

Data request for CMRR SEIS: CMRR-NF Shallow Option - DRAFT

| | Data Requested | Build the New Larger Facility, w/o excavating the undesirable geologic layer. |
|------------|---|--|
| 1.0 | Construction Project Details | |
| 1.1 | Period of construction | 9 yrs |
| 1.2 | Building footprint | 342' x 304'- Same as deep option |
| 1.3 | Building Size | 407,600 gross ft ² (344,100 net ft ²) - Same as deep option |
| 1.4 | Elevation / building height above grade (west side) | (Add 17 ft to deep option) NW corner: 35ft; Centerline west: 24ft; Centerline north: 33ft; NE corner: 70ft; Centerline east: 59ft; centerline S 34ft. Total building height is 116 ft, excluding elevator cupola roofs. Stated elevations exclude cupola roofs. Height of elevator cupola roofs is TBD. |
| 1.5 | Building depth below grade (west side) | 58 ft below grade to bottom of basemat. |
| 1.6 | Elevation of RLUOB (for comparison w/ NF) | 7,447 ft to top of atrium; base elevation is 7,269 ft; total building height is 178 ft - Same as deep option. |
| 1.7 | Excavation Depth | 58 ft |
| 1.8 | Tunnels (2) | No change since EIS. 1,200' long, 50' depth, 10 & 12 ft wide. Same as deep option |
| 1.9 | Concrete batch plants (2) | 2 electric-powered (2 in TA-63), 300 yd ³ /hr production each |
| 1.10 | Shift operations | 10 hrs/day, 4 days a week; some second shift work - Same as deep option |
| 2.0 | Land Use and Visual Resources | |
| 2.1 | Number of acres that will be impacted in any way by the proposed construction by TA (TA-55, TA-48, TA-63, TA-52, TA-46, TA-5, TA-51, TA-72). Please indicate if land will be permanently disturbed or temporarily during the construction and then restored to its original status). All temp unless stated otherwise. <ul style="list-style-type: none"> - Building site - Lay-down areas - Batch plants - Parking Permanent and temp - Spoils area - Access roads - Road realignment Permanent - Substation Permanent (TA-50) | <p>Permanent Changes: (Permanent changes same as deep option)</p> <p>RLUOB plot – 4 acres CMRR NF building plot – 4.75 acres Parking Lots (permanent) - 13 acres in TA-50 Total ≈21.75acres (4 + 4.75+13)</p> <p><u>Additional CMRR-NF Project related</u></p> <p>Substation – 1.4 acres in TA-50 Storm water detention pond - 0.5 acres in TA-50 Storm water detention pond – 1 acre in TA-64 Storm water detention pond –1 acre in TA-63 Pajarito Rd realignment – 2 acres of undeveloped land + 1.4 acres of developed land in TA-55 Total ≈ 7.3 acres (1.4+0.5+1+1+2+1.4)</p> |

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| <p>2.1 (cont.)</p> | | <p>Temporary Changes <i>Long-term Temporary Changes:</i> Parking Lot -13-15 acres in TA-72 (Same as deep option) Spoils storage areas—need up to 10 acres for excavation to a nominal 58 ft depth. Area will come from one or a combination of the following: – TA-5/52, 19.1 acres along Puye Road (22.6 minus 3.5 acres for the road) – TA-51; 9.1 acres</p> <p><i>Short-term Temporary Changes</i> (Short-term temporary changes are same as deep option) <u>Laydown areas</u> – 40 acres in TA-63/46 (includes construction trailers, short access and haul roads, temporary parking and concrete batch plant) – 20 acres in TA-48/55 (includes construction trailers, short access and haul roads, construction lay-down areas, concrete batch plant, and areas to support the concrete plant) <u>Concrete batch plants</u> – 15 acres in TA-63 (included in 40 acre area discussed above) <u>Temporary power upgrades</u> 9.1 acres; 2 acres of undeveloped land may be disturbed (from TA-5 ETA substation thru TA-52 to TA-63) <u>Construction trailers</u> - 1.3 acres in TA-50 that will become part of permanent parking lots (included in Permanent Changes) <u>Guard Posts</u> - (3) hardened; 1 mobile – included in TA-55 developed area near the PIDADS during construction duration</p> <p>Total (15+10+40+20+9.1) ≈ 94.1 acres</p> |
| <p>2.2</p> | <p>Current status of the land that will be impacted by TA (e.g., developed, disturbed, undisturbed)</p> | <p>ALL SAME AS DEEP OPTION (except no activities in TAs 36 and 54) TA-5: Disturbed/Developed TA-46: Disturbed TA-48: Disturbed/Developed TA-51: Disturbed (power line) TA-52: Disturbed/Developed TA-55: Disturbed/Developed TA-63: Disturbed/Developed/Undisturbed TA-72: Undisturbed</p> |
| <p>3.0</p> | <p>Site Infrastructure</p> | |

