600,000
6.01	LTP Cover CCR	LS	\$300,000	1	\$300,000
6.02	Treatment Systems CCR	LS	\$300,000	1	\$300,000
7.00	Long-Term Surveillance Fund (Year 5)	LS	\$2,500,000	1	\$2,500,000
8.00	TOTAL CAPITAL COST				\$19,807,839

O&M COSTS:

9.00	Groundwater Monitoring (Years 0-4)			5	\$845,420
9.01	Sampling Monitoring Wells	EA	\$500	101	\$50,500
9.02	Groundwater Analytical	EA	\$414	101	\$41,814
9.03	Evaluation and Reporting	LS	\$50,000	1	\$50,000
9.04	Project Management	%		8	\$11,390
9.05	Contingency	%		10	\$15,380
10.00	Facility Annual Operation (Years 0-4)			5	\$10,750,000
10.01	Site Staffing and Management (GW System Inactive)	year	\$200,000	1	\$200,000
10.02	Radiation Safety	year	\$500,000	1	\$500,000
10.03	Impoundment Maintenance & Monitoring	year	\$250,000	1	\$250,000
10.04	Radon/Air Particulate Monitoring	year	\$200,000	1	\$200,000
10.05	Regulatory Reporting	year	\$500,000	1	\$500,000
10.06	NRC Fees	year	\$500,000	1	\$500,000
11.00	TOTAL O&M COSTS (through project closeout)				\$11,595,420

PERIODIC COSTS:

None

\$0

12.00 TOTAL PERIODIC COSTS (through project closeout)

\$0

PROJECT COST SCHEDULE & PRESENT VALUE ANALYSIS

Item No.	DESCRIPTION	YEAR	PERIOD COST	CUMULATIVE COST	DISCOUNT FACTOR	PERIOD NET PRESENT VALUE
13.00	Annual Cost					
13.00	Treatment System Decomm; Well Aband.;GW Monitoring; Corr. Act. Piping Removal; Facility Ops	0	\$5,642,329	\$5,642,329	1.0000	\$5,642,329
13.01	LTP Cover, Well Aband.; Evap Pond Decom.; Corr. Act. Piping Removal; GW Monitoring; Facility Ops	1	\$15,703,678	\$21,346,007	0.9486	\$14,896,479
13.02	Cover & Treatment Systems CCRs, GW Monitoring; Facility Ops	2	\$2,919,084	\$24,265,091	0.8998	\$2,626,704
13.03	GW Monitoring; Facility Ops	3	\$2,319,084	\$26,584,175	0.8536	\$1,979,535
13.04	GW Monitoring; Facility Ops	4	\$2,319,084	\$28,903,259	0.8097	\$1,877,784
13.05	Long-Term Surveillance Fund	5	\$2,500,000	\$31,403,259	0.7681	\$1,920,222
TOTAL PROJECT COSTS			\$31,403,259			\$28,943,053

COST SUMMARIES

	CURRENT DOLLAR	NPV
Costs through Year 1	\$21,347,000	\$20,539,000
Costs through Year 2	\$24,266,000	\$23,166,000
Costs through Year 3	\$26,585,000	\$25,146,000
Costs through Year 4	\$28,904,000	\$27,023,000

Note: * Annual cost is shown and is multiplied by the number of years for inclusion in Total O&M Costs.