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| 3.1 | Projected construction requirements for: <ul style="list-style-type: none"> - Electricity (MWhrs/yr) - Peak Load (MW) - Water (gal/yr) - Natural Gas (yd³) | 31,000 MWhrs/yr for 9 years 12 MW 3.8 MGI/yr for 9 years None |
| 3.2 | Description of any new facilities that will be required to support site infrastructure (e.g. new substations). | Same as DEEP OPTION. |
| 4.0 | Air Quality and Noise | |
| 4.1 | Provide data on construction equipment and concrete batch plant operations as requested by SAIC on 11/4/10. | Construction equipment usage provided in separate response; batch plants are electric-powered. |
| 4.2 | Provide estimate of radiological emissions by isotope, if any, that may result during construction and the location of any potential releases. | No radiological emissions are expected during construction. Same as DEEP OPTION. |
| 4.3 | Provide results of any noise studies that may have been done related to the planned construction. | None have been conducted. Same as DEEP OPTION. |
| 4.4 | Will any blasting be required to support construction? | No. Same as DEEP OPTION. |
| 5.0 | Geology and Soils | |
| 5.1 | Provide data on the amount of aggregate, sand, fill, etc. that will be needed to support construction. | (All units are tons except as noted) Cement: 26,000 (26,025) Fly Ash: 14,000 (14,025) Coarse Agg 2: 90,000 (89,100) Coarse Agg 3: 30,000 (28,575) Fine Agg 1: 120,000 (118,800) Backfill around building: Type II DOT gravel: 162,000 yd ³ Fill – 153,000 yd ³ (est. volume of soil from excavation that would be used in preparing (e.g., leveling) construction support areas) |
| 5.2 | Is there a plan for where aggregate and other soils needed to support the construction project will come from? What proportion, if any may come from the existing borrow pit at LANL (TA-61)? | ALL SAME AS DEEP OPTION |
| 5.3 | Size of excavation | The dimensions of the excavation will be approximately 35 ft beyond the building footprint on all sides (to accommodate equipment, etc.), to a depth of 58 ft. Amount remaining to be excavated: 28 ft |

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| 5.4 | Amount of material to be excavated. | <p>Building – <u>Total excavation</u> (including work completed as of December 2010) Depth (nominal 58 ft)</p> <p><u>Remaining excavation</u> Depth (nominal 28 ft) – 236,000 yd³ (bank or in-place volume)</p> <p>Tunnels – excavated volume is included in the estimate above CMRR-NF to RLUOB: 4000 gross sq ft; 3300 net sq ft</p> <p>CMRR-NF to PF-4: 10,100 gross sq ft; 8600 net sq ft the tunnel has two legs</p> <p>Both tunnels are 50 ft deep</p> |
| 5.5 | Excavation method | What method (i.e., what mix of equipment) will be used for excavation? TBD by subcontractor; same as deep option. |
| 5.6 | Backfilling | Are the pilings to be removed prior to placing the lean grout? No pilings, no lean grout. |
| 6.0 | Surface and Groundwater Quality | |
| 6.1 | Surface water – are there any plans for storm water runoff and erosion that have been developed for the construction project? | Storm water flow and erosion during construction activities will be managed and minimized through use of Storm Water Pollution Prevention Plans implemented for each of the proposed activities. Same as deep option. |
| 6.2 | Groundwater | No onsite discharges are planned and spill prevention, countermeasures, and control procedures will be employed to minimize potential on site releases that could affect groundwater. Same as deep option. |
| 7.0 | Ecological Resources | |
| 7.1 | Provide information on loss of habitat by TA for areas affected by the construction project including laydown and spoils areas. | ALL SAME AS DEEP OPTION (<u>except no activities in TAs 36 and 54</u>) |
| 7.2 | Identify if any areas that will be affected are potential Mexican spotted owl habitat | ALL SAME AS DEEP OPTION (<u>except no activities in TAs 36 and 54</u>) |
| 7.3 | Provide any correspondence between the LASO and/or LANL and the FWS regarding this project. | SAME AS DEEP OPTION. |
| 8.0 | Cultural Resources | |
| 8.1 | Indicate if any cultural resources by TA that could or will be impacted by the construction project including laydown and spoils areas. | <u>ALL SAME AS DEEP OPTION (except no activities in TAs 36 and 54)</u> |
| 8.2 | Provide any correspondence between the Lab and the SHPO regarding this project. | Same as DEEP OPTION. |

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| 9.0 | Socioeconomics | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|---|---|---------------------|--|--|-----------------|-----|------|----------|----|-----------|-----------------|----|---|-------|-----|--------|--------|----|-----------|----------|----|---------|---------------------------|----|---|-------------|-----|-----|---------------------------|----|--------|---------------------------------|----|--------|------------|----|---------|---------------------------|----|-------|---------|----|-------|-----------|----|-----------|-------------------------|----|---------|
| 9.1 | Provide an estimate of the number of construction workers that will be needed to support the project by year of construction, if available. At a minimum, need the average number of workers over the duration of the project and the peak number. | Avg number of workers = 410 790 peak | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9.2 | Provide any information that may be available related to where the construction workers will be commuting to LANL from. | Same as DEEP OPTION. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.0 | Potential Release Sites | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10.1 | Provide information on any PRS by TA that may be encountered during construction and any plans for what steps will be taken in the event a PRS is encountered. | ALL SAME AS DEEP OPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.0 | Waste Management & Pollution Prevention | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.1 | Provide estimates of the waste that will be generated during construction and the disposition plans for such waste. | ALL SAME AS DEEP OPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11.2 | Pollution prevention | Project will employ recycling practices for construction-generated wastes. Same as DEEP OPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.0 | Resource Use | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.1 | Concrete | Structural – 150,000 yd ³ . No low slump concrete fill. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.2 | Cement | See above under geologic resources. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.3 | Steel | Structural – 560 tons. Same as DEEP OPTION Foundation and reinforcing steel – 18,000 tons. Same as DEEP OPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12.4 | Add other major building materials that may be needed. | <table border="1"> <thead> <tr> <th colspan="3">SAME AS DEEP OPTION</th> </tr> </thead> <tbody> <tr> <td>Building Volume</td> <td>MCF</td> <td>6.66</td> </tr> <tr> <td>Formwork</td> <td>SF</td> <td>1,442,648</td> </tr> <tr> <td>Decking (metal)</td> <td>SF</td> <td>0</td> </tr> <tr> <td>Rebar</td> <td>TON</td> <td>17,979</td> </tr> <tr> <td>Embeds</td> <td>LB</td> <td>1,058,508</td> </tr> <tr> <td>Concrete</td> <td>CY</td> <td>120,833</td> </tr> <tr> <td>Misc Conc (mud mat, etc.)</td> <td>CY</td> <td>0</td> </tr> <tr> <td>Misc. Steel</td> <td>TON</td> <td>560</td> </tr> <tr> <td>Small Pipe (2" and under)</td> <td>LF</td> <td>97,093</td> </tr> <tr> <td>Large Pipe (2-1/2" and greater)</td> <td>LF</td> <td>56,554</td> </tr> <tr> <td>Total Pipe</td> <td>LF</td> <td>153,647</td> </tr> <tr> <td>No. of Large Pipe Hangers</td> <td>EA</td> <td>4,547</td> </tr> <tr> <td>#Valves</td> <td>EA</td> <td>2,706</td> </tr> <tr> <td>HVAC Duct</td> <td>LB</td> <td>1,507,342</td> </tr> <tr> <td>HVAC Hangers / Supports</td> <td>LB</td> <td>950,295</td> </tr> </tbody> </table> | SAME AS DEEP OPTION | | | Building Volume | MCF | 6.66 | Formwork | SF | 1,442,648 | Decking (metal) | SF | 0 | Rebar | TON | 17,979 | Embeds | LB | 1,058,508 | Concrete | CY | 120,833 | Misc Conc (mud mat, etc.) | CY | 0 | Misc. Steel | TON | 560 | Small Pipe (2" and under) | LF | 97,093 | Large Pipe (2-1/2" and greater) | LF | 56,554 | Total Pipe | LF | 153,647 | No. of Large Pipe Hangers | EA | 4,547 | #Valves | EA | 2,706 | HVAC Duct | LB | 1,507,342 | HVAC Hangers / Supports | LB | 950,295 |
| SAME AS DEEP OPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Building Volume | MCF | 6.66 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Formwork | SF | 1,442,648 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Decking (metal) | SF | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Rebar | TON | 17,979 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Embeds | LB | 1,058,508 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Concrete | CY | 120,833 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc Conc (mud mat, etc.) | CY | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Misc. Steel | TON | 560 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Small Pipe (2" and under) | LF | 97,093 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Large Pipe (2-1/2" and greater) | LF | 56,554 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Total Pipe | LF | 153,647 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| No. of Large Pipe Hangers | EA | 4,547 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| #Valves | EA | 2,706 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVAC Duct | LB | 1,507,342 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| HVAC Hangers / Supports | LB | 950,295 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

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| | | Cable Tray and wireway | LF | 23,248 |
| | | Conduit - Total | LF | 1,055,314 |
| | | Conduit - Small metallic - 2" & under | LF | 915,133 |
| | | Conduit - Large metallic - 2 1/2" & over | LF | 61,610 |
| | | Conduit - Non-Metallic | LF | 78,571 |
| | | Cable - Instrumentation | LF | 247,900 |
| | | Cable - Power & Control | LF | 1,084,053 |
| | | Cable - Lighting & Communications | LF | 600,718 |
| | | Cable - plant security, optical, fire detect, thermocouple | LF | 352,778 |
| | | Wire/Cable - Total | LF | 2,285,449 |
| | | Grounding | LF | 54,032 |
| | | Terminations | EA | 55,754 |
| 13.0 | Transportation | | | |
| 13.1 | Provide estimate of distance materials will need to travel to the site for shipments of aggregate, cement, steel, and any other large volumes of materials to support construction. | Same as DEEP OPTION. | | |
| 13.2 | Provide estimate of onsite transportation requirements related to construction effort. Trips from TA to TA for various materials, fill, aggregate (if some or all comes from the existing borrow pit), construction materials staged in laydown areas, etc. | Same as DEEP OPTION. | | |
| 13.3 | Are there any plans for busing in construction workers or requiring carpools for these workers? | Same as DEEP OPTION. | | |
| 13.4 | Provide plans for any temporary closures or modifications to LANL roadways. | Same as DEEP OPTION. | | |
| 13.5 | Plan for use of existing LANL truck inspection station during the project. Please provide information on location of truck inspection station, capacity, hours of operation, etc. How long does it take for a truck on average to get through the inspection station? How many trucks can be accommodated in the inspection station at one time? | ALL SAME AS DEEP OPTION | | |